

Integration Role Learning Roadmap

1. Understand the Basics

- System Integration overview
- Types: Point-to-Point, Hub-and-Spoke, ESB, Microservices
- Data formats: JSON, XML, CSV
- REST vs SOAP APIs
- Resources: "Enterprise Integration Patterns" by Gregor Hohpe

2. Learn API Design and Integration

- REST APIs (Postman, Swagger, OpenAPI)
- Authentication: OAuth2, JWT, API Keys
- Practice with public APIs and build your own using Spring Boot, Node.js, or Flask

3. Learn Middleware / Integration Platforms

- Tools: MuleSoft, Dell Boomi, Apache Camel, WSO2, Spring Integration
- Practice building integration flows

4. Testing & Monitoring

- Tools: Postman, SoapUI, JUnit for testing
- Monitoring: ELK Stack, Splunk, Prometheus

5. Message Queues & Event-Driven Integration

- Tools: RabbitMQ, Kafka, ActiveMQ
- Concepts: Topics, Queues, Publishers, Consumers

6. Real-World Projects

- E-commerce integration with payment gateways and messaging queues
- Email/SMS integrations using Twilio

7. Optional but Valuable Skills

- Docker, Kubernetes for deployment
- CI/CD (GitHub Actions, Jenkins)

- Cloud (AWS Lambda, Azure Logic Apps, GCP Pub/Sub)
- Version Control with Git

Career Path: Integration Developer -> Middleware Engineer -> Solution Architect

Roles in Banking, Healthcare, E-commerce, ERP sectors