Salesforce Platform Developer II Training - 48hrs

Koenig's standard training content can be customized beyond to address learner's specific areas of interest and organizational needs.

By the end of this training, participants will be able to:

✔ Design scalable and secure Salesforce solutions using enterprise architecture principles and platform best practices

✔ Develop advanced Apex applications using object-oriented programming concepts, design patterns, and reusable frameworks

✔ Build efficient database solutions using SOQL, SOSL, DML operations, transaction control, and governor limit optimization

✔ Design and implement robust automation and trigger frameworks using Apex and declarative tools appropriately

✔ Develop asynchronous processing solutions using Future Methods, Queueable Apex, Batch Apex, and Scheduled Apex

✔ Integrate Salesforce with external systems using REST APIs, SOAP APIs, Apex Web Services, and callouts

✔ Implement Salesforce security using sharing models, Apex Managed Sharing, CRUD/FLS enforcement, and enterprise access control strategies

✔ Create maintainable user interfaces using Visualforce and Lightning technologies integrated with Apex

✔ Apply advanced testing, debugging, and performance optimization techniques to ensure application quality and reliability

✔ Manage deployments, release processes, and application lifecycle activities using modern Salesforce development and DevOps practices

✔ Evaluate complex business requirements and translate them into scalable, maintainable, and enterprise-ready Salesforce solutions

✔ Confidently design, develop, test, deploy, and support enterprise-grade Salesforce applications aligned with Platform Developer II standards and best practices.

Module 1: Salesforce Platform Architecture & Development Lifecycle

1.1 Salesforce Platform Architecture

- Multitenancy
- Metadata-driven Architecture
- Runtime Architecture
- Standard vs Custom Metadata

1.2 Development Lifecycle

- Environment Strategy
- Sandboxes
- Scratch Orgs
- Developer Orgs
- Source-Driven Development
- Application Lifecycle Management (ALM)

1.3 Salesforce Development Tools

- VS Code
- Salesforce CLI
- Developer Console
- Workbench
- Translation Workbench

Module 2: Data Modeling & Metadata Design

2.1 Salesforce Data Model

- Standard Objects
- Custom Objects
- Fields
- Relationship Fields
- Junction Objects

2.2 Advanced Data Modeling

- Schema Builder
- Compound Fields
- External IDs
- Record Types
- Business Keys

2.3 Metadata Management

- Custom Metadata Types
- Custom Settings
- Metadata API

Module 3: Security Architecture & Record Access

3.1 Security Model

- Profiles
- Permission Sets
- Permission Set Groups

3.2 Record-Level Security

- OWD
- Role Hierarchy
- Sharing Rules
- Manual Sharing

3.3 Apex Managed Sharing

- Understanding Apex Sharing
- Managed Sharing Architecture
- Enterprise Scale Record Access Design

3.4 Security Enforcement in Apex

- with sharing
- without sharing
- inherited sharing
- CRUD
- FLS
- User Mode Operations

Module 4: Apex Fundamentals Refresher

4.1 Apex Language Essentials

- Primitive Data Types
- sObjects
- Collections
- Enums
- Operators

4.2 Object-Oriented Programming

- Classes
- Objects
- Variables
- Methods
- Constructors
- Access Modifiers

4.3 Advanced OOP

- Inheritance
- Polymorphism
- Abstraction

- Interfaces

4.4 Apex Annotations

- @AuraEnabled
- @InvocableMethod
- @TestVisible
- @Deprecated
- @ReadOnly

Module 5: Advanced Apex Programming

5.1 Transactions & Governor Limits

- Transaction Context
- Execution Context
- Governor Limits
- Bulkification

5.2 Exception Handling

- Built-in Exceptions
- Custom Exceptions
- Exception Propagation

5.3 Transaction Control

- Savepoints
- Database.rollback()
- Partial Success Processing

5.4 Dynamic Apex

- Describe Information
- Reflection Techniques
- Dynamic SOQL
- Dynamic DML

Module 6: SOQL, SOSL & Data Processing

6.1 Advanced SOQL

- Relationship Queries
- Aggregate Queries
- SOQL Functions
- Query Optimization

6.2 Advanced SOSL

- Multi-object Searches
- Search Performance

6.3 DML Operations

- Insert
- Update
- Upsert
- Merge
- Delete
- Undelete

6.4 Database Class Methods

- Database Methods
- SaveResult
- Error Handling

Module 7: Trigger Frameworks & Order of Execution

7.1 Order of Execution

- Complete Execution Flow

7.2 Trigger Architecture

- Trigger Events
- Trigger Context Variables

- Trigger Design

7.3 Trigger Frameworks

- Single Trigger Pattern
- Handler Classes
- Domain Layer

7.4 Bulk Trigger Development

- Bulkification Techniques
- Recursion Prevention
- Best Practices

Module 8: Apex Enterprise Design Patterns

8.1 Enterprise Architecture Principles

- Separation of Concerns
- Layered Architecture

8.2 Apex Enterprise Patterns

- Service Layer
- Selector Layer
- Domain Layer
- Unit of Work Pattern

8.3 Dependency Management

- Dependency Injection
- Factory Pattern
- Strategy Pattern

8.4 Performance-Oriented Design

- Caching
- Query Optimization

- Scalable Code Design

Module 9: Asynchronous Apex

9.1 Future Methods

- @future
- @future(callout=true)

9.2 Queueable Apex

- Chaining Jobs
- Monitoring Jobs

9.3 Batch Apex

- Batch Architecture
- Database.Stateful
- Database.AllowsCallouts

9.4 Scheduled Apex

9.5 Platform Events Basics

Module 10: Integrations & APIs

10.1 API Fundamentals

- REST API
- SOAP API
- Bulk API

10.2 Apex Callouts

- HTTP Callouts

- REST Consumption
- SOAP Consumption

10.3 Apex Web Services

- Exposing SOAP Services
- Exposing REST Services

10.4 Authentication & Integration Security

- Named Credentials
- OAuth Overview

10.5 Chatter API

10.6 Reporting & Analytics APIs

- Reporting REST API
- Analytics API

Module 11: UI Development with Visualforce

11.1 Visualforce Fundamentals

- MVC Architecture
- Visualforce Page Structure

11.2 Controllers

- Standard Controller
- Custom Controller
- Controller Extensions

11.3 Standard List Controllers

- Custom List Controllers
- Extensions

11.4 Data Binding

- Expressions
- Components

11.5 Visualforce Components

- apex:page
- Forms
- Tables
- Custom Components

11.6 Advanced Visualforce

- Continuation
- Page Messaging
- Error Handling
- Performance Best Practices

11.7 Static Resources

Module 12: Lightning Development Fundamentals

12.1 Lightning Component Framework

12.2 Component Architecture

12.3 Apex and Lightning Integration

12.4 Lightning Data Access

12.5 Lightning Best Practices

Module 13: Automation Architecture

13.1 Automation Tools Comparison

- Flow
- Apex
- Approval Process

13.2 Choosing the Right Automation Tool

13.3 Workflow & Process Builder Migration

13.4 Apex Actions in Flow

Module 14: Business Processes & Salesforce Features

14.1 Opportunity Management

- Products
- Price Books
- Price Book Entries

14.2 Advanced Currency Management

14.3 Salesforce Feature Integration with Apex

Module 15: Testing Strategy

15.1 Apex Testing Fundamentals

- Test Classes
- Test Methods

15.2 Test Data Management

- Test Setup
- Data Factories

15.3 Advanced Unit Testing

- Mock Callouts
- Stub API
- Dependency Injection Testing

15.4 Testing Triggers

15.5 Testing Batch Apex

15.6 Testing Integrations

15.7 Code Coverage vs Quality

15.8 Salesforce Testing Best Practices

Module 16: Debugging, Monitoring & Performance Tuning

16.1 Debug Logs

16.2 Log Analysis

16.3 Performance Optimization

- SOQL Optimization
- Selective Queries
- Heap Management

16.4 Application Monitoring

16.5 Developer Best Practices Checklist

Module 17: Deployment & Release Management

17.1 Deployment Strategies

17.2 Change Sets

17.3 Metadata Deployments

17.4 Salesforce CLI Deployments

17.5 Version Control

17.6 Release Management Best Practices

17.7 Deployment Troubleshooting