

## **Programmatic Development Using Apex and Visualforce (DEX 450).**

### Module 1: Introduction to Salesforce Apex and Visualforce Pages

- Overview of Salesforce Platform
- Introduction to Apex Programming
- Introduction to Visualforce Pages
- Overview of Salesforce Data Model and Objects
- Apex and Visualforce Integration

### Module 2: Salesforce Apex Fundamentals

- Understanding Apex Programming Language
- Apex Syntax and Data Types
- Variables, Collections, and Constants in Apex
- Flow Control and Error Handling in Apex
- Apex Classes, Methods, and Triggers
- Understanding Governor Limits in Apex
- Apex DML Operations (Insert, Update, Delete, Upsert)
- Handling Bulk Data Processing in Apex
- Writing Test Classes for Apex Code
- Debugging Apex Code and Logs

### Module 3: Working with Apex Triggers

- Introduction to Apex Triggers
- Trigger Syntax and Structure
- Trigger Events and Context Variables

- Best Practices for Writing Triggers
- Bulkifying Triggers
- Managing Trigger Execution Order
- Trigger Scenarios and Real-life Use Cases

#### Module 4: Salesforce Visualforce Pages

- Introduction to Visualforce Pages
- Visualforce Page Syntax and Structure
- Visualforce Components and Tags
- Using Apex Controllers with Visualforce Pages
- Standard and Custom Visualforce Pages
- Visualforce Page Layouts and Design
- Visualforce Pages with Dynamic Content
- Using Visualforce with Salesforce Data (Standard & Custom Objects)

#### Module 5: Advanced Apex Concepts

- Working with Asynchronous Apex (Batch Apex, Queueable Apex, Future Methods)
- Integration with External Systems via Web Services
- Apex Scheduler and Scheduled Jobs
- Writing Complex Queries with SOQL and SOSL
- Security in Apex Code (Field-Level Security, Object Permissions)
- Apex for Large Data Volume Management

#### Module 6: Visualforce Page Enhancements

- Visualforce Page Customization and Styling
- Using JavaScript with Visualforce Pages

- Integration with Lightning Components

- Responsive Visualforce Pages Design

- Working with Visualforce

## Module 7: Apex and Visualforce Best Practices

- Apex and Visualforce Best Practices Overview

- Managing Governor Limits and Performance Optimization

- Effective Use of Test Classes and Code Coverage

- Handling Errors and Exceptions Gracefully

- Security Considerations for Apex and Visualforce

- Code Version Control and Deployment

- Debugging and Monitoring Tools for Apex and Visualforce

## Module 8 : Apex Testing & Debugging

- Writing Test Classes for Apex

- Code Coverage and Best Practices

- Debugging Apex Code Using Developer Console