

# BUILD APPLICATIONS PROGRAMMATICALLY ON THE SALESFORCE PLATFORM (DEX450)



## OVERVIEW

Discover how to design and customize pro-code applications on the Salesforce Platform using Apex, Visualforce markup, and the Lightning Component Framework. In this 5-day instructor-led class, learn how to develop and deploy custom pro-code solutions by writing and testing custom logic, and by customizing the user interface with basic Visualforce pages and Lightning Web Components. Examine how Apex interacts with no-code customizations on the platform, gain a basic understanding of no-code automation tools, and explore the nuances of working on a multi-tenant platform to build cohesive pro-code solutions that meet business demands.

## WHO SHOULD TAKE THIS COURSE?

This class is designed for developers looking to write pro-code customizations for business logic and user interface (UI) layers using Apex, Visualforce, and Lightning Web Components. This is also a great class for developers looking to earn their Salesforce Platform Developer I credential.

## WHEN YOU COMPLETE THIS COURSE, YOU WILL BE ABLE TO:

- Design custom pro-code solutions that effectively leverage no-code customizations.
- Write basic Lightning Web Components and basic Visualforce markup and code to customize the UI.
- Use Apex triggers and classes to write business logic customizations that use Salesforce Object Query Language (SOQL), Salesforce Object Search Language (SOSL), and Data Manipulation Language (DML).
- Test Apex by using the built-in testing framework.
- Explain how trigger code works in accordance with the Salesforce Save Order of Execution.
- Understand key fundamentals of designing programs on a multi-tenant platform.
- Use Code Builder and Salesforce Command Line Interface (CLI).

## PREREQUISITES AND PREWORK

To attend this class:

- You should have a solid understanding of core object-oriented programming concepts
- Although this is not required, it is recommended to have an experience building no-code solutions on the Salesforce Platform or attend [DEX403](#) course

Please complete the following trailmix before attending our expert-led class : [Trailmix, Trailhead Academy](#)

**IMPORTANT- COMPUTER SETUP** : Students who plan on using their own computer for an in-person or virtual class are expected to follow the steps outlined in the following [Computer Set-up Guide](#).

## CERTIFICATION

DEX450 is recommended to prepare Salesforce Certified Platform Developer I exam. Other courses and self-study materials are recommended for this exam. The complete list of prerequisites is provided by Salesforce in the [Exam Guide](#). Registration for an inter-company training session entitles you to a voucher to pass the corresponding certification exam. The voucher, valid for 6 to 12 months, is sent to the trainee on request, at no additional cost. Note that this offer is valid for only one voucher per certification; If you register for multiple courses preparing for the same certification, you will be entitled to only one free voucher.

### Note :

- Salesforce certification exam doesn't take place during the training and it's up to the delegate to register to the exam via the webassessor
- We don't recommend passing the Salesforce certification exam directly after attending the course. Additional work must be provided



**DURATION**  
5 days

**DELIVERY FORMAT**  
- Classroom  
- Virtual

**LANGUAGE**  
Course in French /  
Materials in English

**USER INTERFACE**  
Lightning Experience

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## LESSONS & TOPICS

### No-Code Automation

- Create Formula Fields
- Create Roll-Up Summary Fields
- Understand Record Types and Dynamic Forms
- Review Additional Automation Tools

### Apex Coding

- Define Apex
- Identify Key Characteristics of Apex and Other Coding Languages
- Examine the Role of Transactions and Governor Limits in Writing Apex
- Build a Simple Apex
- Discover sObjects, Primitive Data Types, and Basic Control Statements

### Org Data Retrieval Using SOQL & SOSL

- Define SOQL
- Write a Basic SOQL Query
- Process Query Results with Apex
- Create a Query Dynamically at Run-Time
- Define a Relationship Query
- Query Parent-Child Relationships Using SOQL
- Write Child-to-Parent and Parent-to-Child Relationship Queries
- Define SOSL
- Search Data Using SOSL

### Org Data Manipulation Using DML

- Define DML
- Identify Different Methods for Invoking DML Operations
- Use Apex to invoke DML operations and handle DML errors

### Deployment

- Define Deployment
- Deploy Code Using Change Sets
- Examine Managed, Unmanaged, and Unlocked Packages
- Explore Salesforce DX
- Discover the Salesforce DevOps Center

### Apex Trigger Essentials

- Define Apex Triggers
- Review Apex Trigger Use Cases
- Examine Trigger Definition Syntax
- Use Trigger Context Variables

### Apex Class Essentials

- Define Apex Classes
- Review Apex Class Use Cases
- Identify Apex Class Data Access Capabilities

### Save Order of Execution, Apex Transactions, and Platform Events

- Define the Salesforce Save Order of Execution
- Discover How Order of Execution Affects Triggers
- Examine the Apex Transaction Lifecycle
- Learn Static Attributes of Memory Lifecycles
- Implement Error Logging Using Platform Events

### Apex Testing

- Define the Apex Testing Framework
- Create Apex Test Data
- Write and Run an Apex Test
- Review Apex Testing Best Practices

### Design Strategies for Efficient Apex Solutions

- Identify Apex Code Writing Best Practices
- Use Input Data Batches to Write Apex Triggers and Classes
- Write Efficient Database Querying and DML Code

### Apex Trigger Design Strategies

- Define No-Code Solutions to Implement Complex Business Logic
- Improve Pro-Code Solutions Using No-Code Functionality

### Visualforce

- Define Visualforce
- Display Record Data in a Visualforce Page
- Examine Custom Controllers and Controller Extensions
- Explore List Controllers
- Identify Fundamental Considerations for Visualforce Development

### Lightning Components

- Review the Lightning Component Framework
- Create Custom Lightning Web Components
- Retrieve and Display Record Data
- Utilize Lightning Web Component Events
- Perform a DML Operation
- Surface Custom Lightning Web Components