

Salesforce: Enhancing Apps with Apex and Visualforce

Course Summary

Description

This comprehensive hands-on course teaches students how to programmatically customize Force.com applications. Students will learn the Apex programming language, SOQL, SOSL, and Visualforce, and how they are used to customize Force.com applications.

For the lab exercises, students will register for a free developer account with Salesforce.com.

Objectives

At the end of this course, students will be able to:

- Create and modify objects using the declarative interface.
- Write Apex classes and methods via the Developer Console and the Salesforce Developer Interface.
- Use SOQL and SOSL to query the Force.com database.
- Implement business logic via Apex triggers and classes that issue SOQL and DML statements.
- Write Visualforce components to customize the user interface.
- Write custom controllers and controller extensions to modify the controller behavior behind the Visualforce interface.
- Use the built-in testing framework to test Apex and Visualforce.
- Write Apex classes to implement asynchronous and batch processing.

Topics

- Introducing the Force.com Platform
- Database Essentials
- Apex Language Basics
- Advanced Apex Facilities
- Basic Database Processing
- Advanced Database Processing
- Database Triggers
- Using Visualforce
- Custom Controllers and Extensions
- Asynchronous Apex Processing

Audience

This course is designed for developers who need to be able to write programmatic customizations to both the business logic and user interface layers using Apex and Visualforce.

Prerequisites

Prior to taking this course, students should have completed the "Salesforce: Building Apps with Force.com" course, or an equivalent class, or have previous practical experience.

Although not required, previous experience in the following topics will enhance the results of this course:

- Java programming (or another object-oriented programming language)
- Basic data modeling for relational databases
- Basic SQL
- Basic HTML

Duration

Five days

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Course Outline

- I. Introducing the Force.com Platform**
 - A. Cloud computing and PaaS
 - B. Force.com as a platform
- II. Database Essentials**
 - A. Features of the Force.com database
 - B. Creating custom objects and custom fields
 - C. Enhancing standard objects with custom fields
 - D. Validation rules
 - E. Implementing lookup fields
 - F. Implementing master-detail relationships
 - G. Using junction objects to implement many-to-many relationships
 - H. Importing data via the Data Import Wizard
- III. Apex Language Basics**
 - A. Basic Apex syntax
 - B. Arithmetic and string calculations
 - C. Logic and control structures
 - D. Using system and user-defined methods
 - E. Writing and executing ad-hoc Apex code via the Developer Console
 - F. Creating and executing Apex classes via the Developer Console and the Salesforce Developer interface
- IV. Advanced Apex Facilities**
 - A. Inheritance
 - B. Abstract classes
 - C. Interfaces
 - D. Exception handling
 - E. Using the Developer Console to debug Apex code
 - F. Writing and executing test units to test Apex code
- V. Basic Database Processing**
 - A. SOQL syntax
 - B. Using the Developer Console to issue SOQL to query the Force.com database
 - C. Using Apex statements to issue SOQL statements and process the results
 - D. Performing multiple-object retrievals with SOQL
- VI. Advanced Database Processing**
 - A. Using SOSL to perform unstructured the text queries of database objects and fields
 - B. Using DML statements to modify data in the database
 - C. Using DML database methods to modify data in the database while enabling the partial success of transactions
 - D. Using DML database methods to create and use savepoints
 - E. Using SOQL to lock records returned from a query
- VII. Database Triggers**
 - A. Overview
 - B. Save Order of Execution
 - C. Trigger Syntax
 - D. Writing Triggers
 - E. Testing Triggers
- VIII. Using Visualforce**
 - A. Concept of Visualforce
 - B. Visualforce syntax
 - C. Visualforce components
 - D. Using Development Mode and the Developers Console to create Visualforce pages
 - E. Testing Visualforce pages
 - F. Implementing Visualforce pages in Force.com applications
- IX. Custom Controllers and Extensions**
 - A. Creating and using custom controllers
 - B. Explain the difference between custom controllers and controller extensions
 - C. Creating and using controller extensions
- X. Asynchronous Apex Processing**
 - A. Future methods
 - B. Scheduled Apex processing
 - C. Batch Apex processing