



AGENDA

DEX450: Programmatic Development Using Apex and Visualforce

Day One

15 minutes

Introductions

60 minutes

Welcome to AW Computing

Watch Me 1-1 (5 min): Explore the Certification App

Join Me 1-2 (5 min): Prepare Your Training Org

Join Me 1-3 (5 min): Create a Sandbox

Join Me 1-4 (5 min): Download the Apex Developer's Guide

120 minutes

Building Objects and Fields

- Understanding Objects on the Force.com Platform

- Creating Custom Objects

- Creating Custom Fields

Join Me 2-1 (15 min): Create a Custom Object

Join Me 2-2 (15 min): Create Custom Fields

- Creating Relationships Between Objects

Join Me 2-3 (20 min): Create Relationship Fields

100 minutes

Working Effectively with Objects and Fields

- Creating Formula Fields

Join Me 3-1 (10 min): Create a Formula Field

- Creating Roll-Up Summary Fields

Join Me 3-2 (10 min): Create a Roll-Up Formula Field

Your Turn 3-3 (10 min): Create a Formula Field that References Roll-Up Summary Fields

- Understanding Record Types

Watch Me 3-4 (10 min): Understand Record Types

- Building a Data Model on the Force.com Platform

90 minutes

Programming with Apex

- Getting Started with Apex

Join Me 4-1 (10 min): Logging into a Sandbox

Join Me 4-2 (15 min): See Apex in Action

Join Me 4-3 (10 min): Create and Use an Apex Class

Watch Me 4-4 (5 min): Observe the Effects of Versioning

Join Me 4-5 (20 min): Take a Quick Tour of Apex



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Day Two

90 minutes

Programming with Apex (cont.)

- What Makes Apex Different?
Join Me 4-6 (10 min): Examine Implicit Operations
Watch Me 4-7 (5 min): Profile Limits Using Developer Console
- Working with sObjects
Your Turn 4-8 (15 min): Work with a Custom Object
Join Me 4-9 (5 min): Use Record Ids to Access an Account in the UI

115 minutes

Use SOQL to Query Your Org's Data

- Using SOQL to Query Data
Watch Me 5-1 (5 min): Create and Run Query in the Developer Console
Your Turn 5-2 (20 min): Write a SOQL Query that Uses a WHERE Clause
- Writing and Processing a SOQL Query in Apex
Your Turn 5-3 (10 min): Write and Execute a SOQL Query in Apex
- Creating a Dynamic Query at Run Time
Your Turn 5-4 (10 min): Write a Dynamic Query in Apex

80 minutes

Use SOQL to Query Parent-Child Relationships

- Understanding Relationship Queries
- Querying Child-to-Parent Relationships
Your Turn 6-1 (15 min): Write and Test Child-to-Parent Relationship Queries
- Querying Parent-to-Child Relationships
Your Turn 6-2 (20 min): Query Account and Related Contacts

95 minutes

DML Essentials

- Options for Persisting Data
- Invoking DML Events
Your Turn 7-1 (25 min): Execute DML Commands
- Handling DML Errors and Exceptions
Your Turn 7-2 (15 min): Handle DML Errors and Exceptions



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Day Three

80 minutes

Trigger Essentials

- Automating Logic
- Defining a Trigger
Your Turn 8-1 (5 min): Define a Trigger
- Defining Trigger Logic
Join Me 8-2 (15 min): Define the Trigger's Business Logic

70 minutes

Apex Class Essentials

- Using an Apex Class
- Defining an Apex Class
Your Turn 9-1 (15 min): Define an Apex Class
- Determining Data Access for an Apex Class

80 minutes

The Save Order of Execution and Apex Transactions

- Exploring the Save Order of Execution
Watch Me 10-1 (10 min): Explore the Implicit Firing of Triggers
Your Turn 10-2 (10 min): View the Events that Occur During a Rollback
- Working with Apex Transactions
Watch Me 10-3 (10 min): See the Save Order of Execution in Action

75 minutes

Testing Essentials

- Describing Apex's Testing Framework
- Creating Test Data
Your Turn 11-1 (10 min): Make Test Data Available to Test Methods
- Writing and Running an Apex Test
Your Turn 11-2 (10 min): Write and Run an Apex Test

50 minutes

Testing Strategies

- Understanding the Side Effects of Testing
Your Turn 12-1 (10 min): Explore Code Coverage
- Testing Using Best Practices

95 minutes

Strategies for Designing Efficient Apex Solutions

- Working Efficiently with the Database
Your Turn 13-1 (15 min): Refactor a Trigger to Avoid SOQL Limits
Your Turn 13-2 (15 min): Refactor a Trigger to Avoid DML Limits



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Day Four

95 minutes
(cont.)

Strategies for Designing Efficient Apex Solutions

- Designing Triggers
- Designing Classes

120 minutes

Trigger Design Strategy

- Analyzing the Problem
- Creating a Solution
 - Your Turn 14-1 (5 min): Create a Formula Field to Eliminate a Query*
 - Your Turn 14-2 (5 min): Create Fields for Counting Certifications Elements*
 - Your Turn 14-3 (15 min): Create Collections to Filter the Query*
 - Your Turn 14-4 (20 min): Use a Map to Aggregate Results*
 - Your Turn 14-5 (15 min): Create Certification Held Records*
 - Your Turn 14-6 (10 min): Use a Workflow to Avoid Creation of Duplicate Records (optional)*

55 minutes

Creating Visualforce Pages

- Understanding Visualforce
 - Join Me 15-1 (10 min): Create a Simple Visualforce Page*
- Creating a Visualforce Page
- Displaying Record Data and Launching a Visualforce Page
 - Your Turn 15-2 (15 min): Display Data in a Visualforce Page*

50 minutes
Visualforce

Exploring the View and Controller Layers of

- Accessing Data on Related Records
 - Join Me 16-1 (15 min): Create a Simple Technician Status Page*
- Exploring Visualforce Tags and Built-in Styling
 - Your Turn 16-2 (10 min): Refine Your Page and Add Navigational Links*

140 minutes
Extensions

Working with Custom Controllers and Controller

- Referencing a Custom Controller
 - Your Turn 17-1 (5 min): Reference a Controller Extension in a Visualforce Page*



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- Working with Getters, Setters, and Properties
Your Turn 17-2 (10 min): Create a Simple Read-Only Property



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Day Five

140 minutes

Working with Custom Controllers and Controller Extensions (cont.)

- Working with Action Methods
Your Turn 17-3 (15 min): Writing a Read/Write Property in a Custom Controller
Your Turn 17-4 (10 min): Implementing the Search Button
Your Turn 17-5 (10 min): Redirecting to a Results Page
- Handling Basic Errors
Your Turn 17-6 (10 min): Handle Basic Save Errors in Your Method

120 minutes

Working with Lists Controllers and SOSL Queries

- Working with Standard List Controllers
Join Me 18-1 (15 min): Create a Page to Display a List of Records
- Writing a Simple SOSL Query
Your Turn 18-2 (15 min): Integrate SOSL Search in a Visualforce Page
- Creating a Custom List Controller
Your Turn 18-3 (15 min): Create a Simple Search Page

60 minutes

Visualforce Development Considerations

- When to Use Visualforce
Your Turn 19-1 (5 min): Determine Whether a Declarative Solution Exists
- Visualforce and Governor Limits
- Security Considerations for Visualforce
Your Turn 19-2 (10 min): Defend Against SOQL Injection
- Developing Pages for Mobile Devices
- JavaScript in Visualforce
Your Turn 19-3 (10 min): Create a Custom Button that Uses JavaScript

100 minutes

Testing Visualforce Controllers

- Understanding Visualforce Controller Testing
Your Turn 20-1 (20 min): Write the Test Methods for the Constructor
- Testing a Visualforce Controller Constructor
- Testing Action Methods
Your Turn 20-2 (20 min): Write Unit Tests for Action Methods
- Testing Getters, Setters, and Properties
Your Turn 20-3 (20 min): Write Unit Tests for Getters and Setters



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15 minutes

Wrap Up