

**Advanced Oracle Application Express**

**Course Number:** ORC-394  
**Duration:** 3 days

**Overview**

This Advanced Oracle Application Express (APEX) training teaches attendees how to fine-tune their applications to meet pixel perfect visual requirements. Students learn how to manually process standard and tabular forms and discuss error management and explore debugging techniques using SQL/Developer integration. Attendees also build and consume RESTful web services using the declarative framework provided by APEX. Finally, this course examines performance concerns, common pitfalls, and how to avoid them.

**Note:** This Apex class is taught using the latest version, however, earlier versions may be used upon request.

**Prerequisites**

This APEX course is intended for seasoned APEX developers who can very easily navigate the environment and component attributes. Students should have taken Accelebrate's [Intermediate Oracle Application Express](file:////training/oracle-application-express-intermediate) class or have the equivalent experience.

**Materials**

All Oracle APEX training students receive comprehensive courseware.

**Software Needed on Each Student PC**

* Oracle Application Express 5, 2018, or later
* Each student computer will need a web browser and Oracle SQL Developer installed
* Please contact us for detailed setup instructions if you have purchased this class

**Objectives**

* Customize APEX templates
* Build themes from sample sites and modulate a design into components
* Make your site responsive to accommodate a wide range of screens and capabilities
* Build manual forms with PL/SQL
* Manually create tabular forms and implement validation for those forms
* Trap and log errors
* Debug APEX applications
* Improve performance
* Troubleshoot production issues
* Publish and consume RESTful services

**Outline**

* Introduction
* Customizing APEX Templates
  + Create Custom Templates
  + Use Subscriptions
* Responsive Web Design
  + Allow applications to resize to any device
  + Brief CSS overview
  + How do media queries work?
  + Using print media query
* APEX Collections
  + Create and use a collection.
  + Build an event application using a collection
  + Discuss collection limitations
  + Wrap collections in a database view
* Manual Forms with PL/SQL
  + How to convert a declarative form to a manual form
  + Understand row locking in a web environment
  + Discuss MD5 hash and row versioning
  + Detect if row-level updates are needed
* Manual Tabular forms
  + Manually Creating Tabular Forms
  + Validation in Tabular Forms
  + Working with Collections
* Error Handling
  + Brief discussion on the interface injection design pattern
  + How to catch errors raised within APEX and PL/SQL
  + Map constraints and errors to friendly messages
* Debugging
  + How to use the apex\_debug API
  + How to approach locating a bug
  + Understand the sequence of events that happen on a page
  + Integrate SQL developer line by line debugger
* SQL Developer & APEX Integration
  + Custom views and reports
  + Managing apex environment
  + Deploying applications
* Performance
  + Settings which impact application performance
  + Fixing report pagination
  + How to use a dynamic report source
* Production Issues
  + How to deploy an application
  + Discuss deployment strategies
  + Manage database objects, apex objects, and developer files
  + Deployment workflow
* Intro to Mobile Development
  + Build a simple app using list views
  + Link the mobile app to the desktop version
  + Understand different user interfaces
* REST services - Publish
  + Discuss ORDS(Oracle Restful Data Services) requirements
  + Create declarative services to expose data for disparate systems
* REST services - Consume
  + WEB Source Modules
  + APEX\_EXEC API
  + Read web service data from PL/SQL
  + Perform AJAX operations to retrieve data
  + apex.process javascript object
* Conclusion