

Oracle APEX Web Application Development

Database applications, interactive forms and REST services

FA-0744 · 3 days

Software Development

Introduction

Build a database-driven web application with Oracle APEX. Guided exercises introduce workspaces, SQL Workshop, Page Designer, reports, interactive grids, forms and shared components, followed by application security and a small REST-service example.

The three-day course combines practical core app development with demonstrations of advanced customisation and deployment. A compatible preconfigured APEX/ORDS environment is used; database and platform administration are introduced rather than taught as a complete specialist track.

Learning outcomes

- Use an APEX workspace and SQL Workshop to inspect objects and run selected queries/scripts.
- Create an application from a prepared data source or spreadsheet.
- Build reports, editable grids and forms with appropriate validation and processing.
- Manage pages, regions, items, navigation, lists of values and dynamic actions.
- Apply basic theme/CSS/JavaScript customisation and selected charts/calendars.
- Inspect session state and debug application behaviour.
- Configure selected authentication/authorisation controls and export/import an application with supporting objects.
- Explain ORDS modules/templates/handlers, JSON responses and OAuth-based access controls.

Prerequisites

- Ability to use the internet.
- Familiarity with either Windows, Mac or Linux systems.
- Understanding of file systems in the computer.
- Basic database/SQL familiarity is helpful for SQL Workshop; supplied examples support the introductory exercises.
- Access to the designated APEX workspace, compatible Oracle database and prepared ORDS lab; required privileges are arranged for the selected activities.

Training outline

1. Day 1 – Workspace, Data and Reports

APEX and SQL Workshop

- APEX components, workspaces, workspace administration and application runtime.
- Review upgrade responsibilities and manage selected workspace users/groups.
- Browse/create/modify sample database objects; run ad hoc SQL, manage scripts and save queries.
- Load/unload sample data and create an app from a prepared source or spreadsheet.

Reports, pages and static files

- Create reports and interactive grids with wizards; edit attributes in Page Designer.
- Report links, printer-friendly presentation and available export formats; distinguish advanced print-service requirements.
- Upload images/static files, add a logo and reference CSS/JavaScript.
- Page and region attributes, global pages, new regions, comments and titles.

2. Day 2 – Forms, Processing and Interface Behaviour

Forms and input components

- Table forms, procedure-backed processing examples and reports with forms.
- Editable interactive grids for multi-row editing; compare legacy tabular forms without treating the old wizard as the recommended new-app route.
- Form formatting and concurrency/locking considerations.

- Shared components: static/dynamic/cascading lists of values and report inputs.
- Page/application items, attributes, JavaScript interaction and buttons.

Processing and shared UI

- Page rendering, computations, input validation, processing and conditional branches.
- Navigation menu, navigation bar, breadcrumbs, lists/items and shortcuts.
- Trees, charts and calendars using compatible current components.
- Themes and templates: inspect, select and customise a supplied example with CSS/JavaScript references.
- Dynamic actions and plug-in types; use a compatible plug-in example.

3. Day 3 – Debugging, Security, Deployment and REST

State, collaboration and application security

- Inspect, set and clear session state; read debug messages.
- Enable feedback and introduce compatible team-development/feedback workflows.
- Authentication schemes, access-control authorisation and session-state protection.
- Historical Websheets and their removal; use supported app pages, linked reports/editable grids and a supplied annotation/content pattern for the comparable data-management exercise.

Packaging and services

- Supporting objects, application export/import and installation in a prepared target workspace.
- REST concepts, resource structure, JSON and a Postman request demonstration.
- ORDS modules/templates, parameters and handlers for a small database-backed API.
- OAuth 2.0 clients, roles and privileges using version-supported ORDS_SECURITY APIs instead of desupported OAUTH packages.
- TLS and applicable database network ACL considerations; distinguish transport/access controls from unrelated SASL terminology.
- Use supported ORDS tools such as SQL Developer Web for REST definition when appropriate; the APEX SQL Workshop RESTful Services feature is deprecated in 26.1.
- Review the application and selected API access checks.