Oracle Application Express: Workshop I Ed 3 - NEW

Oracle Database

DURATION	MODULES	COURSE CODE
5 Days	**21 Lectures**	**—**

Course Overview

This Oracle Application Express Workshop I training teaches you how to develop database-centric web applications quickly using Oracle Application Express. Learn to implement security and extend applications.

What You Will Learn

Course Overview

- Objectives
- Course Goals
- Course Road Map
- Course Environment
- Workspace Details
- Accessing the labs Directory
- Meet Course Persona: Stella
- Meet Course Persona: Steve
- Introduction to the Demo Application: Project Tracking System
- Project Tracking System: Basic Reports
- Project Tracking System: Interactive Grid
- Project Tracking System: Supporting Reports
- Snapshot of the Project Tracking System
- Introduction to the Practice Application: GlobalMart Management Tool
- Additional Resources – Oracle Application Express 19.1
- Summary
- I Unit I Introduction: Getting Started with Application Express
- Stella Expresses Her Concern: Driving Factor Behind PTS I-2
- Unit 1 Road Map I-3

Oracle Application Express: Introduction

- You Are Here in This Course

- Objectives
- Steve Decides to Explore Oracle Application Express
- Lesson Agenda
- What Is Oracle Application Express?
- Why Use Oracle Application Express?
- Types of Applications
- Applications Developed by Using Oracle Application Express
- High-Level Architecture
- Types of Installations
- Quiz
- Lesson Agenda
- What Is a Workspace?
- What Is an Internal Workspace?
- Defining Roles
- Quiz
- Lesson Agenda
- Signing In to a Workspace
- Creating a Developer User
- Using Application Express in Dark Mode
- Practice 2-1 Overview: Using Oracle Application Express as a
- Workspace Administrator
- Workspace Home Page
- What Is App Builder? The First Component of Oracle Application Express
- Types of Applications
- What Is SQL Workshop? The Second Component of Oracle
- Application Express
- Accessing SQL Workshop
- Running SQL Commands
- Importing and Running a SQL Script
- What Is Team Development? The Third Component of Oracle
- Application Express
- What Is App Gallery? The Fourth Component of Oracle Application Express
- Accessing the App Gallery
- Installing a Productivity Application
- Running an Installed Productivity Application
- Configuring the Setup
- Unlocking an Installed Productivity Application
- Exporting an Application
- Importing an Application
- Sample Datasets
- Installing a Sample Dataset
- Quiz
- Practice 2-2 Overview: Using Oracle Application Express as a Developer
- Summary

Creating a Database Application

- You Are Here in This Course
- Objectives
- Steve Thinks of Developing PTS for Different Interfaces
- Lesson Agenda
- Accessing App Builder
- App Builder Home Page
- Lesson Agenda
- Components of a Database Application
- Database Application User Interfaces
- Database Application Home Page
- Page Designer: The World’s Most Advanced IDE
- Page Designer: Drag and Drop from Gallery
- Page Definition: Overview
- Different Views of a Page
- Switching Between Pages and View Types
- Quiz
- Lesson Agenda
- Create Application Wizard
- Accessing the Create Application Wizard
- Different Ways of Creating a Database Application
- Creating Database Application
- Project Tracking System Home Page
- Creating a Database Application from a File
- Running an Application
- Using the Developer Toolbar
- Practice 3 Overview: Creating Database Applications
- Summary

Working with Reports

- You Are Here in This Course
- Objectives
- Steve Designs Reports for Tracking Projects
- Lesson Agenda
- Types of Reports
- Different Ways of Creating a Report
- Quiz
- Lesson Agenda
- Selecting the Appropriate Report Type
- When Is Classic Report the Best Option?
- Creating Classic Report with Form
- Creating Classic Reports with Form
- Classic Report
- Practice 4-1 Overview: Creating and Modifying a Classic Report

- List View Reports
- Creating a List View Report
- Modifying a List View Report
- Practice 4-2 Overview: Creating and Modifying a List View Report
- Column Toggle Reports
- Creating a Column Toggle Report
- Practice 4-3 Overview: Creating a Column Toggle Report
- Quiz
- Summary

Working with Interactive Reports

- You Are Here in This Course
- Objectives
- When Is an Interactive Report the Best Option?
- Lesson Agenda
- How to Create an Interactive Report
- Creating an Interactive Report
- Interactive Report
- Interactive Report with Link to Single Row View
- Practice 5-1 Overview: Creating and Manipulating an Interactive Report
- Lesson Agenda
- Accessing Report Attributes
- Editing Report Attributes
- Customizing the Search Bar and Actions Menu
- Specifying the Download Formats
- Icon and Detail Views
- Using the Link Column
- Modifying the Interactive Report Query
- Practice 5-2 Overview: Customizing an Interactive Report
- Quiz
- Summary

Working with Interactive Grids

- You Are Here in This Course
- Objectives
- Steve Explores the Interactive Grid
- Lesson Agenda
- What Is an Interactive Grid?
- An Interactive Grid with Form
- Interactive Grid Versus Interactive Report
- Lesson Agenda
- Ways to Create an Interactive Grid
- Creating an Interactive Grid (without Form)
- Interactive Grid (without Form)
- Creating an Interactive Grid (with Form)

- Creating an Interactive Grid
- Interactive Grid (with Form)
- Key Attributes of an Interactive Grid: Region Attribute
- Key Attributes of an Interactive Grid: Report Attribute
- Key Attributes of an Interactive Grid: Column Attribute
- Lesson Agenda
- Customization: Rendering the Interactive Grid Editable
- Interactive Grid: Editable
- Customization: Creating Column Links
- Customization: Modifying the Form
- Customization: Modifying Fields on the Form
- Customization: Creating a List of Values on a Column
- Practice 6 Overview: Creating and Manipulating an Interactive Grid
- Quiz
- Summary
- I Unit I Summary: Getting Started with Application Express
- Unit I Road Map I-2
- II Unit II Introduction: Building User-Friendly Web Applications
- Steve Explores Oracle Application Express Further II-2
- You Are Here in This Course II-3

Working with Pages and Regions

- You Are Here in This Course
- Objectives
- Steve Works with Pages and Regions
- Lesson Agenda
- What Is a Page?
- Accessing Page Definition
- Page Modes: Normal, Modal, and Nonmodal
- Page Designer Window
- Page Designer UI Elements
- Page Designer Toolbar
- The Left Pane of Page Designer
- The Central Pane of Page Designer
- The Central Pane of Page Designer: Gallery
- The Central Pane of Page Designer: Messages
- The Central Pane of Page Designer: Page Search and Help
- The Right Pane of Page Designer: Property Editor
- Page Designer UI Elements: Property Editor: Code Editor
- Editing Page Attributes
- Running a Page
- Runtime Developer Toolbar
- Quiz
- Lesson Agenda
- Region and Region Types

- Adding a Region: From the Rendering Tree
- Adding a Region: From the Gallery
- Positioning the Region
- Example: Creating a Region Type (Region Display Selector)
- Example: Creating a Region Display Selector
- Conditional Display of Regions
- Editing a Region
- Editing a Region at Runtime (using Quick Edit option)
- Editing a Region at Runtime (using Live Template Options)
- Specifying a Region Header and Footer
- Copying a Region
- Example: Copying Regions
- Creating a Subregion
- Practice 7-1 Overview: Creating and Modifying Pages and Regions
- Lesson Agenda
- Global Page
- Creating a Global Page Region
- Example: Creating a Global Page Region
- Practice 7-2 Overview: Working with Global Pages
- Viewing Pages of the Application
- Creating a Page Group
- Example: Creating a Page Group
- Copying a Database Application Page
- Deleting a Page
- Quiz
- Summary

Managing Forms

- You Are Here in This Course
- Objectives
- Stella Has a New Requirement: Wants a Solution
- Steve Plans Data Entry Through Forms
- Lesson Agenda
- Forms: Introduction
- Types of Forms
- Lesson Agenda
- Accessing the Create Form Wizards
- ROWID Versus Primary Key
- Creating a Form
- Example: Creating a Form
- Example: Adding a Form as a Region
- Creating a Report with Form
- Example: Creating a Report with Form
- Creating a List View with Form
- Example: Creating List View with Form

- Creating a Stacked Master Detail Form
- Example: Creating a Stacked Master Detail Form
- Example: Creating a Stacked Master Detail
- Quiz
- Practice 8-1 Overview: Creating a Report with Form
- Practice 8-2 Overview: Creating a List View with Form
- Practice 8-3 Overview: Creating a Master Detail Form (Side By Side)
- Lesson Agenda
- Linking a Report to a Form
- Example: Linking a Report to a Form
- Practice 8-4 Overview: Creating a Master Detail Form (Stacked)
- Practice 8-5 Overview: Creating a Master Detail Form (Drill-Down)
- Using Quick Edit
- Reordering Items
- Changing Item Display Type
- Customizing Forms
- Quiz
- Summary

Adding Items and Buttons

- You Are Here in This Course
- Objectives
- Steve Enhances User Interface—Adds Items and Buttons to Pages
- Lesson Agenda
- Items
- What Are Page Items?
- Types of Page Items
- What Are Application Items?
- Lesson Agenda
- Creating a Page Item
- Example: Creating a Date Picker Item
- Editing an Item
- Examples: Editing an Item
- Creating Quick Picks
- Adding Subtypes
- Quiz
- Lesson Agenda
- What Is an LOV?
- Accessing the Lists of Values Page
- Creating a Static LOV
- Example: Creating a Static LOV
- Associating the Static LOV with an Item
- Creating a Dynamic LOV
- Example: Creating a Dynamic LOV
- Associating the Dynamic LOV with a Select List Item

- Cascading LOV
- Example: Creating a Cascading LOV
- Quiz
- Lesson Agenda
- What Is a Button?
- Creating a Button
- Example: Creating a Button
- Example: Editing Button Attributes
- Modifying a Button to Redirect to a URL
- Quiz
- Practice 9-1 Overview: Adding Items and Buttons
- Practice 9-2 Overview: Manipulating Items
- Summary

Understanding Session State

- You Are Here in This Course
- Objectives
- Steve Understands Session State
- Lesson Agenda
- What Is a Session State?
- Session ID
- Session Timeout
- Setting Session Timeout
- How Does Oracle Application Express Implement Session State?
- Identifying the Parts of an Oracle Application Express URL
- Quiz
- Lesson Agenda
- Viewing Session State
- Referencing Session State
- Example: Referencing Session State by Using Bind Variables
- Example: Referencing Session State in Static Text
- Clearing the Cache
- Example: Clearing the Cache
- Quiz
- Practice 10-1 Overview: Understanding Session State
- Summary

Including Page Processing

- You Are Here in This Course
- Objectives
- Steve Includes Page Processing in the Application
- Lesson Agenda
- Page Rendering Versus Page Processing
- Example: Page Rendering
- Example: Page Processing

- Types of Logic
- Lesson Agenda
- What Is a Computation?
- Computation Examples
- Creating Computations
- Example: Creating Page-Processing Computations
- Quiz
- Lesson Agenda
- What Is a Page Process?
- Automatic Processing Processes
- Reviewing an Automated Row Fetch Process
- Reviewing an Automatic Row (DML) Processing Process
- Creating an On Submit Process
- Creating an On Load Process
- Quiz
- Lesson Agenda
- What Are Validations?
- Creating a Validation
- Using the Create Validation Feature
- Example: Creating an Item String Comparison Validation
- Example: Creating a Regular Expression Validation
- Example: Creating a SQL Validation
- Example: Creating a PL/SQL Validation
- Quiz
- Lesson Agenda
- What Is Branching?
- Example: Creating a Branch
- Practice 11-1 Overview: Creating and Manipulating Computations, Processes,
- and Validations
- Summary

Using Dynamic Actions and Plug-Ins

- You Are Here in This Course
- Objectives
- Steve Uses Dynamic Actions and Plug-ins
- Lesson Agenda
- Examples: Creating and Using Dynamic Actions
- What Is a Dynamic Action?
- Example 1: Enabling and Disabling an Item
- General Steps to Create a Dynamic Action
- Example 2: Setting the Value of an Item When Another Item Changes
- Example 3: Clearing All Items on the Click of a Button
- Example 3: Clearing All Items When a Button Is Clicked
- Example 3: Clearing All Items on the Click of a Button
- Example 4: Refreshing the Data in a Report Using Custom Filters

- Example 4: Refreshing the Data in a Report Using Custom Filters: Overview
- Example 4: Refreshing the Data in a Report Using Custom Filters
- Example: Disabling a Button and Submitting the Page When Clicking
- a Button
- Quiz
- Practice 12-1 Overview: Creating and Using Dynamic Actions
- Lesson Agenda
- What Is a Plug-In?
- Steps to Use a Plug-in in Your Application
- Accessing the Plug-in Repository
- Importing a Plug-In
- Installing a Plug-In
- Reviewing a Plug-in Definition
- Using an Item Plug-in on a Page
- Quiz
- Additional Plug-in Examples
- Adding the Modern Star Rating Item
- Adding the Modern Star Rating Plug-in—Add Column
- Adding the Modern Star Rating Item—Import and Install the Plug-in
- Adding the Modern Star Rating Item Plug-in to a Form
- Practice12-2 Overview: Importing and Using Plug-Ins
- Quiz
- Summary

Validating and Debugging Your Application

- You Are Here in This Course
- Objectives
- Steve Validates and Debugs the Application
- Lesson Agenda
- Using the Advisor
- Resolving Advisor Errors/Warnings
- Practice 13-1 Overview: Using the Advisor
- Lesson Agenda
- Using User Interface Defaults
- Creating User Interface Defaults for a Table
- Managing Your Table Dictionary
- Managing Your Attribute Dictionary
- Reviewing Items and Report Columns
- Modifying Attributes in the Dictionary
- Quiz
- Practice 13-2 Overview: Modifying the Attribute Dictionary
- Lesson Agenda
- What Is the Debug Option?
- Enabling and Disabling Debug Mode
- Debugging an Application

- Viewing Debug Reports
- Viewing Debug Reports (at Runtime)
- Quiz
- Summary
- II Unit II Summary: Building User-Friendly Web Applications
- Unit II Road Map II-2
- III Unit III Introduction: Customizing Your Web Application
- Steve Designs Application Navigation III-2
- Unit III Road Map III-3

Adding Shared Components That Aid Navigation

- You Are Here in This Course
- Steve Builds a Navigation System into PTS
- Objectives
- Lesson Agenda
- Shared Components: Examples
- What Are Shared Components?
- Lesson Agenda
- Accessing Navigation Menu Page
- Creating Navigation Menu Entries
- Lesson Agenda
- Lists
- Accessing the Lists Page
- Creating a Static List
- Creating a Static List Region
- Creating a Dynamic List
- Creating a Dynamic List Region
- Creating a List Region on Global Page
- Lesson Agenda
- Viewing a Breadcrumb
- Creating Breadcrumb Entries
- Reparenting Breadcrumbs
- Lesson Agenda
- Accessing the Navigation Bar Entries Page
- Creating a Help Page
- Creating a Navigation Bar Entry
- Quiz
- Practice14 Overview: Adding Shared Components That Aid Navigation
- Summary

Working with Themes, Templates, and Files

- You Are Here in This Course
- Objectives
- Steve Works with Application User Interface
- Lesson Agenda

- What Is a Theme?
- Accessing the Themes Page
- Creating a New Theme
- Creating a Copy of an Existing Theme
- Editing a Theme
- Switching Between Themes
- Example: Switching Between Themes
- Changing the Theme Style
- Using Universal Theme and Theme Roller
- Accessing the Theme Roller
- Customizing Your Theme Style Using Theme Roller
- Customizing Your Theme Style Using Theme Roller – Changing Header
- Customizing Your Theme Style Using Theme Roller – Changing Title
- Bar Background
- Customizing Your Theme Style Using Theme Roller – Updating Navigation
- Saving Theme Style in Theme Roller
- Quiz
- Lesson Agenda
- What Are Templates?
- Types of Templates
- Accessing the Templates Page
- Replacing a Template
- Example: Replacing a Template
- Creating a Copy of an Existing Template
- Editing a Template
- Applying a Template
- Example: Applying a Template
- Changing Default Templates in a Theme
- Example: Changing Default Templates in a Theme
- Overriding Application Defaults at the Page Level
- Using Substitution Strings in Templates
- Lesson Agenda
- Uploading a Cascading Style Sheet
- Referencing a Cascading Style Sheet
- Uploading an Image
- Example: Using an Uploaded Image
- Quiz
- Practice 15 Overview: Working with Themes, Templates, and Files
- Summary

Implementing Security

- Steve Implements Security in the Application
- You Are Here in This Course
- Objectives
- Lesson Agenda

- Securing an Application: Overview
- Accessing Security Tasks
- Lesson Agenda
- Using Authentication
- Accessing Authentication Schemes Page
- Using Preconfigured Authentication Schemes
- Examples: Preconfigured Authentication Schemes
- Example: Creating Authentication Based on Preconfigured Schemes
- Copying an Authentication Scheme
- Quiz
- Practice 16-1 Overview: Creating an Authentication Scheme
- Lesson Agenda
- Using Authorization
- Where Can You Implement Authorization?
- Methods to Implement Authorization
- Creating an Authorization Scheme from the Scratch
- Creating Users with Roles – Example: Create User 1
- Creating Users with Roles – Example: Create User 2
- Creating an Access Control Page
- Setting Access Control Mode
- Creating Access Control List
- Applying an Authorization Scheme to an Application
- Applying an Authorization Scheme to a Page
- Applying an Authorization Scheme to a Column in a Report
- Example: Applying an Authorization Scheme to a Column in a Report
- Quiz
- Practice 16-2 Overview: Restricting Users by Using Access Control
- Lesson Agenda
- Session State Protection
- Enabling Session State Protection from the Edit Application Page
- Enabling Session State Protection from the Session State Protection Page
- Configuring Session State Protection
- Configuring Session State Protection by Using a Wizard
- Configuring Session State Protection for Pages and Items
- Configuring Session State Protection for Application Items
- Practice 16-3 Overview: Enabling Session State Protection
- Summary

Managing Application Navigation

- Steve Tries to Improve Application Navigation
- You Are Here in This Course
- Objectives
- Lesson Agenda
- Building a Hierarchical List with Images
- Building a Hierarchical List

- Example: Building a Hierarchical List
- Building a Hierarchical List with Images
- Practice 17-1 Overview: Building a Hierarchical List with Images
- Lesson Agenda
- Building a Database-Driven Navigation Report
- Quiz
- Practice17-2 Overview: Building a Database-Driven Report
- Lesson Agenda
- Building a Site Map
- Adding Site Map as a Navigation Bar Entry
- Example: Adding Site Map as a Navigation Bar Entry
- Quiz
- Practice17-3 Overview: Building a Site Map
- Lesson Agenda
- Enforcing Authorization on Your Site Map
- Practice 17-4 Overview: Enforcing Authorization on the Site Map
- Summary
- III Unit III Summary: Customizing Your Web Application
- Unit III Road Map III-2
- IV Unit IV Introduction: Enhancing Your Web Application
- Steve Enhances the Project Tracking System Application IV-2
- Unit IV Road Map IV-3

Extending Your Application

- Steve Extends the PTS Application
- You Are Here in This Course
- Objectives
- Lesson Agenda
- Data Load Wizard
- Creating Data Load Wizard Pages
- Data Load Wizard Pages
- Practice 18-1: Creating Data Load Wizard Pages
- Lesson Agenda
- Contact Us Page
- Creating a Send E-Mail Process
- Lesson Agenda
- Creating an Upload and Download Page
- Adding a File Browse Item on the Upload Download Page
- Practice 18-2: Adding an Upload and Download Page
- Summary

Creating and Editing Charts

- Introducing Visual Aids for Representing Data
- You Are Here in This Course
- Objectives

- Lesson Agenda
- Search a Workspace for AnyChart Using SQL Commands
- Upgrading from AnyCharts to JET Charts
- Lesson Agenda
- Create Charts
- Creating SQL Queries for Charts
- Creating a Bar Chart
- View and Edit Chart Attributes
- Lesson Agenda
- View and Edit Chart Attributes
- Visualizing Data in a Line with Area Chart and Pie Chart
- Visualizing Data in a Line with Area Chart
- Visualizing Data in a Pie Chart
- Practice 19-1 Overview: Creating and Editing Charts
- Practice19-2 Overview: Creating a Pie and a Donut Chart
- Lesson Agenda
- Create a Pyramid Chart
- Create a Status Meter Gauge Chart
- Viewing and Analyzing a Combined Chart
- Practice19-3 Overview: Enhanced Charting Examples
- Quiz
- Summary

Adding Calendars and Trees

- Explores Tools to Organize Project Activities
- You Are Here in This Course
- Objectives
- Lesson Agenda
- Creating a Calendar
- Creating a Calendar on Home Page
- Editing Calendar Attributes
- Dragging and Dropping Calendar Entries
- Defining Links in a Calendar
- Linking to the Calendar from a Button
- Practice 20-1 Overview: Creating a Calendar
- Lesson Agenda
- What Is a Tree?
- Creating a Tree
- Exploring a Tree
- Practice 20-2 Overview: Creating a Tree Whose Nodes Link to a
- Different Page
- Summary

Managing Application Feedback

- Introducing Feedback Mechanism

- You Are Here in This Course
- Objectives
- Lesson Agenda
- Managing Application Feedback
- Lesson Agenda
- What Is Team Development?
- Tracking the Progress of Your Application Development Project
- Creating Features
- Creating Milestones
- Creating Bugs
- Creating To Dos
- Quiz
- Lesson Agenda
- Review the Progress of Your Milestones and Features
- Lesson Agenda
- Enabling Feedback in your Application
- Step 1: Enabling Feedback in Application Properties
- Step 2: Creating a Feedback Page
- Step 3: Submitting Feedback
- Step 4: Accessing Feedback in Team Development
- Step 4.1: Accessing Feedback as an End User
- Quiz
- Practice 21 Overview: Adding and Monitoring Feedback in Your Application
- Summary
- IV Unit IV Summary: Enhancing Your Web Application
- Unit IV Road Map IV-2