

# Build Visual Applications Using Oracle Visual Builder Studio Ed 2 LVC

Application Development Learning Subscription

DURATION

**2 Days**

MODULES

**8 Lectures**

COURSE CODE

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## Course Overview

Get an overview of the benefits and features provided by Oracle Visual Builder Studio.

## What You Will Learn

### Develop Visual Applications Using Visual Builder Studio and Visual Builder

- Objectives
- Intended Audience
- Course Overview
- What is Visual Builder Studio?
- VB Studio Application Development and Delivery
- Visual Builder Studio: A Complete Project Platform
- Managing Your Development Process
- Common Tasks in Visual Builder Studio
- Opening a Project
- Project Home
- Adding Team Members
- Working with Environments
- Tracking Issues
- Managing the Git Repository
- Creating a New Project with a Visual Application
- Creating a Project and Visual Application Together
- Selecting the Application Template and Adding Team Members
- Options for Working with a Visual Application in VBS
- Creating a New Visual Application Within a Project
- Project - Visual Application - Web App Relationships
- Developing Visual Apps with Visual Builder
- VBS and VB Bespoke Functional Architecture

- Terminology: Visual Builder vs. Visual Builder Studio
- The World Is All About “Agility”
- Where to Go for More Information and Help
- Course Case Study: Dukelabs
- Dukelabs Data Model
- Summary

## Create Visual Applications in Visual Builder Studio

- Objectives
- Overview of a Visual Application
- Single Page Application Architecture
- Typical Visual Application Development Workflow
- Opening a Workspace
- Choosing What to Do in Your Workspace
- How are Visual Applications Structured?
- Using the Designer to Edit Source Files in the Workspace
- Reopen Closed Editor Tabs
- Creating Flows and Pages
- Using Diagram View to See the App’s Structure
- Adding Redwood Components to the Page
- Using the Page Designer to Design and Test Pages
- Using the Structure Pane to View and Modify the Page
- Controlling the Placement of Panels
- Selecting the Amount of Undo or Redo
- Running the Application
- Committing Your Work
- Oracle Fusion Apps Naming Conventions
- Managing Visual Application Settings
- Security: Creating and Assigning Application Roles
- Managing Web App Settings
- Summary

## Configure and Manage Service Connections in Visual Applications

- Objectives
- VB Studio Service Connections
- What are Endpoints?
- What is a Backend?
- Adding a Backend Service Instance
- Backends Are Mandatory for New Service Connections
- Add a Local Server to Use a Different Backend During Development
- Application Profiles
- Managing Application Profiles
- Creating a Service Connection Source
- Choosing a Service Catalog
- Service Connections: Static vs. Dynamic

- Creating a Service Connection from the Catalog
- Dynamically Retrieving Metadata
- Copying Minimal OpenAPI to the Application
- Creating an External Service Connection (No Catalog)
- Creating an External Service Connection (No Descriptor)
- Overview Tab
- Server Tab
- Operation Tab
- Request Tab
- Response Tab
- Test Tab
- Editing a Service Connection Definition
- Editing a Service Connection
- Editing a Service Connection: Adding a Server
- Adding Server Variables for Service Connections
- Editing a Service Connection: Adding Endpoints
- Editing a Service Connection: Editing Endpoints
- Retrieving Metadata for a Dynamic Service Connection
- Converting a Service Connection Between Static and Dynamic
- Editing a Service Connection: Adding Transforms
- Editing a Service Connection: Editing Authentication
- Connection and Authentication Types
- Identity Propagation Authentication Mechanisms
- Cross Origin Request (CORS) Limitations
- Handling CORS in Visual Builder
- Displaying Data from a REST Service
- Summary

## Connecting to Data with Business Objects

- Objectives
- Data Sources in Visual Builder Studio
- Introduction to Business Objects
- Creating Business Objects
- Creating a New Business Object Manually
- Creating and Editing Fields
- Adding a Field for Aggregating Data
- Working with Endpoints to Access Business Objects
- Creating and Editing Business Object Relationships
- Working with Relationship Endpoints
- Using Groovy in Your Application
- Using Groovy to Create a Formula Field
- Using Groovy Functions
- Using Groovy to Access the Parent from the Child
- Using Groovy to Access a Parent's Collection of Children
- Printing and Viewing Groovy Diagnostic Messages

- Securing Business Objects
- Creating Rules for Business Objects
- Working with Trigger and Validator Rules
- Working with Object Functions
- Viewing and Managing Data for Business Objects
- Managing Business Object Data During Development
- Importing Data from a File with Data Manager
- Importing Data from the Command Line
- Exporting Data from the Command Line
- Creating Business Objects from a File
- Importing New Business Objects
- Choosing Your Own ID Column
- Changing the Field Data Type During Import
- What is the Diagrammer?
- Modifying the Diagram and Business Objects
- Creating Relationships with the Diagrammer
- Displaying Accessors for Connected Objects
- Controlling Data Caching for Business Objects
- Business Object Settings
- Using Your Own Database Schema for Business Objects
- Summary

## Anatomy of Visual Applications

- Objectives
- Topics
- Anatomy of Oracle JET Single Page Applications (SPA) in VB Studio
- VB Studio Application Architecture Rests on Oracle JET
- Anatomy of Visual Applications
- Topics
- Working with Flows and Pages
- Managing Flow Settings
- Creating and Managing Pages
- Navigating Between Pages
- Navigating to a Page or Flow
- Passing Parameters Between Pages: Defining Variables
- Embedding a Flow Within a Page
- Topics
- What are Variables?
- Kinds of Variables
- Creating Variables
- Variables and Scope
- Expressions
- Expressions and Implicit Objects: \$application, \$flow, \$page
- Expressions and Implicit Objects
- Binding Variables to Components

- Visual Builder Types
- Built-in Extended Types: Extends DataProvider
- Types and Variables
- Creating Types from Endpoints
- ServiceDataProvider (SDP) Types and Variables
- Defining Filter Criteria for SDP Variables
- Using ArrayDataProvider for Arrays of Data
- Creating Custom Types and Assigning Them to Variables
- Creating a Custom Enumeration Type
- Topics
- What is an Action Chain?
- Action Chain Scope
- JavaScript Action Chains
- JavaScript Versus JSON Action Chains
- Visual Builder Built-in Actions
- Adding Actions to the Chain
- Simplify Action Chain View with the Summary Button
- Fire Notifications to Display Banners
- Investigating How the Edit Page Is Constructed
- Making a REST Call in an Action Chain
- Topics
- Events Trigger Actions
- Working with Events and Event Listeners
- Types of Events: Components
- Types of Events: Life Cycle
- Types of Events: Variable
- Types of Events: Custom
- Creating an Event Listener and Selecting an Action Chain
- Adding an Edit Page to a Selected Table Event
- Topics
- Using Fragments to Manage and Reuse Code
- Creating a Fragment and Input Parameters
- Adding Slots to Fragments
- Define Descriptive Properties for Fragment Slots
- Using a Fragment on a Page: Passing Data to a Fragment
- Emitting an Event to the Container: Creating the Fragment Event
- Deferring Rendering of a Fragment's Content
- Summary

## Developing with Redwood Components

- Objectives
- Topics
- Redwood UI Components
- VB Studio and Redwood Components Are JET Components
- JET Cookbook

- Working with the Component Exchange
- Installing Components from the Component Exchange
- Working with JET Web Components
- Creating a Web Component
- The Component Contract
- The Properties Pane
- Topics
- What is Redwood?
- Redwood Platform Enables Better Designs with Components
- Redwood Templates and Patterns
- Redwood Patterns Build a Complete Page
- Redwood Page Templates: Referenced Layout and Functionality
- Creating a New Page: Selecting a Page Pattern and Template
- Common Pattern Template Page Configuration
- Welcome and Overviews: Displaying Content
- Smart Search: Searching and Displaying Results
- Simple Create and Edit Page Pattern
- Horizontal Foldout: Display Details
- Redwood Collection Container
- Redwood Components and Templates Documentation
- Redwood Templates Are Responsive by Design
- Components Respond at Run Time
- Components Respond at Design Time
- Using Redwood Containers and Layout Components on Pages
- About Non-Redwood Page Layouts
- About Non-Redwood Layout Containers
- Combining Non-Redwood Layout Containers
- Using Grid Containers for Fixed Layouts
- Using Form Layout for Form Data
- Redwood Templates Support Responsive Mobile Layouts
- Using Styling for Finer-Grained Control of Layout
- Styling Components with JET Styles
- Using Responsive Styling
- Styling the Oracle Redwood Theme
- Overriding Redwood Styles
- Creating and Using a Custom CSS Style Class
- Topics
- Adding a GUI Component to the Page
- The Components Palette
- Inserting a GUI Component into the Structure Pane
- Adding a Component to the Parent Slot
- Binding Data to Components: REST Endpoints
- Editing Table Columns
- Using Lists Instead of Tables
- Using Check Box and Radio Button Sets
- Using Comboboxes and Select Components

- Filtering Queries with Selection Components
- Fire Notifications to Display Banners
- Fire Notifications in the Redwood Starter Template App
- Topics
- Visualizing Data Using Charts and Gauges
- Returning Selected Items from Charts and Graphs
- Using Gauges for Table Data
- Using Pop-Up Dialog Boxes
- Topics
- Using Dynamic Components to Create Flexible Pages
- Creating a Dynamic Component Based on Screen Size
- Creating a Dynamic Component Based on User Role
- Creating a Dynamic Component Based on a Parameter
- Use Fragments as Sections for Dynamic Containers
- Using Templates with Dynamic Components
- Previewing a Dynamic Layout Without Running the Page
- Adding JET Components to Visual Builder Studio
- Summary

## Enhance Visual Builder Applications

- Objectives
- Buildings Queries with Components: Input Text
- Building a Query: Using RowKey as a Filter
- Populating Variables with Selected rowData
- Fire Data Provider Event to Refresh Data
- Using Cascading Selection Lists of Values (LOVs)
- Showing Additional Data for Selection Components
- Introducing the VBCookbook
- Creating a Visual Application for the VBCookbook
- Using VBCookbook Recipes in Visual Builder
- Selectively Displaying a Child Object Field
- Selectively Enabling a Field
- Working with Resource Files: Import and Export
- Creating Custom Actions
- Creating and Using a Custom JavaScript Function
- The JavaScript Editor
- Adding Swipe Motions to Navigate in Mobile Apps
- Making Strings Translatable
- Downloading Bundles for Translation
- Auditing Your Application
- Previewing a Visual Application
- Sharing a Visual Application
- Apps Can be Staged and Published from VB Instance or Shared and
- Deployed from VBS
- Viewing Shared and Deployed Apps in VBS

- Enabling Progressive Web Application Functionality
- Accessing Shared or Deployed PWA Apps from VBS
- Summary

## Building, Packaging, and Deploying Visual Applications

- Objectives
- Reviewing Source Code with Merge Requests
- Requestor Creating a Merge Request
- Create a Merge Request from a Template
- Publishing Changes from VBS Designer: Commit, Push, Merge
- A Word About Roles
- Managing Your Visual Application with Git
- Committed Work Is Pushed for Review
- Resolving a Push Conflict
- Reviewer Opening a Merge Request
- Reviewer Viewing the Merge Request and Requesting Attention
- Reviewers Can See Commits and Changed Files
- Reviewers Can Add an Inline Comment to a File
- Reviewers and Developers Can Add a General Comment
- Developer Addressing Merge Request Issues
- Reviewers Approving or Rejecting a Merge Request
- Developers Resolving a Merge Conflict
- Merge Request Approved and Completed
- Cloning an Existing Visual Application Git Repository
- Switching Git Branches to Reuse Your Workspace
- Builds, Jobs, and Pipelines
- Administrators Manage Pipelines and Secure Build Jobs
- Deploying the Application: Build Jobs
- VB Studio Visual Application Package and Deploy Steps
- Deploy Options
- Setting a Version Number for Your Application
- Application Version for Build Jobs
- Specifying a Custom App URL
- Managing Business Objects' Life Cycle
- Managing a Visual Application
- Undeploying a Visual Application
- Setting Version Information for Your Application
- Exporting a Visual Application
- Importing a Visual Application
- Creating and Tracking Issues in VB Studio
- Using Agile Boards to Manage and Update Issues
- Linking Issues to Merge Requests
- VB Studio Builds Do Most of the Grunt Work
- Customizing Your Builds Using Grunt
- Building and Deploying Your Application
- Grunt Tasks to Build Your Visual Application

- Grunt Build Tasks
- Customizing Your Grunt Build Process
- Overriding Existing Grunt Tasks
- Optimizing a Specific Web Application
- Summary