

# Web Application Development with Oracle Apex

এই অরাকলের কোর্স Complete করলে আপনি খুব সহজেই যে কোন ধরনের Online based সফটওয়্যার / ওয়েব অ্যাপ্লিকেশন Develop করার Real Life Technique শিখবেন। যাতে আপনাকে যে কোন Online based সফটওয়্যার তৈরি করতে বললে আপনি তা তৈরি করতে পারেন।

## কেন Oracle এ Career গড়বেন ?

1. যে কোন Background থেকে পাশ করলেই আপনি ওরাকলে Career গড়তে পারেন। কোন প্রোগ্রামিং ল্যাঙ্গুয়েজ জেনে আসার প্রয়োজন নেই।
2. Hardware Engineer, Network Engineer, Web Programmer দেব চেয়ে Oracle Professional দেব Salary বেশি।
3. যারা Hardware Engineer বা Network Engineer হিসেবে জব করছেন, তারা অরাকল শিখে সহজেই সফটওয়্যার ইঞ্জিনিয়ার হতে পারবেন।
4. Web Page Developer দেব HTML, CSS, JavaScript, JQuery, WordPress, Framework সহ অনেক কিছু শিখতে হয়। কিন্তু, শুধু Oracle শিখলেই আপনি একজন সফটওয়্যার ইঞ্জিনিয়ার হতে পারেন।
5. যারা Freelancing করতে চান, UPwork (Previously ODesk), Fiverr, PeoplePerHour ও Freelancer.Com এ প্রচুর Oracle এর কাজ আছে, ঘরে বসেও অনলাইনে ডলার ইনকাম করতে পারেন।
6. যারা চাকুরীতে আছেন, তারা Oracle দিয়ে দ্রুত সময়ে সফটওয়্যার প্রস্তুত করে বসকে তাক লাগিয়ে দিতে পারেন। চাকুরীতে আপনার প্রমোশনের জন্যেও Oracle Training নেয়া জরুরি।
7. অরাকল প্রোফেশনালদের চাহিদা বাংলাদেশের চেয়ে বিদেশে অনেক বেশি। যারা USA/Canada/Singapore/Australia তে যাবেন, তারাও এই কোর্স করে যেতে পারেন। আপনাকে Odd Job করতে হবে না।

## এই কোর্সের সাথে কি কি পাচ্ছেন ?

1. TrainerBD এর পক্ষ থেকে ই-লেকচার শিট।
2. Oracle University থেকে ই-বুক।
3. কোর্স শেষে পাবেন Course completion Certificate.

# Web Application Development with Oracle Apex

আমার কাছে কেন শিখবেন?

আমি একজন [Oracle Certified Professional \(OCP\)](#) । আমি আমার চাকুরির কারিয়ার (Oracle এ Software Development ও Database Administration) শুরু করি ২০০২ সালে । চারটা কম্পানি সুইচ করি এই কয় বছরে । আমি শুধু সেইসব কম্পানি তেই সুইচ করেছি যেখানে অরাকল দিয়া Software Development করবে বা করতে চাচ্ছে । এছাড়াও, বিগত অনেক বছর ধরে Oracle শিখাছি ।

**Muhammad Abdullah Al Noor,**

Chief Oracle Trainer and CEO,

[www.TrainerBD.com](http://www.TrainerBD.com)

Dial: +88 017 9072 1177

**Course Content :**

*The Course Content is from Oracle University Course Curriculum.*

## **Oracle Database 19c: SQL Fundamentals :**

### **Introduction**

- Explain the theoretical and physical aspects of a relational database)

### **Restricting and Sorting Data**

- Limit the rows that are retrieved by a query
- Sort the rows that are retrieved by a query
- Use ampersand substitution to restrict and sort output at runtime
- Use SQL row limiting clause

### **Using Conversion Functions and Conditional Expressions**

- Describe various types of conversion functions that are available in SQL
- Use the TO\_CHAR, TO\_NUMBER, and TO\_DATE conversion functions
- Apply conditional expressions in a SELECT statement

### **Displaying Data From Multiple Tables Using Joins**

- Use SELECT statements to access data from more than one table using equijoins and nonequijoins
- Join a table to itself by using a self-join
- View data that generally does not meet a join condition by using OUTER joins

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## Managing Tables using DML statements

- Insert rows into a table
- Update rows in a table
- Delete rows from a table
- Control transactions

## Retrieving Data using the SQL SELECT Statement

- Execute a basic SELECT statement

## Using Single-Row Functions to Customize Output

- Describe various types of functions available in SQL
- Use character, number, and date functions in SELECT statements

## Reporting Aggregated Data Using the Group Functions

- Describe the use of group functions
- Group data by using the GROUP BY clause
- Include or exclude grouped rows by using the HAVING clause

## Using Subqueries to Solve Queries

- Define subqueries
- Describe the types of problems that the subqueries can solve
- Describe the types of subqueries
- Use single-row and multiple-row subqueries
- Use a set operator to combine multiple queries into a single query
- Control the order of rows returned

## Introduction to Data Definition Language

- Describe the data types that are available for columns
- Create a simple table
- Create constraints for tables
- Describe how schema objects work

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## Oracle Database 19c: Program with PL/SQL

### Introduction

- Course Objectives
- Course Agenda
- Describe the Human Resources (HR) Schema
- PL/SQL development environments available in this course
- Introduction to SQL Developer

### Introduction to PL/SQL

- Overview of PL/SQL
- Identify the benefits of PL/SQL Subprograms
- Overview of the types of PL/SQL blocks
- Create a Simple Anonymous Block
- How to generate output from a PL/SQL Block?

### Declare PL/SQL Identifiers

- List the different Types of Identifiers in a PL/SQL subprogram
- Usage of the Declarative Section to Define Identifiers
- Use variables to store data
- Identify Scalar Data Types
- The %TYPE Attribute
- What are Bind Variables?
- Sequences in PL/SQL Expressions

### Write Executable Statements

- Describe Basic PL/SQL Block Syntax Guidelines
- Learn to Comment the Code
- Deployment of SQL Functions in PL/SQL
- How to convert Data Types?
- Describe Nested Blocks

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- Identify the Operators in PL/SQL

## Interaction with the Oracle Server

- Invoke SELECT Statements in PL/SQL
- Retrieve Data in PL/SQL
- SQL Cursor concept
- Avoid Errors by using Naming Conventions when using Retrieval and DML Statements
- Data Manipulation in the Server using PL/SQL
- Understand the SQL Cursor concept
- Use SQL Cursor Attributes to Obtain Feedback on DML
- Save and Discard Transactions

## Control Structures

- Conditional processing using IF Statements
- Conditional processing using CASE Statements
- Describe simple Loop Statement
- Describe While Loop Statement
- Describe For Loop Statement
- Use the Continue Statement

## Composite Data Types

- Use PL/SQL Records
- The %ROWTYPE Attribute
- Insert and Update with PL/SQL Records
- INDEX BY Tables
- Examine INDEX BY Table Methods
- Use INDEX BY Table of Records

## Explicit Cursors

- What are Explicit Cursors?
- Declare the Cursor
- Open the Cursor
- Fetch data from the Cursor
- Close the Cursor

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- Cursor FOR loop
- The %NOTFOUND and %ROWCOUNT Attributes
- Describe the FOR UPDATE Clause and WHERE CURRENT Clause

## Exception Handling

- Understand Exceptions
- Handle Exceptions with PL/SQL
- Trap Predefined Oracle Server Errors
- Trap Non-Predefined Oracle Server Errors
- Trap User-Defined Exceptions
- Propagate Exceptions
- RAISE\_APPLICATION\_ERROR Procedure

## Stored Procedures

- Create a Modularized and Layered Subprogram Design
- Modularize Development With PL/SQL Blocks
- Understand the PL/SQL Execution Environment
- List the benefits of using PL/SQL Subprograms
- List the differences between Anonymous Blocks and Subprograms
- Create, Call, and Remove Stored Procedures
- Implement Procedures Parameters and Parameters Modes
- View Procedure Information

## Oracle Apex 21.2 (Latest Version) :

### Course Overview

Introducing Oracle Application Express

Application Express Overview

Using Application Express

Application Express Terms and Concepts

How to Install Oracle Apex Latest Version

### 1 – Creating a Desktop and Mobile Database Application

1. Application Builder Overview

2. Creating Mobile Application

# Web Application Development with Oracle Apex

3. Introducing Database Applications
4. Creating Database Applications

## **2 – Working with Reports for Desktop Application**

1. Using Interactive Reports
2. Using Classic Reports
3. Introducing Reports
4. Creating and Customizing an Interactive Report

## **3 – Working with Reports for Mobile Application**

1. Creating a Reflow Report
2. Creating Reports for a Mobile Application
3. Creating Column Toggle Report

## **4 – Creating Forms**

1. Creating Forms
2. Creating a Form in a Mobile Application
3. Modifying Forms
4. Using Forms

## **5 – Working with Pages and Regions**

1. Working with Page Regions
2. Introducing Page Definition
3. Working with Pages

## **6 – Adding Items and Buttons**

1. Creating List of Value (LOV) Type of Items
2. Using Buttons
3. Introducing Items
4. Using Items

## **7 – Understanding Session State**

1. Using Session State in Oracle Application Express
2. Understanding Session State in Oracle Application Express

## **8 – Including Page Processing**

1. Introducing Page Processing
2. Including Computations
3. Including Branches
4. Including Processes
5. Including Validations

## **9 – Validating and Debugging Your Application**

1. Using the Advisor
2. Managing Your Attribute Dictionary
3. Debugging Your Application

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## **10 – Adding Shared Components That Aid Navigation**

1. Introducing Shared Components
2. Creating a Navigational Bar
3. Creating Lists
4. Creating Tabs
5. Creating Breadcrumbs

## **11 – Working with Themes, Templates and Files**

1. Using Templates
2. Using Files
3. Using Themes

## **12 – Implementing Security**

1. Using Authorization Schemes
2. Using Authentication Schemes
3. Using Session State Protection
4. Securing an Application

## **13 – Managing Application Navigation**

1. Enforcing Authorization on Your Site Map
2. Building a Site Map
3. Building a Hierarchical List with Images
4. Linking Interactive Reports using a Declarative Filter

## **14 – Extending Your Application**

1. Sending Email from an Application
2. Creating Data Load Wizard Pages
3. Creating an Upload and Download Page
4. Adding BLOB Data to an Existing Application

## **15 – Creating and Editing Charts**

1. Creating and Using Charts
2. Enhanced Charting Examples

## **16 – Adding Calendars and Trees**

1. Using Calendars
2. Using Trees

## **17 – Using Dynamic Actions and Plug-Ins**

1. Using Dynamic Actions
2. Using Plug-Ins

## **18 – Utilizing Application Express Printing**

1. Printing a Standard Report with Derived Output
2. Creating a PDF Report with Multiple Queries



# Web Application Development with Oracle Apex

## **19 – Managing Application Feedback**

1. What is Team Development?
2. Managing Feedback

### **Software Project :**

1. Human Resource Management Systems.
2. POS Software.

### **Muhammad Abdullah Al Noor,**

Chief Oracle Trainer and CEO,

[www.TrainerBD.com](http://www.TrainerBD.com)

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