Oracle® Certified Professional Program Candidate Guide

Oracle Certified Application Developer Track

**Oracle Developer™ Release 2*

September 1999

ORACLE®

**Oracle Developer formerly known as Developer/2000*

Contents

Oracle Candidate Certification Guide

Oracle Certified Application Developer Track

**Oracle Developer Release 2*

Visit the OCP Web site at http://education.oracle.com/certification

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1 The Benefits of Oracle Certification

The demand for professionals in information technology (IT) is high, and the competition for jobs is intense. Individuals, experienced or new to the profession, need to know what skills make them attractive to employers. Employers look for ways to distinguish employees and prospective employees who have the solid foundation of skills needed for effective performance.

The Oracle Certified Professional (OCP) Program helps the IT industry make these distinctions by establishing a standard of competence in specific job roles. An Oracle Certification is a valuable, industry-recognized credential that signifies a proven level of knowledge and ability.

Benefits to the Technical Professional

The Oracle Certified Professional Program can give you a distinct advantage. An OCP Certification demonstrates that you have a solid understanding of a job role and the Oracle products used in that role. Being an Oracle Certified Professional can help raise your visibility and increase your access to the industry's most challenging opportunities.

OCPs have testified to the value of Oracle Certification[1]:

- 97% said they have benefited from certification
- 89% said they gained more confidence in their Oracle expertise after becoming certified
- 96% would recommend the program to a professional colleague

Benefits to the IT Employer

The Oracle Certified Professional Program is also valuable to hiring managers who want to distinguish among candidates for critical IT positions. For companies that send employees through annual IT training, certification ensures a return on the training investment by validating the knowledge and understanding gained in training sessions. Companies can also combine certification with an employee development program to enhance employee loyalty and performance on the job.

Hiring certified professionals has a direct impact on a company's bottom line, as these conclusions from a research study by International Data Corporation[2] suggest:

- Certified professionals handled 40% more support calls per person, per day, than uncertified staff.
- Companies that advocated certification reported 49% less downtime than those that did not.
- For the majority of companies surveyed, the savings from increased effectiveness paid the costs of certification in fewer than nine months.

1 *Source: "Highlights From The 1999 Oracle Certified Professional Benefit Survey," Market Analysis and Research Strategies, 1999.*

2 *Source: "Benefits and Productivity Gains Realized Through IT Certification," International Data Corporation, 1997.*

2 *Application Developer Track: Oracle Developer Release 2*

Oracle Certified Application Developer Track Overview

Whether you're new to Oracle or upgrading from Oracle Developer Release 1, the Oracle Certified Professional (OCP) Program can help you reinforce your knowledge of leading-edge technology with a tangible industry-recognized credential.

Release 2 of Oracle Developer—Oracle's premier development toolset—gives application developers access to significant advances in scalability and compatibility, as well as the ability to effectively leverage the strengths of both client/server technology and the Web. Your knowledge of this leading-edge technology can make you a hot commodity in a fast-paced IT marketplace.

Two Paths to Release 2 Certification

The Oracle Certified Application Developer Track for Oracle Developer Release 2 offers two options: a Core Path for application developers starting their certification with Oracle Developer Release 2 (see below for core path). The Upgrade Path is designed for those who are already certified or who plan to complete certification for Oracle Developer Release 1.

Apply Your Knowledge

The tests required for each of these paths will challenge you to apply specific knowledge you've gained through Oracle training, as well as experience you've developed on the job, to real-world scenarios. Only proven performers will be able to pass the tests.

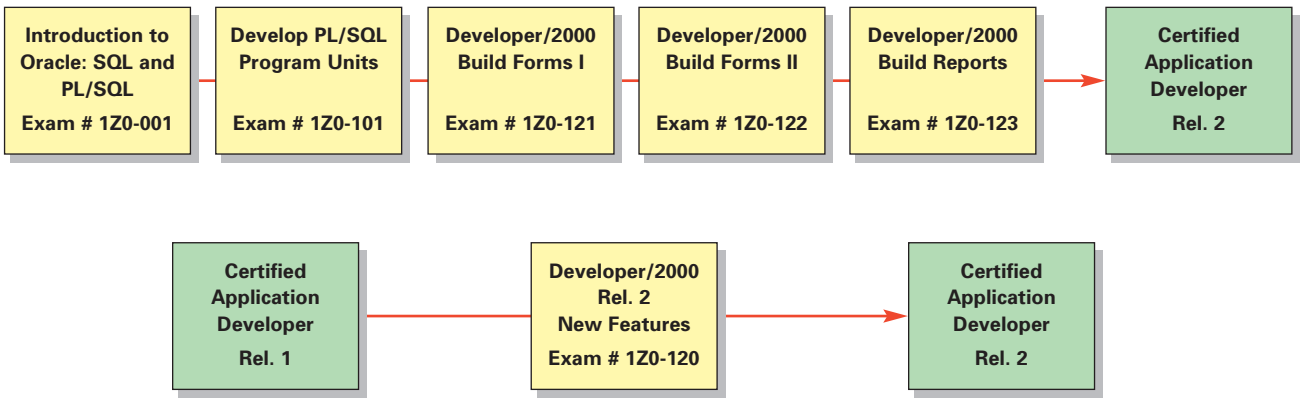
The certification tests in the Oracle Certified Application Developer Track for Oracle Developer Release 2 are created against Developer/2000 Release 2, Oracle 7.3, PL/SQL V 2.3, and SQL*Plus V 3.3.

Candidate Qualifications

The typical candidate to take the Oracle Certified Application Developer Track tests is an application developer who, ideally, has completed up-to-date training on Oracle Developer Release 2 and has at least six months of on-the-job experience.

Core Path
Application Developer Track for Oracle Developer Release 2

In order to become a Certified Application Developer on Oracle Developer Release 2, you must pass the following exams (in any order):



3 *Preparing for the Oracle Developer Release 2 Tests*

Oracle recommends that you prepare for the Oracle Developer Release 2 exams by combining offerings from Oracle University with practice and on-the-job experience. Start by reviewing the topics covered on the exam in the Test Content Checklist in this guide. Then look over the following preparation methods for a combination that suits your background.

Oracle University Preparation Tools

Instructor-led training or *technology-based training* offered by Oracle University are the best way to prepare to become an Oracle Certified Professional. These courses lay the foundation of knowledge you will need to pass the OCP tests.

Refer to the curriculum map on the following page to chart your optimal preparation based on Oracle University instructor-led training and technology-based training. Your local Oracle University representative can advise you on the best option. For more information, visit the Oracle University Web site at http://education.oracle.com/globalsites.

Preparing On Your Own

Experience is the best way to deepen your understanding of the topics covered in Oracle University courses. Oracle recommends that you extend your classroom learning by applying your new skills and knowledge either on the job or through practice and self-study.

Test Content Checklist

Use the Test Content Checklist to identify all of the test topics for which you must prepare. Oracle may make modifications to the Test Content Checklist, so visit the OCP Web site at http://education.oracle.com/certification to download the latest version of this guide.

Additional Preparation Tools

- Free Assessment Test

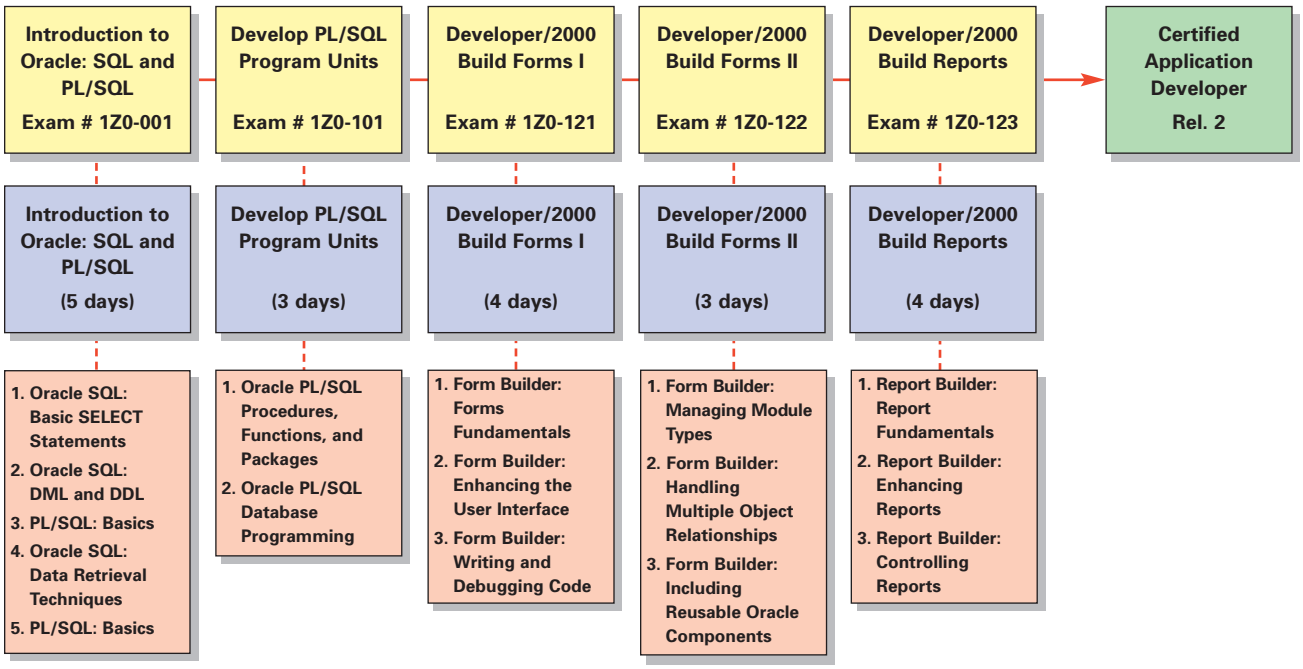
  The Assessment Test is designed to give candidates a general sense of the exam. To download the free assessment test, visit the OCP Web site at: http://education.oracle.com/certification.

- *OCP Exam Guides*

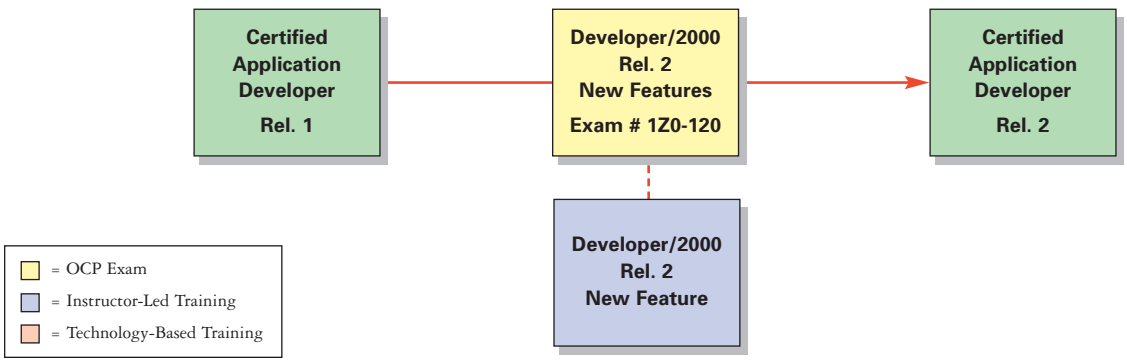
  OCP Test Guides, published by Oracle Press, are for the experienced candidate who wishes to brush up on key concepts. These guides are designed to enhance your learning at Oracle Education. To order your guide, visit the Oracle Store Web site at http://oraclestore.oracle.com.

Application Developer Track for Oracle Developer Release 2

Oracle University Instructor-Led Training and Technology-Based Training titles are shown below:



Oracle Developer Release 2 Upgrade Path for Certified Application Developers Release 1



4 *Registering for Your Tests*

The OCP tests are offered through Sylvan Prometric, the world's largest provider of testing to the information technology industry. Sylvan Prometric features more than 800 authorized Prometric testing centers worldwide.

All tests are delivered by computer and consist of multiple choice, free response, and interactive graphical questions. A brief tutorial precedes each test to familiarize you with the test delivery system. You should attempt to answer every question in the tests because incomplete answers are scored as incorrect.

Reviewing the Program Agreement

Candidates pursuing OCP certification must accept the terms of the Oracle Certified Professional Candidate Agreement before taking the tests.

You will be presented with the agreement on-screen before the exam starts. You can also review the agreement before your appointment by visiting the OCP Web site at http://education.oracle.com/certification.

Scheduling Your Test

1. There are two convenient ways to register for testing:
   a. Register online at http://www.2test.com (Online registration is not available for beta exam registration.)
   b. Call the Sylvan Prometric Regional Service Center (RSC) serving your country during normal business hours (a list of RSCs is located on the last page of this guide)
2. Make sure that you have both the number and title of the test that you are registering for. The Sylvan Prometric customer service representative will ask for your name and contact information, as well as your preference as to date, time, and location for testing. Schedule your appointment to take the test at any available time Monday through Saturday during normal authorized Prometric testing center hours. Hours vary by location. Be sure to note when and where you are scheduled to take the test.
3. When you register, ask the Sylvan Prometric customer service representative for a list of valid forms of identification that you will need to present when you take your test. You will not be allowed to take the test without valid identification.
4. The test fee is payable to Sylvan Prometric by check or major credit card (VISA, MasterCard, or American Express) at the time of registration. If you pay by check, you cannot schedule your test until payment has been received by Sylvan Prometric.
5. You must schedule a test at least 24 hours in advance.

Changing or Canceling Your Appointment

To cancel or reschedule your test appointment, you must call the Sylvan Prometric Regional Service Center. The cancellation policy by region is:

- The Americas: One business day in advance
- Asia Pac: By midday (Sydney time) the previous business day
- EMEA: Two business days in advance
- Tokyo/Japan: Three business days in advance

Candidates who do not appear for the test or who cancel less than one business day prior to the test will not receive a refund.

5 *Taking Your Tests*

On Test Day...

1. Arrive at the testing center at least 15 minutes prior to your scheduled appointment.
2. Sign the test log and present two forms of identification. One must be a government-issued photo identification. Both forms of identification must contain your signature.
3. The test administrator will give you a brief orientation and escort you to a computer terminal where you will take the test. You are not allowed to bring papers, books, bags, or calculators into the room.

Obtaining Your Test Results

You will receive your score report immediately after the test. Beta exam score reports are sent to candidates following analysis and scoring of the beta exam. Candidates completing a beta version of a test can expect their score reports 10-12 weeks following the beta period. Your results are automatically forwarded to Oracle following testing. Please keep a copy of all test reports for your records.

Retaking a Test

Candidates must wait 30 days before retaking a failed exam. There are no exceptions to this policy. Oracle encourages you to make use of the diagnostic feedback supplied with the score report to review the areas that need further study.

Requests for exemption from this requirement must be made in writing to webteam@us.oracle.com. There is no discount price for retaking a test. The fee is the same as the initial test fee.

6 *After You Are Certified*

You will receive a certificate by mail from Sylvan Prometric within 30 days after successfully completing all tests in a certification track. You can use your certificate as verification that you are an Oracle Certified Professional.

If you do not receive your certificate, write to fulfillment@prometric.com and provide your name, candidate ID, and current mailing address. You can obtain a duplicate certificate for U.S. $10.00 by contacting Sylvan Prometric.

In addition, you will receive information on how to obtain a copy of the OCP logo. The logo may be used on business cards and resumes.

Keeping Your Certification Current

Oracle is committed to keeping the OCP Program current with the latest technology. To ensure the value of your Oracle Certified Professional credential, you may upgrade your certification to the latest version.

Once Oracle announces the retirement of a track, you will have six months to complete the retiring track. If you do not upgrade your certification within six months, you will be required to complete all tests within the new track to obtain the latest credential. Consult the OCP Web site at http://education.oracle.com/certification or Sylvan Prometric for current testing requirements.

7 *Special Testing Opportunities*

Special Opportunities: Beta and Tryout Tests

Oracle may offer beta or tryout versions of OCP tests as new and updated questions are developed. Beta and tryout tests are generally offered free or at a discount from the regular test price. Participating in beta and tryout tests is a good way to economize on your certification and to be among the first professionals to be certified on a new track or product release.

Beta score reports are sent to candidates following analysis and scoring of the beta test.

Visit the "What's New" section of the OCP Web site at http://education.oracle.com/certification to find beta and tryout opportunities. Oracle provides detailed descriptions of each beta and tryout offer to help you decide if the tests are right for you.

Visit the OCP Web site at http://education.oracle.com/certification

Test Content Checklists

The following test content checklists show the objectives covered in the OCP exams.

Test Content Checklist

Test 1 – Introduction to Oracle: SQL® and PL/SQL™ (Exam# 1Z0-001)

Overview of Relational Databases, SQL and PL/SQL

- ☐ Discuss the theoretical and physical aspects of a relational database
- ☐ Describe the Oracle implementation of the RDBMS and ORDBMS
- ☐ Describe the use and benefits of PL/SQL

Writing Basic SQL Statements

- ☐ List the capabilities of SQL SELECT statements
- ☐ Execute a basic SELECT statement
- ☐ Differentiate between SQL statements and SQL*Plus commands

Restricting and Sorting Data

- ☐ Limit the rows retrieved by a query
- ☐ Sort the rows retrieved by a query

Single Row Functions

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

Displaying Data from Multiple Tables

- ☐ Write SELECT statements to access data from more than one table using equality and nonequality joins
- ☐ View data that generally does not meet a join condition by using outer joins
- ☐ Join a table to itself

Aggregating Data Using Group Functions

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

Subqueries

- ☐ Describe the types of problems that subqueries can solve
- ☐ Define subqueries
- ☐ List the types of subqueries
- ☐ Write single-row and multiple-row subqueries

Multiple-Column Subqueries

- ☐ Write multiple-column subqueries
- ☐ Describe and explain the behavior of subqueries when null values are retrieved
- ☐ Write subqueries in a FROM clause

Producing Readable Output with SQL*Plus

- ☐ Produce queries that require an input variable
- ☐ Customize the SQL*Plus environment
- ☐ Produce more readable output
- ☐ Create and execute script files
- ☐ Save customizations

Manipulating Data

- ☐ Describe each DML statement
- ☐ Insert rows into a table
- ☐ Update rows in a table
- ☐ Delete rows from a table
- ☐ Control transactions

Creating and Managing Tables

- ☐ Describe the main database objects
- ☐ Create tables
- ☐ Describe the datatypes that can be used when specifying column definition
- ☐ Alter table definitions
- ☐ Drop, rename, and truncate tables

Including Constraints

- ☐ Describe constraints
- ☐ Create and maintain constraints

Creating Views

- ☐ Describe a view
- ☐ Create a view
- ☐ Retrieve data through a view
- ☐ Insert, update, and delete data through a view
- ☐ Drop a view

Test 1 – Introduction to Oracle: SQL and PL/SQL, continued

Oracle Data Dictionary

- ☐ Describe the data dictionary views a user may access
- ☐ Query data from the data dictionary

Other Database Objects

- ☐ Describe database objects and their uses
- ☐ Create, maintain, and use sequences
- ☐ Create and maintain indexes
- ☐ Create private and public synonyms

Controlling User Access

- ☐ Create users
- ☐ Create roles to ease setup and maintenance of the security model
- ☐ Use the GRANT and REVOKE statements to grant and revoke object privileges

Declaring Variables

- ☐ List the benefits of PL/SQL
- ☐ Describe the basic PL/SQL block and its sections*
- ☐ Describe the significance of variables in PL/SQL
- ☐ Declare PL/SQL variables
- ☐ Execute a PL/SQL block

Writing Executable Statements

- ☐ Describe the significance of the executable section*
- ☐ Write statements in the executable section
- ☐ Describe the rules of nested blocks
- ☐ Execute and test a PL/SQL block
- ☐ Use coding conventions

Interacting with the Oracle Server

- ☐ Write a successful SELECT statement in PL/SQL
- ☐ Declare the datatype and size of a PL/SQL variable dynamically
- ☐ Write DML statements in PL/SQL
- ☐ Control transactions in PL/SQL
- ☐ Determine the outcome of SQL DML statements

Writing Control Structures

- ☐ Identify the uses and types of control structures
- ☐ Construct an IF statement
- ☐ Construct and identify different loop statements
- ☐ Use logic tables
- ☐ Control block flow using nested loops and labels

Working with Composite Datatypes

- ☐ Create user-defined PL/SQL records
- ☐ Create a record with the %ROWTYPE attribute
- ☐ Create a PL/SQL table
- ☐ Create a PL/SQL table of records
- ☐ Describe the difference between records, tables, and tables of records*

Writing Explicit Cursors

- ☐ Distinguish between an implicit and an explicit cursor
- ☐ Use a PL/SQL record variable
- ☐ Write a cursor FOR loop

Advanced Explicit Cursor Concepts

- ☐ Write a cursor that uses parameters
- ☐ Determine when a FOR UPDATE clause in a cursor is required*
- ☐ Determine when to use the WHERE CURRENT OF clause
- ☐ Write a cursor that uses a subquery*

Handling Exceptions

- ☐ Define PL/SQL exceptions
- ☐ Recognize unhandled exceptions*
- ☐ List and use different types of PL/SQL exception handlers
- ☐ Trap unanticipated errors*
- ☐ Describe the effect of exception propagation in nested blocks*
- ☐ Customize PL/SQL exception messages*

Note: Topics marked with (*) will appear in the test beginning April 2000.

Test Content Checklist

Test 2 – Develop PL/SQL Program Units (Exam# 1Z0-101)

Note: This test content checklist will be updated in 2000. Visit the OCP web site for the latest versions of the OCP Candidate Guides.

Developing Stored Procedures and Functions

- ☐ Create procedures using SQL*Plus and Oracle Procedure Builder
- ☐ Invoke procedures
- ☐ Create functions using SQL*Plus and Oracle Procedure Builder
- ☐ Invoke functions
- ☐ Handle exceptions: Oracle exceptions, user-defined exceptions and RAISE_APPLICATION_ERROR

Managing Procedures and Functions

- ☐ Select information about stored procedures and functions from the database dictionary
- ☐ Debug procedures using the DBMS_OUT package
- ☐ Debug procedures using the Oracle Procedure Builder
- ☐ Describe the security control for the owner and user

Managing Procedural Dependencies

- ☐ Track procedural dependencies
- ☐ Predict the effect of changing a database object upon stored procedures and functions
- ☐ Manage procedural dependencies within a single database
- ☐ Manage procedural dependencies with a distributed system

Developing and Using Packages

- ☐ Create a package to group together related variables, cursors, constants, exceptions, procedures, and functions
- ☐ Make a package construct either public or private
- ☐ Invoke a package construct
- ☐ Manage packages by documenting the text and errors, produce SQL*Plus scripts to facilitate development, and control security
- ☐ Manage procedural dependencies that involve packages
- ☐ Take advantage of packages supplied by the Oracle Server
- ☐ Take advantage of packages supplied by the Oracle Procedure Builder

Developing Database Triggers

- ☐ Distinguish database triggers, stored procedures and Oracle Forms triggers
- ☐ Create a statement trigger to be executed whenever a particular data manipulation statement is issued on a specific table
- ☐ Create a row trigger to be executed whenever a row in a table is affected by a data manipulation statement
- ☐ Manage triggers by documenting the source code, controlling security and disabling them
- ☐ Adhere to command restrictions within triggers by understanding their exact firing mechanism
- ☐ Produce triggers to complement the capabilities of the Oracle base product

Test Content Checklist

Test 3 – Developer/2000: Build Forms I (Exam# 1Z0-121)

Running a Form Builder Application

- ☐ Describe the runtime environment
- ☐ Navigate a Form Builder application
- ☐ Describe the two modes of operation
- ☐ Retrieve both restricted and unrestricted data from the database into a Form Builder application
- ☐ Insert, update, and delete records
- ☐ Display database errors using help facility

Working in the Form Builder Environment

- ☐ Identify the main Form Builder executables
- ☐ Identify the main components of Form Builder
- ☐ Identify the main objects in a form module

Creating a Basic Form Module

- ☐ Create a form module
- ☐ Create a data block using the data block wizard
- ☐ Modify a data block using the data block wizard
- ☐ Create a layout using the layout wizard
- ☐ Modify a layout using the layout wizard
- ☐ Save, compile, and run a form module
- ☐ Identify file formats and their characteristics
- ☐ Create data blocks with relationships
- ☐ Run a master-detail form module

Working with Data Blocks and Frames

- ☐ Identify the components of the property palette
- ☐ Manipulate properties through the property palette
- ☐ Control the behavior and appearance of data blocks
- ☐ Control frame properties
- ☐ Create blocks that do not directly correspond to the database
- ☐ Delete data blocks and their components

Working with Text Items

- ☐ Describe text items
- ☐ Create a text item
- ☐ Modify the appearance of a text item
- ☐ Control the data in a text item
- ☐ Modify the navigational behavior of a text item
- ☐ Enhance the relationship between the text item and the database
- ☐ Modify the functionality of a text item
- ☐ Include help messages in the application

Creating LOVs and Editors

- ☐ Describe LOVs and editors
- ☐ Design, create, and associate LOVs with text items in a form module
- ☐ Create editors and associate them with text items in a form module

Creating Additional Input Items

- ☐ Identify the item types that allow input
- ☐ Create a check box
- ☐ Create a list item
- ☐ Create a radio group

Creating Non-Input Items

- ☐ Identify item types that do not allow input
- ☐ Create a display item
- ☐ Create an image item
- ☐ Create a sound item
- ☐ Create a button
- ☐ Create a calculated field

Creating Windows and Content Canvases

- ☐ Describe windows and content canvases
- ☐ Describe the relationship between windows and content canvases
- ☐ Identify window and content canvases properties
- ☐ Display a form module in multiple windows
- ☐ Display a form module on multiple layouts

Working with Other Canvases

- ☐ Describe the different types of canvases and their relationships to each other
- ☐ Identify the appropriate canvas type for different scenarios

Test 3 – Developer/2000: Build Forms I, continued

- ☐ Create an overlay effect using the stacked canvases
- ☐ Create a toolbar
- ☐ Create a tabbed interface

Introduction to Triggers

- ☐ Define triggers
- ☐ Identify the different trigger categories
- ☐ Plan the type and scope of triggers in a form
- ☐ Describe the properties that affect the behavior of a trigger

Producing Triggers

- ☐ Write trigger code
- ☐ Explain the use of built-in subprograms in Developer/2000 applications
- ☐ Describe the When-Button-Pressed trigger
- ☐ Describe the When-Window-Closed trigger

Debugging Triggers

- ☐ Describe the components of the Debugger
- ☐ Run a form module in debug mode
- ☐ Debug PL/SQL code

Adding Functionality to Items

- ☐ Supplement the functionality of input items by using triggers and built-ins
- ☐ Supplement the functionality of non-input items by using triggers and built-ins

Runform Messages and Alerts

- ☐ Describe the default messaging
- ☐ Handle errors using built-in subprograms
- ☐ Identify the different types of Form Builder messages
- ☐ Control system messages
- ☐ Create and control Alerts

Query Triggers

- ☐ Explain the process involved in querying a data block
- ☐ Describe query triggers and their scope
- ☐ Write triggers that screen query conditions
- ☐ Write triggers to supplement query results
- ☐ Control trigger action based on the form query status

Validation

- ☐ Explain the effects of the validation unit upon a form
- ☐ List Form Builder validation properties
- ☐ Control validation using triggers

Navigation

- ☐ Distinguish between internal and external navigation
- ☐ Describe and use the navigation triggers
- ☐ Identify built-ins that cause navigation

Transaction Processing

- ☐ Describe the details of commit processing and commit triggers
- ☐ Supplement transaction processing using triggers
- ☐ Allocate sequence numbers to records as they are applied to tables
- ☐ Implement Array DML

Writing Flexible Code

- ☐ Describe flexible code
- ☐ State the advantages of using system variables
- ☐ Identify built-in subprograms that assist flexible coding
- ☐ Write code to reference objects by internal ID
- ☐ Write code to reference objects indirectly

Sharing Objects and Code

- ☐ Describe the various methods for reusing objects and code
- ☐ Inherit properties from property classes
- ☐ Group related objects for reuse
- ☐ Explain the inheritance symbols in the Property palette
- ☐ Reuse objects from an object library
- ☐ Reuse PL/SQL code

Introducing Multiple Form Applications

- ☐ Call one form from another form module
- ☐ Define multiple form functionality

Test Content Checklist

Test 4 – Developer/2000 Build Forms II (Exam# 1Z0-122)

Managing Projects with Project Builder

- ☐ List benefits of using Project Builder
- ☐ Create projects and subprojects
- ☐ Add files to a project
- ☐ Distinguish between implicit and explicit dependencies
- ☐ Describe the compile options
- ☐ Deliver a project
- ☐ Customize a Project Builder environment

Creating a Menu Module

- ☐ Identify the different components of a menu
- ☐ Create, save, and attach menu modules
- ☐ Set menu properties using the property palette
- ☐ Create menu toolbars
- ☐ Create pop-up menus

Managing Menu Modules

- ☐ Control the menu programmatically using menu built-ins
- ☐ Customize menu modules using substitution parameters
- ☐ Implement menu security using both database roles and the appropriate built-ins

Programming Function Keys

- ☐ Redefine function keys
- ☐ Determine when key triggers should be used or avoided
- ☐ Coordinate function keys with interface controls

Responding to Mouse Events

- ☐ Describe mouse events
- ☐ Cause a form module to respond to mouse movement
- ☐ Cause a form module to respond to mouse button actions

Controlling Windows and Canvases Programmatically

- ☐ Create trigger code to interact with windows
- ☐ Control windows programmatically
- ☐ Control canvases
- ☐ Design spread table to display large data blocks

Controlling Data Block Relationships

- ☐ Define block coordination
- ☐ Create and modify relations
- ☐ Describe the characteristics and principles of relation-handling code
- ☐ Implement a coordination-type toggle
- ☐ Force one commit per master record

Building Multiple Form Applications

- ☐ Describe relevant details of invoking forms
- ☐ Build robust multiple-form transactions
- ☐ Choose between different ways of invoking forms
- ☐ Pass data between forms using parameter lists

Defining Data Sources

- ☐ Describe the different data source types
- ☐ Base a data block on a FROM clause query
- ☐ Discuss the advantages of using a FROM clause query
- ☐ Base a data block on a stored procedure which returns a Ref cursor
- ☐ Select the appropriate data source for a data block

Working with Record Groups

- ☐ Create record groups at design time
- ☐ Create and modify record groups programmatically
- ☐ Build dynamic list items by using record groups
- ☐ Apply record groups in other useful ways
- ☐ Create and use a global record group to communicate between forms

Test 4 – Developer/2000: Build Forms II, continued

Including Chart and Reports

- ☐ Embedded charts in a form module using the chart wizard
- ☐ Incorporate existing graphic displays in a form module
- ☐ Create and invoke reports in a form using the report wizard
- ☐ Control a report programmatically in a form

Applying Timers

- ☐ Describe timers
- ☐ Create a timer
- ☐ Modify a timer
- ☐ Delete a timer
- ☐ Handle timer expiration

Reusable Components

- ☐ List the reusable components
- ☐ Include the calendar class in an application

Using Server Features in Form Builder

- ☐ Describe Oracle Server features in Form Builder
- ☐ Partition PL/SQL program units
- ☐ Handle errors raised by the Oracle Server
- ☐ Obtain the cause of declarative-constraint violations
- ☐ Perform DDL commands using the FORM_DDL built-in subprogram

Test Content Checklist

Test 5 – Developer/2000 Build Reports (Exam# 1Z0-123)

Introduction to Developer/2000

- ☐ Describe the common features and benefits of Developer/2000
- ☐ Describe the Developer/2000 components
- ☐ Describe the common builder components
- ☐ Navigate around the Developer/2000 interface
- ☐ Customize the Developer/2000 session

Designing and Running Reports

- ☐ Describe the common report styles required in a business report
- ☐ Describe the structure of each style
- ☐ Run prebuilt reports using the Runtime executable
- ☐ Identify the various report destinations
- ☐ View report output in the Previewer

Report Builder Concepts

- ☐ Describe the main Report executables
- ☐ Invoke Report Builder and describe its main components
- ☐ Describe the main objects in a report

Creating Reports Using the Report Wizard

- ☐ Create a simple tabular report using Report Wizard
- ☐ Describe the different methods of building the report query
- ☐ Summarize report values
- ☐ Modify the style and content of a report
- ☐ Create other report styles available in the wizard

Modifying a Report in the Live Previewer

- ☐ Describe the Live Previewer
- ☐ Modify the display of report data in the Live Previewer
- ☐ Modify the positioning of report data
- ☐ Add page numbering and current date to a report

Managing Report Templates

- ☐ Describe the template regions
- ☐ Describe the difference between default and override sections
- ☐ Modify a predefined report template
- ☐ Register a customized template in the predefined template list

Report Storage Methods

- ☐ Manage the storage of report definitions
- ☐ Compare report file types and their portability
- ☐ Convert reports to different storage types
- ☐ Upgrade report and printer definition files from Rel. 1

Enhancing Reports Using the Data Model—Creating Queries and Groups

- ☐ Describe the Data Model objects and their relationship
- ☐ Create groups to modify the report hierarchy
- ☐ Change the order of data in a group
- ☐ Use a group filter to eliminate data from the report
- ☐ Create supplemental rows of data, using queries
- ☐ Create a data link to link data from different queries

Enhancing Reports Using the Data Model—Creating Columns

- ☐ Describe the different types of Data Model columns
- ☐ Use a database column to display the contents of a file
- ☐ Recognize the characteristics of the three types of user-defined columns
- ☐ Create report summaries and subtotals using summary columns
- ☐ Create and populate a placeholder column

Test 5 – Developer/2000: Build Reports, continued

Enhancing Reports Using the Layout Model

- ☐ View and modify objects in the four different regions of a report
- ☐ Design multi-panel reports
- ☐ Describe the layout objects and their relationship
- ☐ Modify an existing report layout using the Layout Model tools
- ☐ Create variable length lines to separate tabular columns of data
- ☐ Create a button to display multimedia objects at runtime
- ☐ Create an explicit anchor to alter object positions at runtime

Modifying Properties

- ☐ Create a link file to display the contents of a file in layout field
- ☐ Modify layout properties common to all types of object
- ☐ Modify layout properties specific to one type of object

Using Report Parameters and Customizing a Parameter Form

- ☐ Create and reference a parameter to control report output
- ☐ Create a list of values for parameter input
- ☐ Use and modify a system parameter
- ☐ Build a parameter form layout to allow user entry of parameter values
- ☐ Customize a parameter form layout

Embedding a Chart in a Report

- ☐ Create and display a simple Graphics chart in a report using the chart wizard
- ☐ Display an existing Graphics chart in a report
- ☐ Modify the chart data dynamically, using parameters

Enhancing Matrix Reports

- ☐ Design a matrix Data Model
- ☐ Design a matrix Layout Model
- ☐ Display Zeros in cells with no value

Coding PL/SQL Triggers in Reports

- ☐ Describe the different types of triggers
- ☐ Describe sample uses of the different types of triggers
- ☐ Write and reference common code
- ☐ Create and reference a PL/SQL library

Using the Report Builder Built-In Package

- ☐ Describe the contents of the Report Builder built-in package
- ☐ Describe sample uses of procedures and functions from the package
- ☐ Output messages at runtime
- ☐ Create and populate temporary tables within a report
- ☐ Modify visual attributes dynamically at runtime

Maximizing Performance Using the Reports Server

- ☐ Describe differences between local client and remote server reporting
- ☐ Describe the Reports Server architecture
- ☐ View and schedule server-side reports in the Queue Manager
- ☐ Describe how to invoke the Reports Server ActiveX control from another application

Building Reports for Different Environments

- ☐ Build and run reports in different environments, using the MODE parameter
- ☐ Describe the considerations when building reports for different graphical user interfaces
- ☐ Recognize the settings necessary to build character mode reports
- ☐ Describe the facilities available for building reports to run in other languages

Test Content Checklist

Release 1 to Release 2 Upgrade Test:
Developer/2000 Release 2 New Features (Exam# 1Z0-120)

Managing Projects with Project Builder

- ☐ Identify Project Builder uses and terminology
- ☐ Describe Project Navigator features
- ☐ Create projects and subprojects
- ☐ Work with project components
- ☐ Customize the Launcher
- ☐ Add types, actions, and macros

Creating Form Documents Using Wizards

- ☐ List the benefits of using Developer/2000 Wizards
- ☐ List wizard features
- ☐ Identify wizard types
- ☐ Create basic form documents using wizards

Ensuring Consistency Across Applications

- ☐ Identify improvements of subclassing over referencing
- ☐ Describe and use the object library
- ☐ Describe roles of property classes, object groups, and object libraries
- ☐ Create and apply SmartClasses
- ☐ Describe template forms
- ☐ Modify object appearance with partial visual attributes
- ☐ Describe global libraries and record groups

Representing Data Within Your Application

- ☐ Identify the effects of Array DML
- ☐ Identify new data block properties
- ☐ List the data sources available for queries and DML
- ☐ Determine the appropriate data sources for data blocks
- ☐ Create a data block based on a stored procedure
- ☐ Create a data block based on a nested SELECT statement

Enhancing Items

- ☐ Identify enhancements in the Form Builder interface
- ☐ Describe the image item enhancements
- ☐ Create items based on calculated fields
- ☐ Change per-instance item attributes
- ☐ Interact with ActiveX (OCX) properties at design and runtime
- ☐ Recognize boilerplate objects in the Object Navigator
- ☐ Create item labels using item prompt properties
- ☐ Implement tooltips for items
- ☐ Implement context sensitive pop-up menus
- ☐ Identify ways to include sound in your application

Enhancing Interactivity

- ☐ Create and edit in-place stacked canvases
- ☐ Create tab-style layouts
- ☐ Create integrated toolbar buttons for menu commands
- ☐ Display a platform-specific file dialog

Including Charts and Reports

- ☐ Include charts using the Chart Wizard
- ☐ Implement Report objects
- ☐ Base a report on a data block

Creating Reports Using the Report Wizard

- ☐ Identify report styles available in the Report Wizard
- ☐ Create reports using each of the available report styles within the Wizard
- ☐ Build queries using the query builder
- ☐ Modify reports using the Report Wizard
- ☐ Apply templates to reports
- ☐ Customize an existing template

Release 1 to Release 2 Upgrade Test: Developer/2000 Release 2 New Features, continued

Modifying and Enhancing Reports

- ☐ Modify the text attributes of reports
- ☐ Modify the layout of reports
- ☐ Place format masks on numeric items
- ☐ Add color, fill, and patterns to reports
- ☐ Add individual borders to layout objects
- ☐ Use direct column references in reports
- ☐ Modify properties using the property palette
- ☐ Add variable length lines
- ☐ Add a graphical display

Maximizing Performance Using the Reports Server

- ☐ Identify the benefits of client-server reporting
- ☐ Explain three-tier architecture
- ☐ Enter Reports client (R30CLI) parameters in the command line
- ☐ Enter Reports server (R30MTS) parameters in the command line
- ☐ Manager server queue using the Queue Manager reports

Deploying Reports on the Web

- ☐ Identify advantages of deploying reports on the Web
- ☐ Identify resources required for Web deployment
- ☐ Prepare reports for Web deployment
- ☐ Add Web link properties to reports
- ☐ View reports on the Web

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Barbados	Latin America	
Belgium	Lelystad	0800.1.7414
Bermuda	Latin America	
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Botswana	Lelystad	
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Costa Rica	Latin America	
Croatia	Lelystad	
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France	Lelystad	01.428.93.122
Gabon	Lelystad	
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Germany	Lelystad	0130.83.97.08
Ghana	Lelystad	
Great Britain	Lelystad	08.00.592.873
Greece	Lelystad	
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Indonesia	Australia	001.803.61608
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Italy	Lelystad	1.6787.8441
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Jamaica	Latin America	1.800.892.1978
Japan	Tokyo	0120.387737
Jordan	Lelystad	
Kazakhstan	Lelystad	
Kenya	Lelystad	
Kuwait	Lelystad	

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Luxembourg	Lelystad	
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Malta	Lelystad	
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Mexico	Latin America	95.800.332.1034
Morocco	Lelystad	
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New Caledonia	Australia	
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Nigeria	Lelystad	
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Oman	Lelystad	
Pakistan	Australia	
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