uCertify

Course Outline

OCP Oracle Certified Professional Java SE 17 Developer (1Z0-829)

05 Jul 2024

1. Pre-Assessment
2. Exercises, Quizzes, Flashcards & Glossary

   Number of Questions
3. Expert Instructor-Led Training
4. ADA Compliant & JAWS Compatible Platform
5. State of the Art Educator Tools
6. Award Winning Learning Platform (LMS)
7. Chapter & Lessons

   Syllabus

   Chapter 1: Introduction

   Chapter 2: Building Blocks

   Chapter 3: Operators

   Chapter 4: Making Decisions

   Chapter 5: Core APIs

   Chapter 6: Methods

   Chapter 7: Class Design

   Chapter 8: Beyond Classes

   Chapter 9: Lambdas and Functional Interfaces

   Chapter 10: Collections and Generics

   Chapter 11: Streams

   Chapter 12: Exceptions and Localization

   Chapter 13: Modules

   Chapter 14: Concurrency

   Chapter 15: I/O

   Chapter 16: JDBC

   Videos and How To
8. Practice Test

   Here's what you get

Features

9. Live labs

   Lab Tasks

   Here's what you get

10. Post-Assessment

1. Pre-Assessment

Pre-Assessment lets you identify the areas for improvement before you start your prep. It determines what students know about a topic before it is taught and identifies areas for improvement with question assessment before beginning the course.

2. Exercises

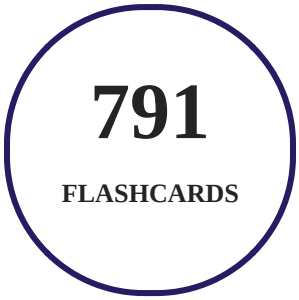
There is no limit to the number of times learners can attempt these. Exercises come with detailed remediation, which ensures that learners are confident on the topic before proceeding.

3. Quiz

Quizzes test your knowledge on the topics of the exam when you go through the course material. There is no limit to the number of times you can attempt it.

4. flashcards

Flashcards are effective memory-aiding tools that help you learn complex topics easily. The flashcard will help you in memorizing definitions, terminologies, key concepts, and more. There is no limit to the number of times learners can attempt these. Flashcards help master the key concepts.



5. Glossary of terms

uCertify provides detailed explanations of concepts relevant to the course through Glossary. It contains a list of frequently used terminologies along with its detailed explanation. Glossary defines the key terms.

6. Expert Instructor-Led Training

uCertify uses the content from the finest publishers and only the IT industry's finest instructors. They have a minimum of 15 years real-world experience and are subject matter experts in their fields. Unlike a live class, you can study at your own pace. This creates a personal learning experience and gives you all the benefit of hands-on training with the flexibility of doing it around your schedule 24/7.

7. ADA Compliant & JAWS Compatible Platform

uCertify course and labs are ADA (Americans with Disability Act) compliant. It is now more accessible to students with features such as:

- Change the font, size, and color of the content of the course
- Text-to-speech, reads the text into spoken words
- Interactive videos, how-tos videos come with transcripts and voice-over
- Interactive transcripts, each word is clickable. Students can clip a specific part of the video by clicking on a word or a portion of the text.

JAWS (Job Access with Speech) is a computer screen reader program for Microsoft Windows that reads the screen either with a text-to-speech output or by a Refreshable Braille display. Student can easily navigate uCertify course using JAWS shortcut keys.

8. State of the Art Educator Tools

uCertify knows the importance of instructors and provide tools to help them do their job effectively. Instructors are able to clone and customize course. Do ability grouping. Create sections. Design grade scale and grade formula. Create and schedule assessments. Educators can also move a student from self-paced to mentor-guided to instructor-led mode in three clicks.

9. Award Winning Learning Platform (LMS)

uCertify has developed an award winning, highly interactive yet simple to use platform. The SIIA CODiE Awards is the only peer-reviewed program to showcase business and education technology's finest products and services. Since 1986, thousands of products, services and solutions have been

recognized for achieving excellence. uCertify has won CODiE awards consecutively for last 7 years:

- **2014**
    1. Best Postsecondary Learning Solution

- **2015**
    1. Best Education Solution
    2. Best Virtual Learning Solution
    3. Best Student Assessment Solution
    4. Best Postsecondary Learning Solution
    5. Best Career and Workforce Readiness Solution
    6. Best Instructional Solution in Other Curriculum Areas
    7. Best Corporate Learning/Workforce Development Solution

- **2016**
    1. Best Virtual Learning Solution
    2. Best Education Cloud-based Solution
    3. Best College and Career Readiness Solution
    4. Best Corporate / Workforce Learning Solution
    5. Best Postsecondary Learning Content Solution
    6. Best Postsecondary LMS or Learning Platform
    7. Best Learning Relationship Management Solution

- **2017**
    1. Best Overall Education Solution
    2. Best Student Assessment Solution
    3. Best Corporate/Workforce Learning Solution
    4. Best Higher Education LMS or Learning Platform

- **2018**
    1. Best Higher Education LMS or Learning Platform

2. Best Instructional Solution in Other Curriculum Areas
3. Best Learning Relationship Management Solution

- **2019**
  1. Best Virtual Learning Solution
  2. Best Content Authoring Development or Curation Solution
  3. Best Higher Education Learning Management Solution (LMS)

- **2020**
  1. Best College and Career Readiness Solution
  2. Best Cross-Curricular Solution
  3. Best Virtual Learning Solution

10. Chapter & Lessons

uCertify brings these textbooks to life. It is full of interactive activities that keeps the learner engaged. uCertify brings all available learning resources for a topic in one place so that the learner can efficiently learn without going to multiple places. Challenge questions are also embedded in the chapters so learners can attempt those while they are learning about that particular topic. This helps them grasp the concepts better because they can go over it again right away which improves learning.

Learners can do Flashcards, Exercises, Quizzes and Labs related to each chapter. At the end of every lesson, uCertify courses guide the learners on the path they should follow.

Syllabus

Chapter 1: Introduction

- Understanding the Exam
- Reading This Course
- Studying for the Exam

- Applying Test-Taking Strategies
- Taking the Exam
- Objective Map

Chapter 2: Building Blocks

- Learning about the Environment
- Understanding the Class Structure
- Writing a main() Method
- Understanding Package Declarations and Imports
- Creating Objects
- Understanding Data Types
- Declaring Variables
- Initializing Variables
- Managing Variable Scope
- Destroying Objects
- Summary
- Exam Essentials

Chapter 3: Operators

- Understanding Java Operators
- Applying Unary Operators
- Working with Binary Arithmetic Operators
- Assigning Values
- Comparing Values
- Making Decisions with the Ternary Operator
- Summary
- Exam Essentials

Chapter 4: Making Decisions

- Creating Decision-Making Statements
- Applying switch Statements
- Writing while Loops
- Constructing for Loops
- Controlling Flow with Branching
- Summary
- Exam Essentials

Chapter 5: Core APIs

- Creating and Manipulating Strings
- Using the StringBuilder Class
- Understanding Equality
- Understanding Arrays
- Calculating with Math APIs
- Working with Dates and Times
- Summary
- Exam Essentials

Chapter 6: Methods

- Designing Methods
- Declaring Local and Instance Variables
- Working with Varargs
- Applying Access Modifiers
- Accessing static Data
- Passing Data among Methods
- Overloading Methods
- Summary

- Exam Essentials

Chapter 7: Class Design

- Understanding Inheritance
- Creating Classes
- Declaring Constructors
- Initializing Objects
- Inheriting Members
- Creating Abstract Classes
- Creating Immutable Objects
- Summary
- Exam Essentials

Chapter 8: Beyond Classes

- Implementing Interfaces
- Working with Enums
- Sealing Classes
- Encapsulating Data with Records

- Creating Nested Classes
- Understanding Polymorphism
- Summary
- Exam Essentials

Chapter 9: Lambdas and Functional Interfaces

- Writing Simple Lambdas
- Coding Functional Interfaces
- Using Method References
- Working with Built-in Functional Interfaces
- Working with Variables in Lambdas
- Summary
- Exam Essentials

Chapter 10: Collections and Generics

- Using Common Collection APIs
- Using the List Interface
- Using the Set Interface
- Using the Queue and Deque Interfaces

- Using the Map Interface
- Comparing Collection Types
- Sorting Data
- Working with Generics
- Summary
- Exam Essentials

Chapter 11: Streams

- Returning an Optional
- Using Streams
- Working with Primitive Streams
- Working with Advanced Stream Pipeline Concepts
- Summary
- Exam Essentials

Chapter 12: Exceptions and Localization

- Understanding Exceptions
- Recognizing Exception Classes

- Handling Exceptions
- Automating Resource Management
- Formatting Values
- Supporting Internationalization and Localization
- Loading Properties with Resource Bundles
- Summary
- Exam Essentials

Chapter 13: Modules

- Introducing Modules
- Creating and Running a Modular Program
- Updating Our Example for Multiple Modules
- Diving into the Module Declaration
- Creating a Service
- Discovering Modules
- Comparing Types of Modules
- Migrating an Application
- Summary

- Exam Essentials

Chapter 14: Concurrency

- Introducing Threads
- Creating Threads with the Concurrency API
- Writing Thread-Safe Code
- Using Concurrent Collections
- Identifying Threading Problems
- Working with Parallel Streams
- Summary
- Exam Essentials

Chapter 15: I/O

- Referencing Files and Directories
- Operating on File and Path
- Introducing I/O Streams
- Reading and Writing Files
- Serializing Data
- Interacting with Users

- Working with Advanced APIs
- Review of Key APIs
- Summary
- Exam Essentials

Chapter 16: JDBC

- Introducing Relational Databases and SQL
- Introducing the Interfaces of JDBC
- Connecting to a Database
- Working with a PreparedStatement
- Little Bobby Tables
- Getting Data from a ResultSet
- Calling a CallableStatement
- Controlling Data with Transactions
- Closing Database Resources
- Summary
- Exam Essentials

11. Practice Test

Here's what you get

50	2	50
PRE-ASSESSMENTS QUESTIONS	FULL LENGTH TESTS	POST-ASSESSMENTS QUESTIONS

Features

Each question comes with detailed remediation explaining not only why an answer option is correct but also why it is incorrect.

Unlimited Practice

Each test can be taken unlimited number of times until the learner feels they are prepared. Learner can review the test and read detailed remediation. Detailed test history is also available.

Each test set comes with learn, test and review modes. In learn mode, learners will attempt a question and will get immediate feedback and complete remediation as they move on to the next question. In test mode, learners can take a timed test simulating the actual exam conditions. In review mode, learners can read through one item at a time without attempting it.

12. Live Labs

The benefits of live-labs are:

- Exam based practical tasks
- Real equipment, absolutely no simulations

- Access to the latest industry technologies
- Available anytime, anywhere on any device
- Break and Reset functionality
- No hardware costs

Lab Tasks

Building Blocks

- Using the main() Method
- Passing Parameters to a Java Program
- Calling Constructors
- Creating a Wrapper Class

Operators

- Using the Division and Modulus Operators
- Using the Logical AND Operator
- Using the Logical OR Operator
- Using the Ternary Operator

Making Decisions

- Using the if Statement
- Using the if-else Statement
- Using the switch Statement
- Using the do/while Loop
- Using the while Loop
- Using the for-each Loop
- Using the for Loop
- Using the Nested Loop
- Using the continue Statement

Core APIs

- Using the equals() Method
- Using the replace() and length() Methods
- Using the insert() Method
- Using the append() Method
- Sorting, Searching, and Printing the Index of an Element in an Array

Methods

- Using Return Type
- Declaring Instance Variables
- Using the static Method

Class Design

- Extending a Class
- Calling Parent Constructors with the super() Keyword
- Using the abstract Modifier

Beyond Classes

- Using an Interface
- Creating Enums
- Creating a static Nested Class
- Using Polymorphism

Lambdas and Functional Interfaces

- Creating a Lambda Expression
- Implementing a User-Defined Functional Interface
- Using the Predicate Interface

Collections and Generics

- Using the remove() Method

- Using the Diamond Operator
- Sorting an Array
- Using Unbounded Wildcards

Streams

- Creating an Optional Class
- Using the map() Method
- Using the count() Method
- Using the min() and max() Methods
- Generating an Infinite Stream of Integers
- Implementing the skip() Method on a Stream
- Using the limit() Method
- Using the distinct() Method
- Using the filter() Method
- Using the collect() Method
- Using the reduce() Method
- Using the forEach() Method
- Using the noneMatch() Method
- Using the anyMatch() Method
- Using the allMatch() Method
- Using the findFirst() Method
- Using the findAny() Method
- Demonstrating Spliterator Using the tryAdvance() Method

Exceptions and Localization

- Using a Stack Trace
- Creating a Custom Exception
- Using Multiple catch Blocks
- Using the SimpleDateFormat Class
- Formatting Numbers

Modules

- Using a Module

Concurrency

- Creating a Thread by Implementing the Runnable Interface
- Creating a Thread by Extending the Thread Class
- Using the CyclicBarrier Class
- Applying the ReentrantLock Interface
- Using the CopyOnWriteArrayList Class
- Understanding SkipList Collections

I/O

- Creating the File Object
- Using the isSameFile() Method
- Deleting a File Using the delete() and deleteIfExists() Methods
- Using the isAbsolute() Method
- Deriving a Path Using the relativize() Method
- Deriving a Path Using the normalize() Method
- Using the exists() Method
- Using the InputStream Class
- Using the OutputStream Class
- Reading a File Using the readAllLines() Method
- Applying the Serializable Interface
- Searching a Directory Using the find() Method
- Implementing the skip() Method on a File
- Using the mark() and reset() Methods

JDBC

- Using the SELECT Statement
- Using the DELETE Statement
- Using the CREATE TABLE Statement
- Using the UPDATE Statement
- Connecting to a Database
- Using the PreparedStatement Interface

Here's what you get

89	28	37
LIVE LABS	VIDEO TUTORIALS	MINUTES

13. Post-Assessment

After completion of the uCertify course Post-Assessments are given to students and often used in conjunction with a Pre-Assessment to measure their achievement and the effectiveness of the exam.

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