uCertify

Course Outline

Java Live Lab



28 Mar 2024

1. Course Objective
2. Expert Instructor-Led Training
3. ADA Compliant & JAWS Compatible Platform
4. State of the Art Educator Tools
5. Award Winning Learning Platform (LMS)
6. Live labs

    Lab Tasks

    Here's what you get

1. Course Objective

Gain hands-on experience to pass the Oracle Java 1Z0-808 and 1Z0-809 exams with the Java Live Lab. The lab is cloud-based, device-enabled, and can be easily integrated with an LMS. Interactive chapters comprehensively cover Oracle Java 1Z0-808 and 1Z0-809 certification exam objectives and provide knowledge in areas such as Java, generics and collections, I/O fundamentals, file I/O, concurrency, JDBC, lambdas and much more.

2. 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.

3. 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.

4. 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.

5.  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

6.  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

Java Building Blocks

- Writing a simple Java program
- Creating a New Package Using Java
- Creating an object

Operators and Statements

- Understanding arithmetic operators
- Understanding relational operators
- Understanding logical operators
- Understanding the ternary operator
- Understanding while loop
- Understanding do-while loop
- Understanding switch statement
- Understanding for and for-each loops
- Understanding the break statement
- Understanding the continue statement
- Working with nested loops

Core Java APIs

- Understanding string methods
- Creating an array
- Understanding searching using array
- Sorting an array
- Creating one-dimensional array
- Understanding multi-dimensional array
- Understanding wrapper class
- Printing the Date and Time Format

Methods and Encapsulation

- Returning values using methods
- Understanding access modifiers
- Understanding the static keyword
- Understanding methods and fields
- Understanding method overloading
- Understanding encapsulation mechanism
- Understanding lambda expressions

Class Design

- Understanding inheritance property
- Understanding abstract class
- Understanding to override a method
- Understanding the super class

Exceptions

- Understanding the try-catch method
- Understanding the finally block
- Understanding multiple catch blocks
- Throwing Exception

Advanced Class Design

- Understanding the final keyword
- Understanding the static keyword on initialize blocks, variables, and methods
- Understanding the working of implements and extends keyword
- Understanding the equals() method
- Understanding the toString() method
- Understanding the hashCodes() method
- Understanding the enumerated types
- Understanding the inner classes
- Understanding the inner classes including anonymous inner class
- Understanding the inner classes including static inner class
- Understanding the inner classes including the nested class

Design Patterns and Principles

- Understanding the singleton classes
- Understanding the immutable classes

Generics and Collections

- Understanding the ArrayList
- Understanding the generic class
- Understanding the TreeSet class
- Understanding the TreeMap class
- Understanding the ArrayDeque objects
- Understanding the java.util.Comparator interface
- Understanding the java.lang.Comparable interface
- Understanding the forEach() method
- Understanding filtration using the Lambda expression
- Understanding the method references with Streams

Functional Programming

- Understanding the UnaryOperator interface
- Understanding the binary versions of the functional interfaces
- Understanding the optional classes
- Understanding the Stream classes including the findFirst() and findAny() methods
- Understanding the flatMap() method of the Stream API
- Understanding the sorting of collection using the Stream API
- Understanding the search methods of the Stream classes
- Understanding the Stream data method and calculation method
- Understanding the peek() and map() methods
- Understanding the collect() method and group/partition data using the Collectors class

Dates, Strings, and Localization

- Understanding the LocalDate and LocalTime
- Understanding the date-based and time-based events using TemporalUnit
- Understanding the date and time across the time zones
- Using Instant, Period, and Duration
- Understanding the Properties file
- Understanding the Locale class

Exceptions and Assertions

- Creating Custom Exceptions and AutoCloseable Resources
- Understanding the AutoClose resources

Concurrency

- Understanding the Runnable and ExecutorService classes
- Using the Callable Class
- Using the synchronized Keyword
- Understanding the java.util.concurrent collections
- Understanding the parallel Streams
- Understanding the java.util.concurrent collections
- Using the Parallel Fork/Join Framework
- Showing the Deadlock Condition

IO

- Reading and Writing Data from the Console Class
- Using the FileInputStream and FileOutputStream Classes
- Using the BufferedReader, File, FileReader, and FileWriter classes

NIO.2

- Using the Stream API with NIO.2
- Using the Path Interface
- Using the Files Class

JDBC

- Understanding Database Management
- Connecting to a Database

Here's what you get

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LIVE LABS

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