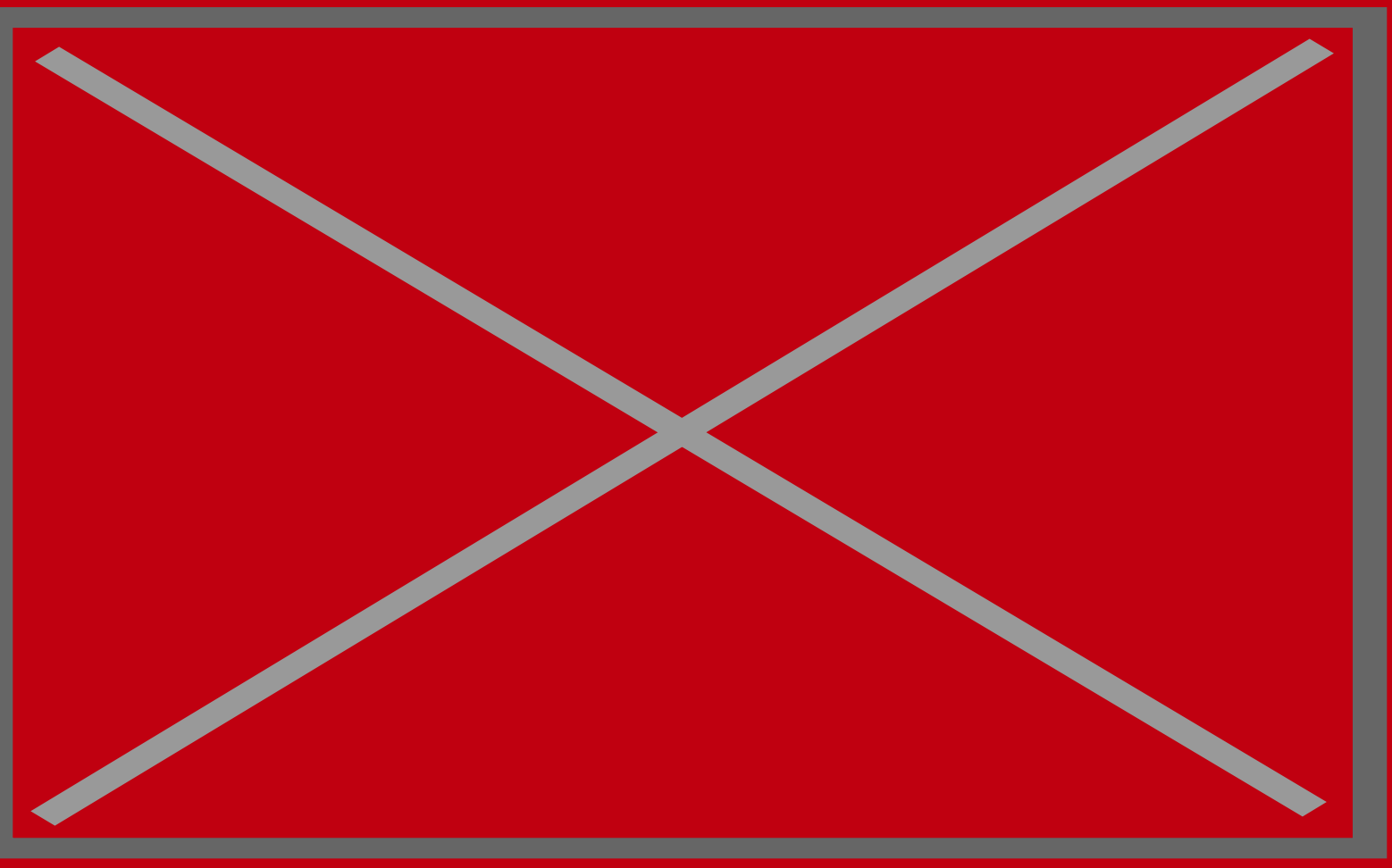
# Course Outline

## OCP Java SE 11: 1Z0-819 & 1Z0-817 Exam Prep



20 Aug 2025

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

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

   Syllabus

   Chapter 1: Introduction

   Chapter 2: Welcome to Java

   Chapter 3: Java Building Blocks

   Chapter 4: Operators

   Chapter 5: Making Decisions

   Chapter 6: Core Java APIs

   Chapter 7: Lambdas and Functional Interfaces

   Chapter 8: Methods and Encapsulation

   Chapter 9: Class Design

   Chapter 10: Advanced Class Design

   Chapter 11: Exceptions

   Chapter 12: Modules

   Chapter 13: Java Fundamentals

   Chapter 14: Annotations

   Chapter 15: Generics and Collections

   Chapter 16: Functional Programming

   Chapter 17: Exceptions and Localization

   Chapter 18: Modular Applications

## 1. Course Objective

Gain hands-on experience to pass the Oracle Java certification exam with the OCP: Java SE 11 Developer course and lab. The Java certification training covers the 1Z0-819 exam objectives and provides knowledge on the core topics in Java 11 including classes, interfaces, lambda expressions, operators, decision constructs, basic collections, and modules. The Java SE 11 certification training course and its learning resources will help you learn Java online and pass the certification exam.

## 2. 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.

## 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
- Preparing for the Exam
- Objective Map

### Chapter 2: Welcome to Java

- Learning About the Java Environment
- Identifying Benefits of Java

- Understanding the Java Class Structure
- Writing a main() Method
- Understanding Package Declarations and Imports
- Ordering Elements in a Class
- Summary
- Exam Essentials

## Chapter 3: Java Building Blocks

- Creating Objects
- Understanding Data Types
- Declaring Variables
- Initializing Variables
- Managing Variable Scope
- Destroying Objects
- Summary
- Exam Essentials

## Chapter 4: 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 5: Making Decisions

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

## Chapter 6: Core Java APIs

- Creating and Manipulating Strings

- Using the StringBuilder Class
- Understanding Equality
- Understanding Java Arrays
- Understanding an ArrayList
- Creating Sets and Maps
- Calculating with Math APIs
- Summary
- Exam Essentials

## Chapter 7: Lambdas and Functional Interfaces

- Writing Simple Lambdas
- Introducing Functional Interfaces
- Working with Variables in Lambdas
- Calling APIs with Lambdas
- Summary
- Exam Essentials

## Chapter 8: Methods and Encapsulation

- Designing Methods
- Working with Varargs
- Applying Access Modifiers
- Applying the static Keyword
- Passing Data among Methods
- Overloading Methods
- Encapsulating Data
- Summary
- Exam Essentials

## Chapter 9: Class Design

- Understanding Inheritance
- Creating Classes
- Declaring Constructors
- Inheriting Members
- Understanding Polymorphism
- Summary
- Exam Essentials

## Chapter 10: Advanced Class Design

- Creating Abstract Classes
- Implementing Interfaces
- Introducing Inner Classes
- Summary
- Exam Essentials

## Chapter 11: Exceptions

- Understanding Exceptions
- Recognizing Exception Classes
- Handling Exceptions
- Calling Methods That Throw Exceptions
- Summary
- Exam Essentials

## Chapter 12: Modules

- Introducing Modules
- Creating and Running a Modular Program

- Updating Our Example for Multiple Modules
- Diving into the module-info File
- Discovering Modules
- Reviewing Command-Line Options
- Summary
- Exam Essentials

## Chapter 13: Java Fundamentals

- Applying the final Modifier
- Working with Enums
- Creating Nested Classes
- Understanding Interface Members
- Introducing Functional Programming
- Summary
- Exam Essentials

## Chapter 14: Annotations

- Introducing Annotations
- Creating Custom Annotations

- Applying Annotations
- Declaring Annotation-Specific Annotations
- Using Common Annotations
- Summary
- Exam Essentials

## Chapter 15: Generics and Collections

- Using Method References
- Using Wrapper Classes
- Using the Diamond Operator
- Using Lists, Sets, Maps, and Queues
- Sorting Data
- Working with Generics
- Summary
- Exam Essentials

## Chapter 16: Functional Programming

- Working with Built-in Functional Interfaces

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

## Chapter 17: Exceptions and Localization

- Reviewing Exceptions
- Creating Custom Exceptions
- Automating Resource Management
- Declaring Assertions
- Working with Dates and Times
- Supporting Internationalization and Localization
- Loading Properties with Resource Bundles
- Summary
- Exam Essentials

## Chapter 18: Modular Applications

- Reviewing Module Directives
- Comparing Types of Modules
- Analyzing JDK Dependencies
- Migrating an Application
- Creating a Service
- Summary
- Exam Essentials

## Chapter 19: 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 20: I/O

- Understanding Files and Directories
- Introducing I/O Streams
- Common I/O Stream Operations
- Working with I/O Stream Classes
- Interacting with Users
- Summary
- Exam Essentials

## Chapter 21: NIO.2

- Introducing NIO.2
- Interacting with Paths
- Operating on Files and Directories
- Managing File Attributes
- Applying Functional Programming
- Comparing Legacy java.io.File and NIO.2 Methods
- Summary
- Exam Essentials

## Chapter 22: JDBC

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

## Chapter 23: Security

- Designing a Secure Object
- Introducing Injection and Input Validation
- Working with Confidential Information
- Serializing and Deserializing Objects
- Constructing Sensitive Objects
- Preventing Denial of Service Attacks
- Privileged Code

- Summary
- Exam Essentials

## 11. Practice Test

### Here's what you get

| 50 | 6 | 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

**Welcome to Java**

- Using the main() Method
- Importing a Package

**Java Building Blocks**

- Using Java Primitives

**Operators**

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

**Making Decisions**

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

**Core Java APIs**

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

**Lambdas and Functional Interfaces**

- Using the Predicate Interface

**Methods and Encapsulation**

- Using the static Method
- Implementing Encapsulation

**Class Design**

- Calling Parent Constructors with the super() Keyword
- Using Superclasses
- Using Polymorphism

**Advanced Class Design**

- Using the abstract Modifier
- Using an Interface

**Exceptions**

- Using the finally Block
- Using the try/catch Block

**Modules**

- Using a Module

**Java Fundamentals**

- Working with an Enum
- Using the static Inner Class
- Creating a Lambda Expression without a Parameter
- Creating a Lambda Expression with a Single Parameter
- Using a Lambda Expression
- Creating a Lambda Expression with Multiple Parameters

**Annotations**

- Using the @SuppressWarnings Annotation
- Using the @SafeVarargs Annotation
- Using the @Deprecated Annotation
- Using the @Override Annotation

**Generics and Collections**

- Using the Diamond Operator
- Using the remove() Method
- Sorting an Array
- Using Unbounded Wildcards

**Functional Programming**

- Using the Consumer Interface
- Using BinaryOperator
- Using UnaryOperator
- Using the map() Method
- Using the min() and max() Methods
- Using the count() Method
- Using the skip() Method
- 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

**Exceptions and Localization**

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

**Concurrency**

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

**I/O**

- Using the exists() Method
- Creating the File Object
- Using the mark() and reset() Methods
- Using the skip() Method
- Applying the Serializable Interface
- Using the OutputStream Class
- Using the InputStream Class

**NIO.2**

- Obtaining a path with the URI Class
- Obtaining a Path with the Paths Class
- Deriving a Path Using the normalize() Method
- Deriving a Path Using the relativize() Method
- Using the isAbsolute() Method
- Reading a File Using the readAllLines() Method
- Deleting a File Using the delete() and deleteIfExists() Methods
- Using the isSameFile() Method
- Searching a Directory Using the find() Method
- Listing the Contents of a Directory

**JDBC**

- Using the UPDATE Statement
- Using the DELETE Statement
- Using the SELECT Statement
- Using the CREATE TABLE Statement
- Working with JDBC Statements
- Executing a SQL Query
- Using the PreparedStatement Interface
- Viewing a Database Table

**Security**

- Cloning Objects
- Using the final Class
- Using the final Method

## Here's what you get

| 105 | 41 | 43 |
|---|---|---|
| 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.

You can’t stay away! Get

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