

# SCJP 6.0 Certification Exam Preparation

## Overview

People with Java skills are sought after in the IT industry not only in Warsaw, but all over the world. What better way to showcase your Java proficiency other than getting Sun Certified Java Programmer (SCJP) certification. By getting SCJP certified, you will prove to your command on the Java product and technologies and get recognition from within the industry. Clearly, employers prefer to employ and retain professionals with SCJP certification and as such the monetary rewards are also higher.

## Audience

Students who can benefit from this course include programmers who require effective, real-world skill-building and seeking Sun Certification as a Java Programmer.

## Prerequisites

A minimum of 6 months programming experience in the Java language prior to attending this course will be necessary to be successful in the certification exam.

## Course Format

This is a hands-on course. We apply a powerful learning cycle of short lecture, examples and labs on each topic. Each student gets lab code and the entire course content printed out (organized in a ring binder).

## Course Duration

Five days (35 hours), 9:00 AM-5:00 PM (1h lunch break); typically ends by 4:00 PM on the last day.

## Course Details

1. Getting Started
  - What is Java Technology?
  - The concept of the Java Virtual Machine
  - SCJP exam overview
  - SCJP exam format, technique and logistics
2. Java Programming Overviews
  - The JSE platform 5.0 & 6.0 language enhancements

- The new tools available in JSE platform 5.0 & 6.0
  - Changes to the core libraries
  - Enhancements to the Java Virtual Machine (JVM machine)
3. Object-Oriented Programming
- The terms class, object, attribute, method, and constructor
  - Code to define a method
  - Access the member variables of an object using the dot notation
  - Create and initialize an object
  - This keyword to access the "current" object
  - Private and public access modifiers
  - Invoke a method on a particular object
  - Class constructors and invoke particular constructors using new with arguments
  - Package and import statements for library access
  - Java Application Programming Interface (API) online documentation
  - 10 Minutes Test
  - Test Review
4. Identifiers, Keywords, and Types
- Comments in a program
  - Valid and invalid identifiers
  - Keywords in the Java programming language
  - Eight primitive types
  - Literal values for numeric and textual types
  - Coding conventions for classes, interfaces, methods, variables, constants, and control structures
  - Class definition for a simple class containing primitive member variables
  - Variables of class type
  - Significance of a reference variable, consequences of assignment between variables of class type
  - 10 Minutes Test
  - Test Review
5. Programming With Java
- Local variables and arguments (including this and pass-by-value)
  - Operands and Operators
  - Assignment compatibility
  - Conditions
  - Loops, Enhanced for Loop and Arrays
  - Varargs
  - Static Import, purpose, use, drawbacks
  - Autoboxing and AutoUnboxing
  - Typesafe Enums
  - 10 Minutes Test

- Test Review
- 6. Object-Oriented Programming With Java
  - Encapsulation, polymorphism, and inheritance
  - Subclassing
  - Heterogeneous collections
  - Methods that accept generic argument types
  - Access control levels
  - Overloaded methods and constructors
  - Overriding methods in a subclass and describe execution flow when executing an overridden method
  - Overridden methods - how the method is chosen
  - Overridden constructors
  - Invocation of parent class constructors
  - Wrapper classes
  - 10 Minutes Test
  - Test Review
- 7. Formatted Input/Output
  - PrintWriter format and printf methods in the program
  - Scanner API
  - Scanner API with regular expressions
  - 10 Minutes Test
  - Test Review
- 8. Java Generics and non-generic collections
  - Generic and non-generic collections
  - Generic version of the Collections API
  - Generics with wildcards
  - Generic methods
  - Integrate legacy (non-generic) code with generic code
  - Implement Generics
  - 10 Minutes Test
  - Test Review
- 9. Exceptions and Assertions
  - Checked vs Unchecked Exceptions
  - Exception syntax and flow control
  - Some key exceptions and errors
  - The concept of assertions
  - Assertion management
  - 10 Minutes Test
  - Test Review
- 10. Commonly Used API Libraries
  - Strings, StringBuffer and StringBuilder
  - Vector, ArrayList

- Wrapper Classes
- java.text, java.util
- java.util.regex
- java.io and Serialisation
- 10 Minutes Test
- Test Review

#### 11. Writing Multithreaded Applications

- The concept of threads
- The Thread API
- Thread management
- Synchronisation
- java.util.regex
- java.io and Serialisation
- 10 Minutes Test
- Test Review

#### 12. Metadata (Annotations)

- Built-in annotations
- Create your own annotation type
- Retention policies
- Annotation Processing Tool (apt)
- 10 Minutes Test
- Test Review

#### 13. Inner Classes

- Inner class
- Methods of inner class
- Anonymous inner classes
- Static nested classes
- 10 Minutes Test
- Test Review