

1

Introduction

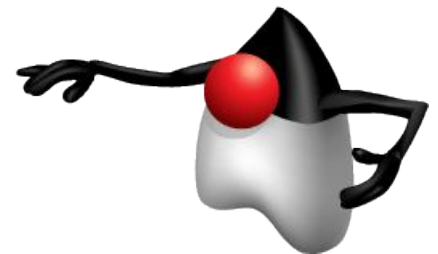
Course Goals

- This course covers the core APIs that you use to design object-oriented applications with Java. This course also covers writing database programs with JDBC.
- Use this course to further develop your skills with the Java language and prepare for the Oracle Certified Professional, Java SE 7 Programmer Exam.

Course Objectives

After completing this course, you should be able to do the following:

- Create Java technology applications that leverage the object-oriented features of the Java language, such as encapsulation, inheritance, and polymorphism
- Execute a Java application from the command line
- Create applications that use the Collections framework
- Implement error-handling techniques using exception handling
- Implement input/output (I/O) functionality to read from and write to data and text files and understand advanced I/O streams



Course Objectives

(continued)

- Manipulate files, directories, and file systems using the JDK7 NIO.2 specification
- Perform multiple operations on database tables, including creating, reading, updating, and deleting, using the JDBC API
- Process strings using a variety of regular expressions
- Create high-performing multi-threaded applications that avoid deadlock
- Localize Java applications

Audience

The target audience includes those who have:

- Completed the *Java SE 7 Fundamentals* course or have experience with the Java language, and can create, compile, and execute programs
- Experience with at least one programming language
- An understanding of object-oriented principles
- Experience with basic database concepts and a basic knowledge of SQL

Prerequisites

To successfully complete this course, you must know how to:

- Compile and run Java applications
- Create Java classes
- Create object instances using the `new` keyword
- Declare Java primitive and reference variables
- Declare Java methods using return values and parameters
- Use conditional constructs such as `if` and `switch` statements
- Use looping constructs such as `for`, `while`, and `do` loops
- Declare and instantiate Java arrays
- Use the Java Platform, Standard Edition API Specification (Javadocs)

Class Introductions

Briefly introduce yourself:

- Name
- Title or position
- Company
- Experience with Java programming and Java applications
- Reasons for attending

Course Environment



Classroom PC

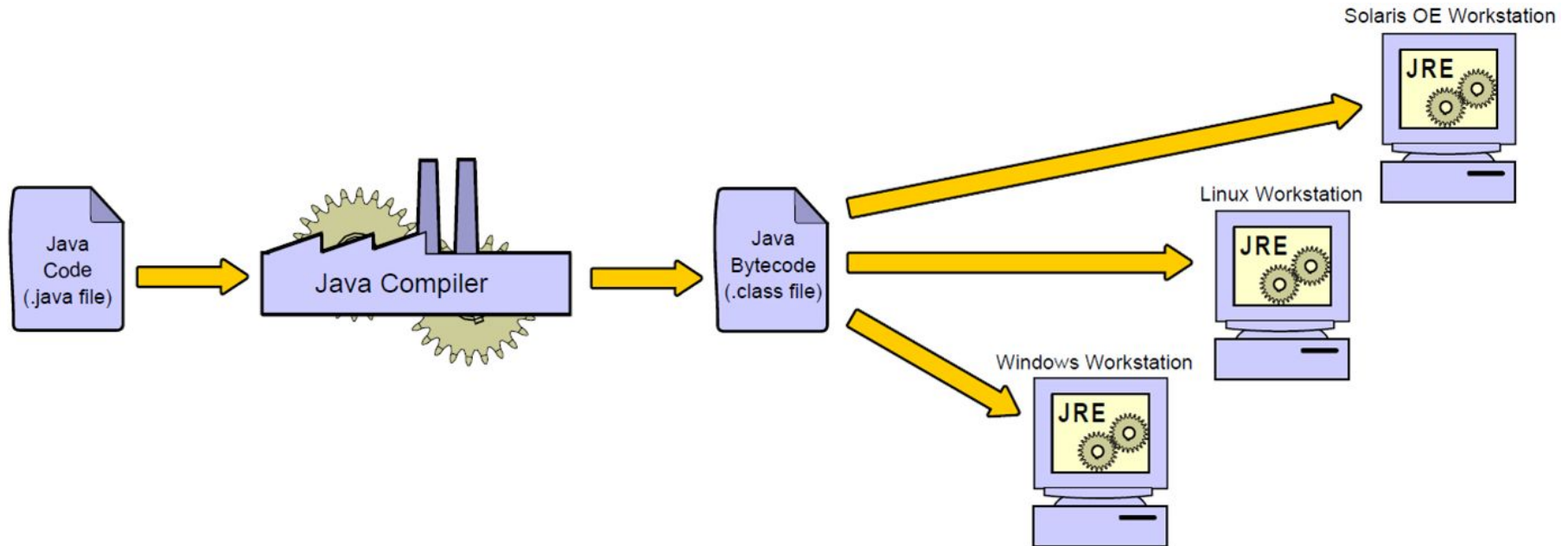
Core Apps

- JDK 7
- NetBeans 7.0.1

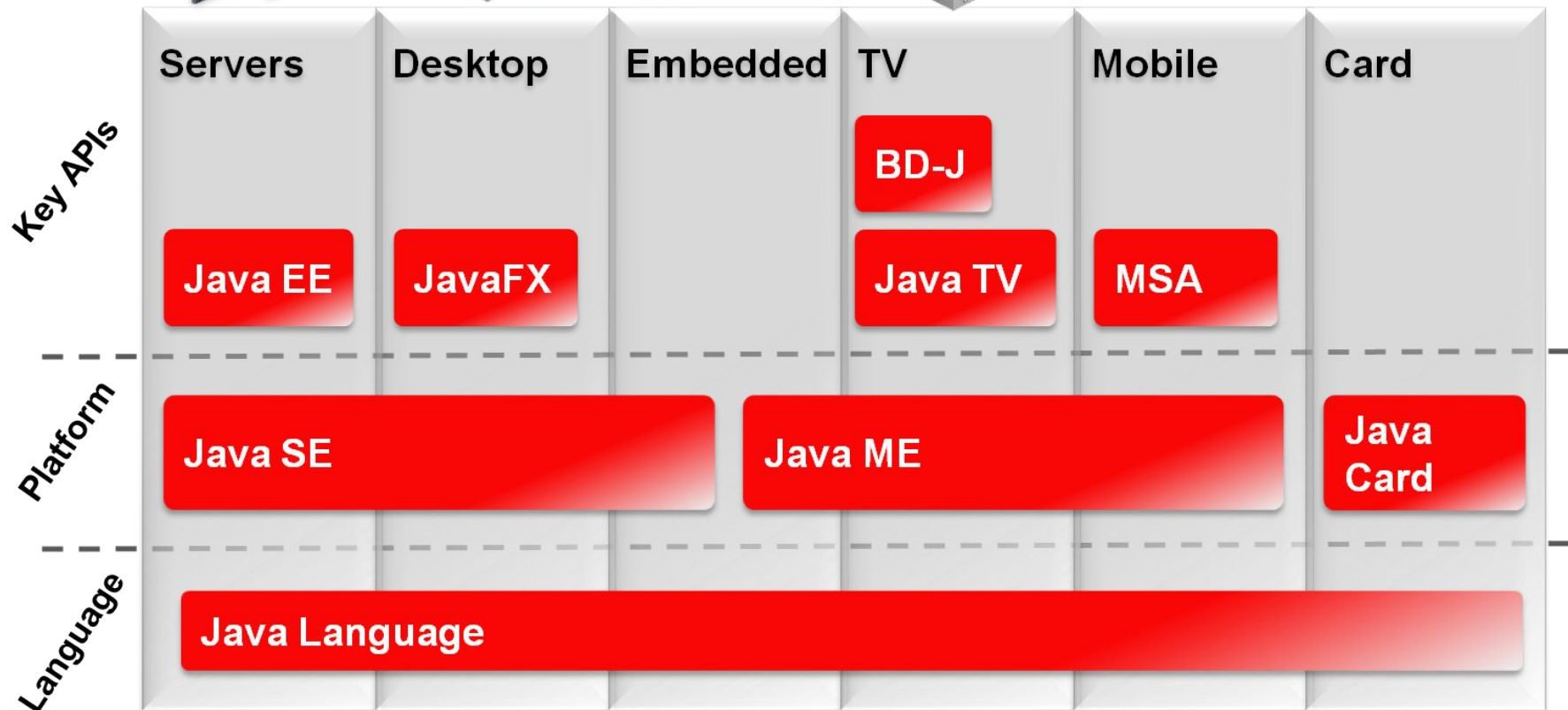
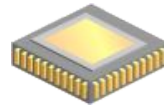
Additional Tools

- Firefox
- Java DB

Java Programs Are Platform-Independent



Java Technology Product Groups



Downloading and Installing the JDK

The screenshot shows a Windows Internet Explorer browser window displaying the Oracle Java SE Downloads page. The address bar shows the URL <http://www.oracle.com/technetwork/java/javase/downloads/index.html>. The page features the Oracle logo at the top left, navigation tabs for Products and Services, Downloads, Store, Support, Training, Partners, and About, and a search bar. The main content area is titled "Java SE Downloads" and includes tabs for Overview, Downloads, Documentation, Community, Technologies, and Training. Below these tabs are five categories: Latest Release, Next Release (Early Access), Embedded Use, Real-Time, and Previous Releases. Three download buttons are visible: "Download" for Java Platform (JDK), "Download" for JDK + NetBeans Bundle, and "Download" for JDK + Java EE Bundle. A sidebar on the left lists various Java products and services, while a sidebar on the right lists Java SDKs and Tools, and Java Resources. The status bar at the bottom indicates "Internet | Protected Mode: On" and "100%".

OpenJDK

OpenJDK is the open-source implementation of Java:

- <http://openjdk.java.net/>
- GPL licensed open-source project
- JDK reference implementation
- Where new features are developed
- Open to community contributions
- Basis for Oracle JDK