Application Developer skills for Java

**Role**
The Application Developer is expected to design, develop, test, debug and deploy applications using the Java programming language. These applications should make use of the principles of object-oriented (OO) design and development. The application developer should also make effective use of an integrated development environment (IDE) such as IBM Rational Application Developer or Eclipse.

**Assumptions**
It is assumed that the individual following this roadmap has basic skills in the following areas:
- Working knowledge of underlying operating system platforms
- Understanding of basic Internet concepts

**Objectives**
After completing this training, students should be able to:
- Describe essential object-oriented (OO) programming concepts and terminology
- Perform OO requirements gathering, analysis, and design
- Describe the role of Unified Modeling Language (UML) in object-oriented analysis and design
- Read and create the most commonly used types of UML diagrams
- Understand the main features provided by the Java language
- Understand and use Java syntax
- Describe and use some of the important API classes and interfaces available in Java, including primitive wrapper classes, collections, I/O, threads and exceptions
- Create Java classes that implement an object-oriented design
- Apply Java language constructs that enable and enforce OO-related concepts such as data encapsulation, strict typing and type conversion, inheritance, and polymorphism
- Explain how design patterns can improve the implementation of OO designs
- Refactor Java code
- Use an integrated development environment (IDE) such as IBM Rational Application Developer or Eclipse to develop, test, run, debug, and package Java applications
- Perform unit testing of Java applications using JUnit

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What is your programming background?

**Procedural programming background**
- (VB, C, COBOL, RPG)

**OO programming background**
- (C++, C#, Smalltalk)

- Introduction to Object-Oriented Programming with Java Examples
- **WD150** Classroom (3 days)
- **VD150** Instructor-led online (3 days)

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<td>WD154</td>
<td>Java SE 6 Programming Fundamentals</td>
<td>Classroom (5 days)</td>
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<tr>
<td>VD154</td>
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<td>Instructor-led online (5 days)</td>
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<td>WD160</td>
<td>Developing Applications with Java Persistence API</td>
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