

Know Your Tools

Hands-on training in the tools essential for a professional developer. This course is mainly focused on the tools used to solve real-life problems. Developers will gain knowledge on a variety of topics, including effective use of IDE, practical use of Git, optimizing database access, troubleshooting JVM issues, build tools like Maven, plenty of tips and tricks, and more.

Audience: Developers, Team Leads

Duration: 1-2 days

- 1 day: IDE - IntelliJ Idea, Debugging, Terminal, Maven, Git, Logging, Writing less code with Lombok
- 2 day: Java and JVM, Troubleshooting Java applications, Containerization

Format: 60% workshop / 40% lecture

Training program

1. IDE - IntelliJ Idea
 - a. Features
 - b. Shortcuts
 - c. Preferences
 - d. Working with multiple projects
 - e. Database access
 - f. Useful plugins
2. Debugging
 - a. Debugging in IntelliJ Idea
 - b. Debugging Java run from Maven
 - c. Remote debugging
3. Terminal
4. Maven
5. Git
6. Logging
 - a. Logback, Log4j2
 - b. Capturing logs
7. Writing less code with Lombok
8. Java and JVM
 - a. JDK differences in implementations
 - i. OracleJDK
 - ii. OpenJDK
 - iii. OpenJ9
 - b. JVM
 - i. Understanding JVM memory

- ii. Garbage collector
 - iii. Useful JVM params
- 9. Troubleshooting Java applications
 - a. Using Profilers: YourKit, JProfiler, VisualVM, Opsian
 - b. Using Samplers
 - c. Identifying bottlenecks with VisualVM
 - d. Using core dump with VisualVM
 - e. Troubleshooting slow database access
- 10. Containerization
 - a. Building Docker images for java applications
 - i. Using Dockerfile
 - ii. Using maven plugins (Spring, Jib, Buildpack)
 - b. Optimizing Docker images
 - i. Size of the image
 - ii. Startup time
 - iii. Memory usage