

Java Crash Course for Industry Preparation

A Structured 6-Day Program for Final-Year Students

Day 1 (22-Jul-25):

- Tools setup
 - Eclipse - Mars Release (4.5.0) - <https://www.eclipse.org/downloads/packages/release/mars/r>
 - Oracle Database 11.2.0.1.0 - <https://www.oracle.com/database/technologies/xeprior-release-downloads.html>
 - jdk1.8.0_71 (<https://www.oracle.com/technetwork/java/javase/downloads/index.html>)
 - SQL developer
- Clone an open-source project from Git – Store POS
<https://github.com/inforkgodara/store-pos>
- Resolve any errors and launch the application in your local workspace
- DB import – table creation and insert required data to the table
- Introduce project structure - familiarize with open-source codebases
- Application walkthrough – understand the functionalities implemented

Day 2 (23-Jul-25):

- Reinforce core Java and OOP concepts with relevance to real-world development
- Topics covered
 - Classes, Objects and “this” keyword
 - Static field and method, final keyword
 - Method overloading
 - Encapsulation
 - Inheritance – multi level vs multiple inheritance, “super” keyword
 - Polymorphism, Abstraction
 - Interfaces vs Abstract Classes
 - Method overriding
 - Type casting and instanceof operator
 - Multithreading
 - ✓ Basics of multithreading
 - ✓ creating threads (Runnable interface, Thread class)

Day 3 (24-Jul-25):

- Code walkthrough of an open-source repo
- MVC (model view controller) vs Layered Architecture
- JavaFX – A toolkit to build front-end-Application
- FXML and scene builder
- Minor changes to the application

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Day 4 (25-Jul-25)

- Hands-on: Implement login module
 - Front-end screen
 - Backend logic
 - DB level changes

Day 5(28-Jul-25)

- Learn to use IDE features to debug and trace errors
 - Tools - Eclipse Debug view
 - Use Java Logging
 - Breakpoints, stepping into code
 - Call stack analysis
 - common issues like NullPointerException, ArrayIndexOutOfBoundsException, ClassCastException
- Debug hands-on
 - Debug simple Banking App
 - Debug simple studentManager project

Day 6(29-Jul-25):

- Quiz and discuss the answer key
- Course feedback