Chapter Seven
7.1 Build Process Overview

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The build process turns your Java code into a working application. It checks for errors, runs tests, and creates a file you can run or deploy. This phase compiles the Java source code into executable byte code, executes unit tests to validate functionality, and generates the application output. It ensures the system is ready for deployment and use, providing a final verification step before release.

7.2 Tools & Simple Steps

- **Eclipse IDE** (easy built-in tools for compiling and testing).
- **Command Line (CLI)** (for manual builds if needed).

Steps:

1. **Compile the Code**:
   - In Eclipse: Right-click project → **Build Project** (converts code to runnable format).
   - CLI: javac -d ./target src/main/java/com/pharmacy/*.java
2. **Run Tests**:
   - In Eclipse: Right-click → **Run As → JUnit Test** (checks if everything works).
   - CLI: mvn test (if using Maven).
3. **Create Executable File**:
   - In Eclipse: Export → **Runnable JAR** → Pick the main class (creates a .jar file).
4. **Run the Application**:
   - Double-click the JAR file or use CLI: java -jar pharmacy-system.jar.
5. **Check for Errors**:
   - Look at the console/GUI for issues (fix if needed).

Why It Matters:

- Ensures your app works before users see it.
- Catches bugs early.

- # Appendix
  - ● **File is available in Repository**: Available on GitHub (optional link or clone instructions).
  - ● **Screenshots**: Includes all class diagrams, sequence diagrams, code snippets, JUnit test results, Git activity, and build outputs for comprehensive documentation