**SLF4J logging framework:**

**Exercise 1: Logging Error Messages and Warning Levels**

Step 1: Add SLF4J and Logback Dependencies (Maven)

<dependencies>

<!-- SLF4J API -->

<dependency>

<groupId>org.slf4j</groupId>

<artifactId>slf4j-api</artifactId>

<version>1.7.30</version>

</dependency>

<!-- Logback Classic (SLF4J Implementation) -->

<dependency>

<groupId>ch.qos.logback</groupId>

<artifactId>logback-classic</artifactId>

<version>1.2.3</version>

</dependency>

</dependencies>

Step 2: Create the Logging Java Class

import org.slf4j.Logger;

import org.slf4j.LoggerFactory;

public class LoggingExample {

// Create Logger instance

private static final Logger logger = LoggerFactory.getLogger(LoggingExample.class);

public static void main(String[] args) {

// Logging at different levels

logger.error("This is an error message");

logger.warn("This is a warning message");

logger.info("This is an informational message"); // Optional additional level

}

}

Step 3: Customize Logback Configuration

You can control logging behavior using a logback.xml file in src/main/resources:

<configuration>

<appender name="STDOUT" class="ch.qos.logback.core.ConsoleAppender">

<encoder>

<pattern>%d{HH:mm:ss} [%thread] %-5level %logger{36} - %msg%n</pattern>

</encoder>

</appender>

<root level="debug">

<appender-ref ref="STDOUT" />

</root>

</configuration>

**Expected Console Output Example:**

