**Logging using SLF4J**

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

**Task: Write a Java application that demonstrates logging error messages and warning levels**

**using SLF4J.**

Step-by-Step Solution:

**1. Add SLF4J and Logback dependencies to your `pom.xml` file:**

<dependency>

<groupId>org.slf4j</groupId>

<artifactId>slf4j-api</artifactId>

<version>1.7.30</version>

</dependency>

<dependency>

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

<artifactId>logback-classic</artifactId>

<version>1.2.3</version>

</dependency>

**2. Create a Java class that uses SLF4J for logging:**

import org.slf4j.Logger;

import org.slf4j.LoggerFactory;

public class LoggingExample {

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

public static void main(String[] args) {

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

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

}

}

**Solution:**

<project xmlns="http://maven.apache.org/POM/4.0.0"

xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"

xsi:schemaLocation="http://maven.apache.org/POM/4.0.0

http://maven.apache.org/xsd/maven-4.0.0.xsd">

<modelVersion>4.0.0</modelVersion>

<groupId>com.example</groupId>

<artifactId>slf4j-logging-demo</artifactId>

<version>1.0-SNAPSHOT</version>

<properties>

<project.build.sourceEncoding>UTF-8</project.build.sourceEncoding>

<maven.compiler.source>11</maven.compiler.source> <!-- Use Java 11 -->

<maven.compiler.target>11</maven.compiler.target>

</properties>

<dependencies>

<!-- SLF4J API -->

<dependency>

<groupId>org.slf4j</groupId>

<artifactId>slf4j-api</artifactId>

<version>1.7.30</version>

</dependency>

<!-- Logback implementation for SLF4J -->

<dependency>

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

<artifactId>logback-classic</artifactId>

<version>1.2.3</version>

</dependency>

</dependencies>

<build>

<plugins>

<!-- Plugin to allow running main classes via mvn exec:java -->

<plugin>

<groupId>org.codehaus.mojo</groupId>

<artifactId>exec-maven-plugin</artifactId>

<version>3.1.0</version>

<configuration>

<mainClass>com.example.LoggingExample</mainClass>

</configuration>

</plugin>

</plugins>

</build>

</project>

**Code:**

**LoggingExample.java**

package com.example;

import org.slf4j.Logger;

import org.slf4j.LoggerFactory;

public class LoggingExample {

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

public static void main(String[] args) {

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

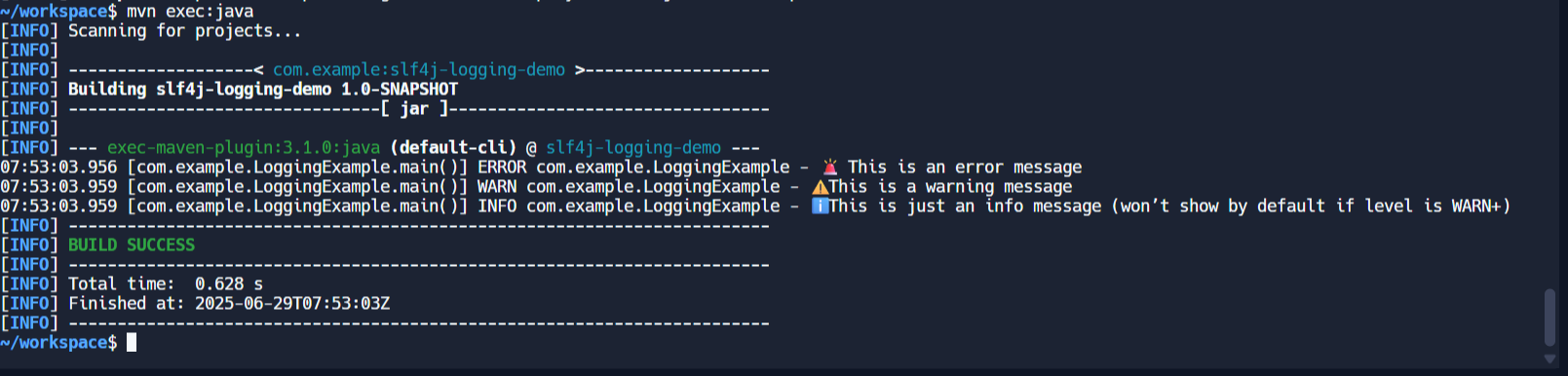
logger.warn("⚠️ This is a warning message");

logger.info("ℹ️ This is just an info message (won’t show by default if level is WARN+)");

}

}

**Output:**

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