**Exercise1: Logging Error Messages and Warning Level Using SLF4J**

**Objective:** To demonstrate how to log an error and warning messages in a java application using the SLF4J API and Logback as the logging backend.

**Steps in Construction of Java application using SLF4J:**

**Step1:** Add SLF4J and Logback Dependencies.

The following dependencies are to be included in existing pom.xml file

|  |
| --- |
| <dependencies>  <!-- SLF4J API -->  <dependency>  <groupId>org.slf4j</groupId>  <artifactId>slf4j-api</artifactId>  <version>1.7.30</version>  </dependency>  <!-- Logback Classic for SLF4J binding -->  <dependency>  <groupId>ch.qos.logback</groupId>  <artifactId>logback-classic</artifactId>  <version>1.2.3</version>  </dependency>  </dependencies> |

After the included the entire pom.xml file looks like below:

|  |
| --- |
| <project xmlns="http://maven.apache.org/POM/4.0.0"  xmlns:xi="http://www.w3.org/2001/XMLSchema-instance"  xsi:schemaLocation="http://maven.apache.org/POM/4.0.0 https://maven.apache.org/xsd/maven-4.0.0.xsd">  <modelVersion>4.0.0</modelVersion>  <groupId>harshita</groupId>  <artifactId>harshita</artifactId>  <version>0.0.1-SNAPSHOT</version>  <build>  <plugins>  <plugin>  <artifactId>maven-compiler-plugin</artifactId>  <version>3.13.0</version>  <configuration>  <release>21</release>  </configuration>  </plugin>  </plugins>  </build>  <dependencies>  <!-- SLF4J API -->  <dependency>  <groupId>org.slf4j</groupId>  <artifactId>slf4j-api</artifactId>  <version>1.7.30</version>  </dependency>  <!-- Logback as the SLF4J backend -->  <dependency>  <groupId>ch.qos.logback</groupId>  <artifactId>logback-classic</artifactId>  <version>1.2.3</version>  </dependency>  <!-- JUnit Jupiter -->  <dependency>  <groupId>org.junit.jupiter</groupId>  <artifactId>junit-jupiter</artifactId>  <version>5.10.0</version>  <scope>test</scope>  </dependency>  <!-- Mockito -->  <dependency>  <groupId>org.mockito</groupId>  <artifactId>mockito-core</artifactId>  <version>5.11.0</version>  <scope>test</scope>  </dependency>  </dependencies>  </project> |

**Step2:** Create a Java class using SLF4J Logging.

LoggingExample.java:

|  |
| --- |
| import org.slf4j.Logger;  import org.slf4j.LoggerFactory;  public class LoggingExample {  // Create a logger instance for this class  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");  }  } |

**Running the above application in eclipse**:

1. Open Eclipse and go to: File > New > Maven Project
2. Then, select:

* Create simple project
* Group Id
* Artifact ID
* Packaging : jar

1. Then update the pom.xml file.
2. Create new Java class.
3. Right-click on LoggingExample.java and run as -> Java Application

Expected Output:

