**1. Project Structure in Eclipse (without Maven)**

css

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SLF4JLoggingProject/

├── src/

│ ├── LoggingExample.java

│ ├── ParameterizedLoggingExample.java

│ └── AppendersExample.java

└── lib/

├── slf4j-api-1.7.30.jar

└── logback-classic-1.2.3.jar

└── logback-core-1.2.3.jar

resources/

└── logback.xml

**✅ 2. Download Required JARs**

You need to download and add these 3 JARs to your project:

| **Library** | **Download Link** |
| --- | --- |
| slf4j-api | <https://repo1.maven.org/maven2/org/slf4j/slf4j-api/1.7.30/slf4j-api-1.7.30.jar> |
| logback-classic | <https://repo1.maven.org/maven2/ch/qos/logback/logback-classic/1.2.3/logback-classic-1.2.3.jar> |
| logback-core | <https://repo1.maven.org/maven2/ch/qos/logback/logback-core/1.2.3/logback-core-1.2.3.jar> |

**✅ 3. Configure Project in Eclipse**

1. Open Eclipse → File → New → Java Project → Name: SLF4JLoggingProject
2. Inside src, create three classes:
   * LoggingExample
   * ParameterizedLoggingExample
   * AppendersExample
3. Create a lib folder → Paste the 3 JAR files.
4. **Right-click project → Build Path → Configure Build Path → Add JARs** → Select all from lib.
5. Create a folder resources → Add logback.xml

**✅ 4. Code Files**

**LoggingExample.java**

java

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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");

}

}

**ParameterizedLoggingExample.java**

java

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import org.slf4j.Logger;

import org.slf4j.LoggerFactory;

public class ParameterizedLoggingExample {

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

public static void main(String[] args) {

String user = "nandhana";

int id = 101;

logger.info("User {} has ID {}", user, id);

}

}

**AppendersExample.java**

java

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import org.slf4j.Logger;

import org.slf4j.LoggerFactory;

public class AppendersExample {

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

public static void main(String[] args) {

logger.info("This message will go to both console and file.");

logger.debug("Debugging log message.");

logger.error("An error has occurred.");

}

}

**✅ 5. logback.xml (Place in resources/ folder)**

xml

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<configuration>

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

<encoder>

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

</encoder>

</appender>

<appender name="file" class="ch.qos.logback.core.FileAppender">

<file>logs/app.log</file>

<encoder>

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

</encoder>

</appender>

<root level="debug">

<appender-ref ref="console"/>

<appender-ref ref="file"/>

</root>

</configuration>

💡 Make sure logback.xml is on the **classpath** (you can copy it into src if needed or configure it under Project → Properties → Java Build Path → Source).