

SLF4J LOGGING EXERCISES

Exercise 1: Logging Error Messages and Warning Levels

Task: Write a Java application that demonstrates logging error messages and warning levels using SLF4J.

SOLUTION:

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

CODE:

```
<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
    https://maven.apache.org/xsd/maven-4.0.0.xsd">

  <modelVersion>4.0.0</modelVersion>

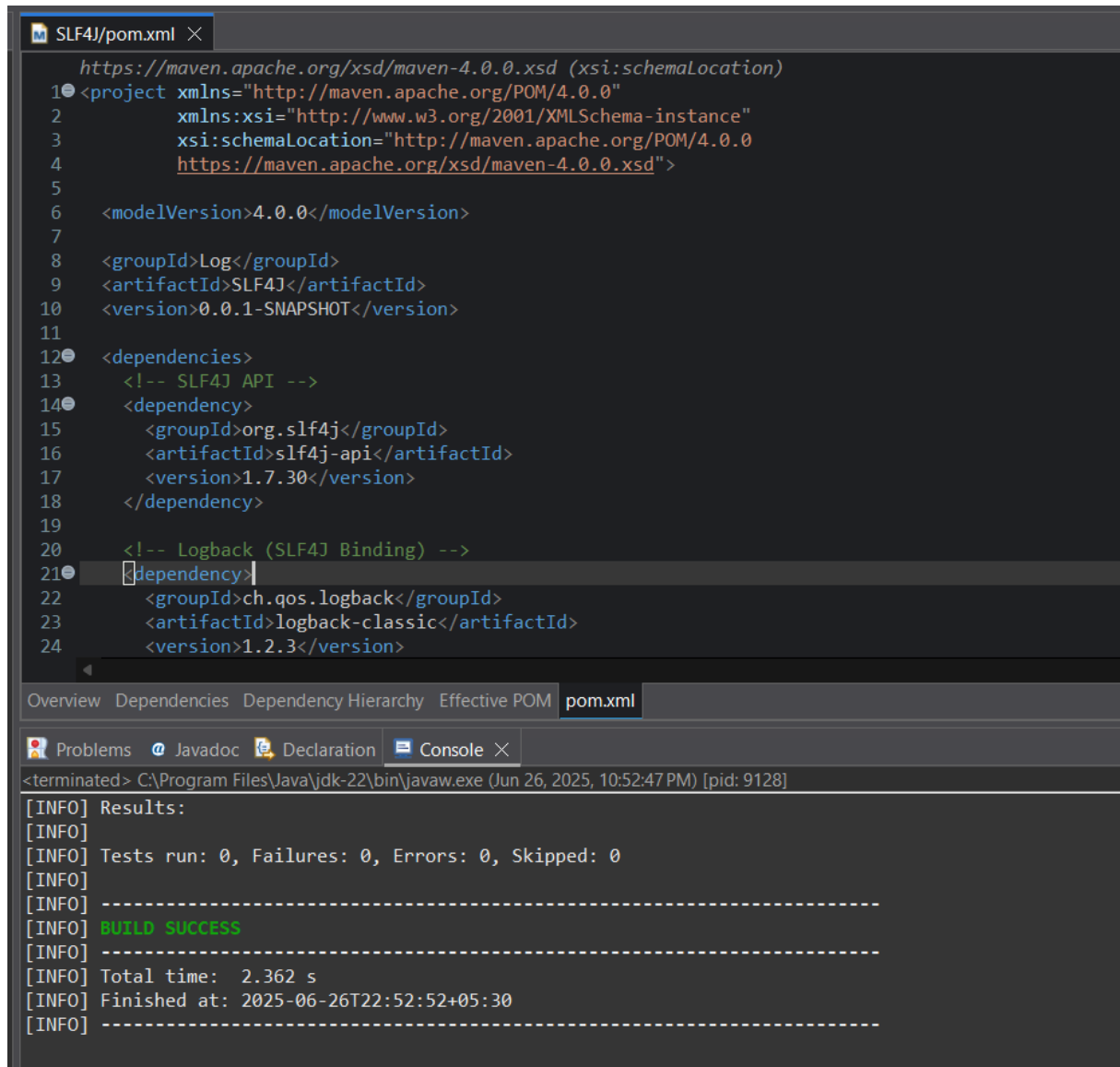
  <groupId>Log</groupId>
  <artifactId>SLF4J</artifactId>
  <version>0.0.1-SNAPSHOT</version>

  <dependencies>
    <!-- SLF4J API -->
    <dependency>
      <groupId>org.slf4j</groupId>
      <artifactId>slf4j-api</artifactId>
      <version>1.7.30</version>
    </dependency>

    <!-- Logback (SLF4J Binding) -->
    <dependency>
      <groupId>ch.qos.logback</groupId>
      <artifactId>logback-classic</artifactId>
      <version>1.2.3</version>
    </dependency>
  </dependencies>

</project>
```

OUTPUT:



The screenshot shows an IDE window titled 'SLF4J/pom.xml'. The main editor displays the XML content of the POM file. The XML defines a project with groupId 'Log', artifactId 'SLF4J', and version '0.0.1-SNAPSHOT'. It includes two dependencies: 'org.slf4j:slf4j-api:1.7.30' and 'ch.qos.logback:logback-classic:1.2.3'. The bottom panel shows the 'pom.xml' tab selected, and the 'Console' tab displays the build output. The output indicates a successful build with no errors or failures.

```
https://maven.apache.org/xsd/maven-4.0.0.xsd (xsi:schemaLocation)
1 <project xmlns="http://maven.apache.org/POM/4.0.0"
2   xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
3   xsi:schemaLocation="http://maven.apache.org/POM/4.0.0
4     https://maven.apache.org/xsd/maven-4.0.0.xsd">
5
6   <modelVersion>4.0.0</modelVersion>
7
8   <groupId>Log</groupId>
9   <artifactId>SLF4J</artifactId>
10  <version>0.0.1-SNAPSHOT</version>
11
12  <dependencies>
13    <!-- SLF4J API -->
14    <dependency>
15      <groupId>org.slf4j</groupId>
16      <artifactId>slf4j-api</artifactId>
17      <version>1.7.30</version>
18    </dependency>
19
20    <!-- Logback (SLF4J Binding) -->
21    <dependency>
22      <groupId>ch.qos.logback</groupId>
23      <artifactId>logback-classic</artifactId>
24      <version>1.2.3</version>
25    </dependency>
26  </dependencies>
27</project>
```

Overview Dependencies Dependency Hierarchy Effective POM pom.xml

Problems Javadoc Declaration Console

```
<terminated> C:\Program Files\Java\jdk-22\bin\javaw.exe (Jun 26, 2025, 10:52:47 PM) [pid: 9128]
[INFO] Results:
[INFO]
[INFO] Tests run: 0, Failures: 0, Errors: 0, Skipped: 0
[INFO]
[INFO] -----
[INFO] BUILD SUCCESS
[INFO] -----
[INFO] Total time: 2.362 s
[INFO] Finished at: 2025-06-26T22:52:52+05:30
[INFO] -----
```

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

CODE:

```
package com.logging;
import org.slf4j.Logger;
import org.slf4j.LoggerFactory;
public class TestErrorMessages {
    private static final Logger logger = LoggerFactory.getLogger(TestErrorMessages.class);
    public static void main(String[] args) {
        logger.error("This is an error message");
        logger.warn("This is a warning message");
    }
}
```

OUTPUT:

```
TestErrorMessage.java ×
1 package com.logging;
2
3 import org.slf4j.Logger;
4 import org.slf4j.LoggerFactory;
5
6 public class TestErrorMessage {
7     private static final Logger logger = LoggerFactory.getLogger(TestErrorMessage.class);
8
9     public static void main(String[] args) {
10         logger.error("This is an error message");
11         logger.warn("This is a warning message");
12     }
13 }
14
15

Problems Javadoc Declaration Console ×
<terminated> C:\Program Files\Java\jdk-22\bin\javaw.exe (Jun 26, 2025, 11:01:22 PM) [pid: 9548]
[INFO] Using auto detected provider org.apache.maven.surefire.junit.JUnit3Provider
[INFO]
[INFO] -----
[INFO] T E S T S
[INFO] -----
[INFO] Running com.logging.TestErrorMessage
[INFO] Tests run: 0, Failures: 0, Errors: 0, Skipped: 0, Time elapsed: 0.007 s -- in com.logging.TestErrorMessage
[INFO] Results:
[INFO]
[INFO] Tests run: 0, Failures: 0, Errors: 0, Skipped: 0
[INFO]
[INFO] -----
[INFO] BUILD SUCCESS
[INFO] -----
[INFO] Total time: 2.166 s
[INFO] Finished at: 2025-06-26T23:01:27+05:30
[INFO] -----
```

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