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

**LoggingExample.java**

package com.mycompany.mavenproject4;

import org.slf4j.Logger;

import org.slf4j.LoggerFactory;

public class LoggingExample {

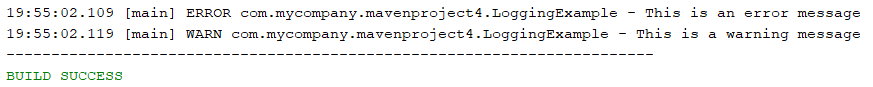
private static final Logger logger = LoggerFactory.getLogger(LoggingExample.class);

public static void main(String[] args) {

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

}}

**Output**



**Exercise 2: Parameterized Logging**

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) {

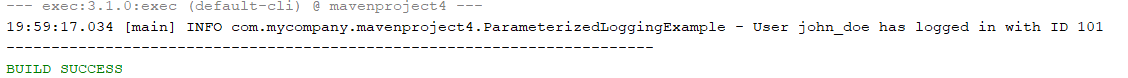
String username = "john\_doe";

int userId = 101;

logger.info("User {} has logged in with ID {}", username, userId);

}}

**Output:**



**Exercise 3: Using Different Appenders**

**logback.xml**

<?xml version="1.0" encoding="UTF-8"?>

<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>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>

**AppenderExample.java**

import org.slf4j.Logger;

import org.slf4j.LoggerFactory;

public class AppenderExample {

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

public static void main(String[] args) {

logger.info("This message should appear in both console and file");

logger.debug("Debugging application");

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

}}

**Output**

