**Logger.java**  
  
package week1.singleton\_pattern;

public class Logger {

    private static Logger instance = new Logger();

    private Logger() {

        System.out.println("Logger initialized.");

    }

    public static Logger getInstance() {

        return instance;

    }

    public void log(String message) {

        System.out.println("LOG: " + message);

    }

}

**LoggerTest.java**

package week1.singleton\_pattern;

public class LoggerTest {

    public static void main(String[] args) {

        // Get singleton instance

        Logger logger1 = Logger.getInstance();

        Logger logger2 = Logger.getInstance();

        // Use logger

        logger1.log("First message");

        logger2.log("Second message");

        // Validate singleton behavior

        if (logger1 == logger2) {

            System.out.println("Both logger instances are the same (Singleton confirmed).");

        } else {

            System.out.println("Different instances found (Singleton failed).");

        }

    }

}