Exercise 1: Logging Error Messages and Warning Levels

```java
package com.example;

import java.util.logging.Level;

import java.util.logging.Logger;

public class LoginService {

    private static final Logger logger = Logger.getLogger(LoginService.class.getName());

    public boolean login(String username, String password) {
        logger.info("Attempting login for user: " + username);

        if (username == null || password == null) {
            logger.warning("Username or password is null");
            return false;
        }
    }
package com.example;

public class LoginTest {
    public static void main(String[] args) {
        LoginService service = new LoginService();

        service.login("admin", "1234");
        service.login("admin", "wrong");
        service.login(null, "1234");
    }
}
```
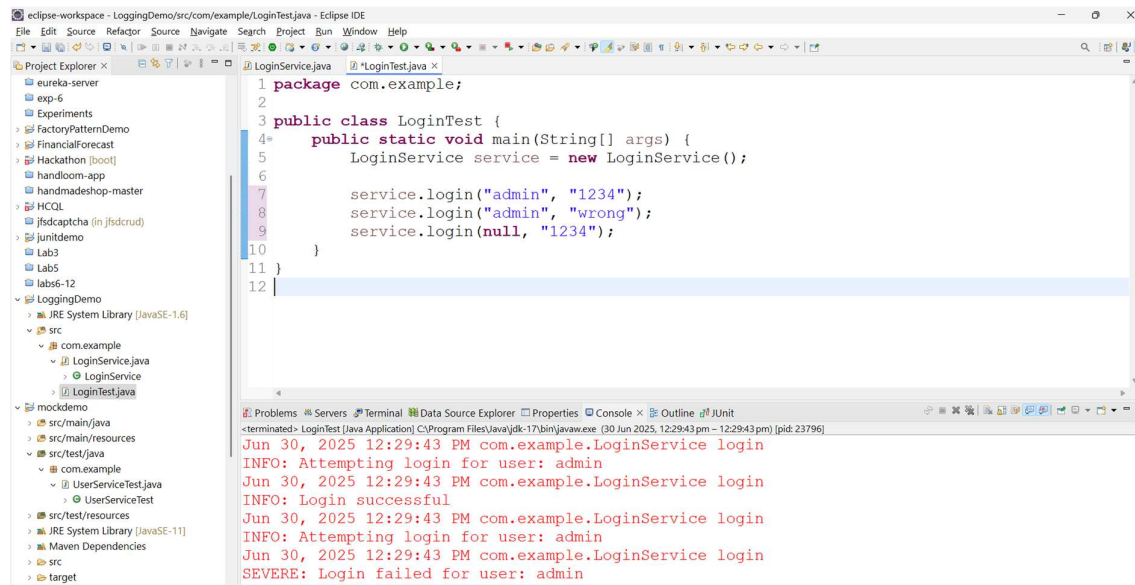
OUTPUT:


```java
package com.example;

public class LoginTest {
    public static void main(String[] args) {
        LoginService service = new LoginService();

        service.login("admin", "1234");
        service.login("admin", "wrong");
        service.login(null, "1234");
    }
}
```

Console output:

```
<terminated> LoginTest [Java Application] C:\Program Files\Java\jdk-17\bin\javaw.exe  (30 Jun 2025, 12:29:43 pm – 12:29:43 pm) [pid: 23796]
Jun 30, 2025 12:29:43 PM com.example.LoginService login
INFO: Attempting login for user: admin
Jun 30, 2025 12:29:43 PM com.example.LoginService login
INFO: Login successful
Jun 30, 2025 12:29:43 PM com.example.LoginService login
INFO: Attempting login for user: admin
Jun 30, 2025 12:29:43 PM com.example.LoginService login
SEVERE: Login failed for user: admin
```