

## Exercise 1: Logging Error Messages and Warning Levels

```
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");
```

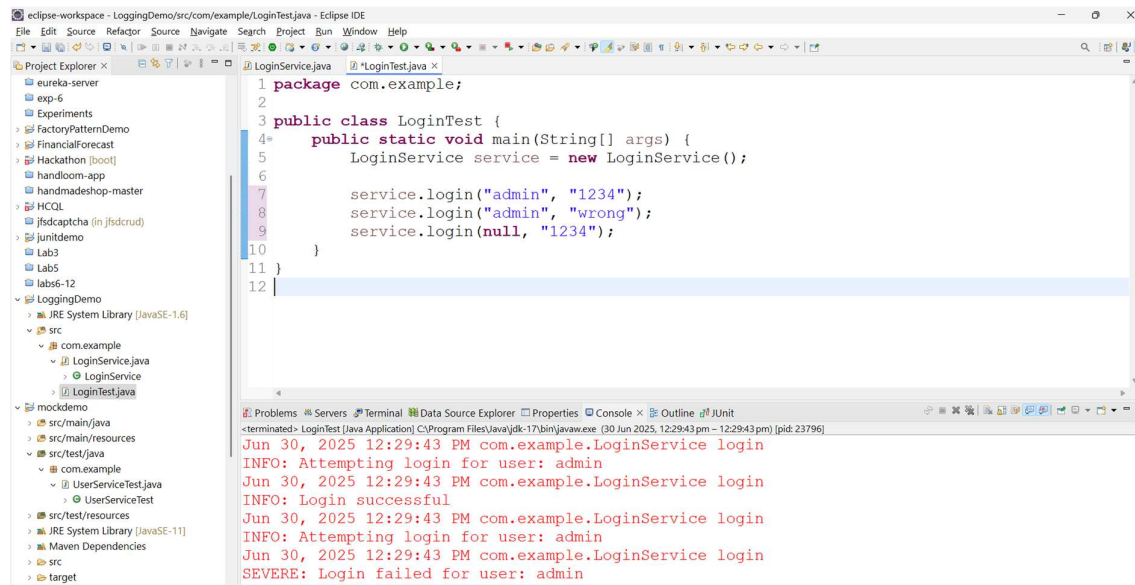
```
        service.login("admin", "wrong");
```

```
        service.login(null, "1234");
```

```
    }
```

```
}
```

## OUTPUT:



The screenshot displays the Eclipse IDE interface. The Project Explorer on the left shows a project named 'LoggingDemo' with a package 'com.example' containing 'LoginService.java' and 'LoginTest.java'. The Editor window shows the code for 'LoginTest.java':

```
1 package com.example;
2
3 public class LoginTest {
4     public static void main(String[] args) {
5         LoginService service = new LoginService();
6
7         service.login("admin", "1234");
8         service.login("admin", "wrong");
9         service.login(null, "1234");
10    }
11 }
12
```

The Console window at the bottom shows the following 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
```