

# Handling User Authentication

## UserLogin.java

```
package com.authentication;
import java.util.HashMap;
import java.util.Map;
public class UserLogin
{
    private Map<String, String> users; // Simulated user database

    public UserLogin()
    {
        users = new HashMap<>();
        users.put("admin", "admin123");
        users.put("abc", "abc123");
        users.put("xyz", "xyz456");
    }
    public boolean authenticate(String username, String password)
    {
        return users.containsKey(username) &&
users.get(username).equals(password);
    }
}
```

## LoginTest.java

```
package com.authentication;
import static org.junit.jupiter.api.Assertions.*;
import org.junit.jupiter.api.*;
public class LoginTest
{
    private UserLogin authenticator;

    @BeforeEach
    void setUp() {
        authenticator = new UserLogin();
    }

    @Test
    void testValidAuthentication() {
        assertTrue(authenticator.authenticate("admin", "admin123"));
    }
}
```

```

@Test
void testInvalidUsername() {
    assertFalse(authenticator.authenticate("asd", "abc123"));
}

@Test
void testInvalidPassword() {
    assertFalse(authenticator.authenticate("admin", "admin456"));
}

@Test
void testNullUsername() {
    assertFalse(authenticator.authenticate(null, "abc123"));
}

@Test
void testNullPassword() {
    assertFalse(authenticator.authenticate("admin", null));
}
}

```

### **pom.xml**

```

<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>coms</groupId>
    <artifactId>UserAuthenticationTest</artifactId>
    <version>0.0.1-SNAPSHOT</version>
    <dependencies>
        <dependency>
            <groupId>org.junit.jupiter</groupId>
            <artifactId>junit-jupiter-api</artifactId>
            <version>5.8.1</version>
            <scope>test</scope>
        </dependency>
    </dependencies>
    <build>
        <plugins>
            <plugin>

```

```
        <groupId>org.apache.maven.plugins</groupId>
        <artifactId>maven-surefire-plugin</artifactId>
        <version>3.0.0-M5</version>
    </plugin>
</plugins>
</build>
</project>
```