Here is a complete working **Basic Authentication example** for a **Tomcat web application** using **Java EE Servlet technology**.

**✅ Project Structure**

BasicAuthApp/

├── WEB-INF/

│ ├── web.xml

│ └── tomcat-users.xml (configured in Tomcat, not in app)

├── secure/

│ └── secret.jsp

└── index.html

**1️⃣ 🔧 web.xml (in WEB-INF/)**

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

<web-app xmlns="http://xmlns.jcp.org/xml/ns/javaee"

version="3.1">

<display-name>BasicAuthApp</display-name>

<!-- Secure /secure/\* URLs -->

<security-constraint>

<web-resource-collection>

<web-resource-name>Secure Pages</web-resource-name>

<url-pattern>/secure/\*</url-pattern>

</web-resource-collection>

<auth-constraint>

<role-name>admin</role-name>

</auth-constraint>

</security-constraint>

<login-config>

<auth-method>BASIC</auth-method>

<realm-name>MyRealm</realm-name>

</login-config>

<security-role>

<role-name>admin</role-name>

</security-role>

</web-app>

**2️⃣ 🔑 Configure tomcat-users.xml**

This file is **not part of the WAR**, but located in:

$TOMCAT\_HOME/conf/tomcat-users.xml

**Add:**

<tomcat-users xmlns="http://tomcat.apache.org/xml"

version="1.0">

<role rolename="admin"/>

<user username="admin" password="admin123" roles="admin"/>

</tomcat-users>

📌 Make sure **basic authentication is enabled** in the Tomcat server by default (it usually is).

**3️⃣ 🔐 secure/secret.jsp**

<%@ page language="java" %>

<%@ page session="false" %>

<html>

<head><title>Secret Page</title></head>

<body>

<h1>Welcome, <%= request.getRemoteUser() %>!</h1>

<p>You have accessed a protected resource.</p>

</body>

</html>

**4️⃣ 🌐 index.html**

<!DOCTYPE html>

<html>

<head>

<title>Basic Auth Demo</title>

</head>

<body>

<h2>Welcome to Basic Authentication Example</h2>

<p><a href="secure/secret.jsp">Go to protected page</a></p>

</body>

</html>

**🏁 Deployment Steps**

1. **Create WAR file** named BasicAuthApp.war or deploy the folder to Tomcat's webapps/.
2. **Edit tomcat-users.xml** and restart Tomcat.
3. Visit: http://localhost:8080/BasicAuthApp/
4. Click on “Go to protected page” → browser prompts for credentials.
5. Enter: admin / admin123 → you'll see the secure page.

**How Basic Auth Works in Tomcat**

* When accessing a secured URL, Tomcat sends back HTTP status 401 Unauthorized with WWW-Authenticate: Basic realm="MyRealm".
* Browser shows a login dialog.
* It sends Authorization: Basic base64(username:password) in next request.
* Tomcat decodes it, checks it against the Realm (here tomcat-users.xml via MemoryRealm).