Hướng dẫn **tạo dự án Servlet + JSP** sử dụng:

* **JDK 21+**
* **Tomcat 11**
* **Gradle (DSL Groovy)**
* **IntelliJ IDEA Community Edition**

**BƯỚC 1: TẠO DỰ ÁN GRADLE**

**⚙️ Tạo cấu trúc dự án**

Chạy trong Terminal:

gradle init --type java-library

Sau đó sửa lại cấu trúc thư mục:

|  |
| --- |
| src/ ├── main/ │   ├── java/com/example/servlet/HelloServlet.java │   └── webapp/ │       ├── WEB-INF/web.xml │       └── index.jsp build.gradle settings.gradle |

**BƯỚC 2: CẤU HÌNH build.gradle**

|  |
| --- |
| plugins {     id 'java'     id 'war' }  group = 'com.example' version = '1.0-SNAPSHOT' java {     sourceCompatibility = JavaVersion.VERSION\_21     targetCompatibility = JavaVersion.VERSION\_21 }  repositories {     mavenCentral() }  dependencies {     // Jakarta Servlet (thay vì javax.servlet)     providedCompile 'jakarta.servlet:jakarta.servlet-api:6.0.0'      // Jakarta Pages (JSP API mới)     providedCompile 'jakarta.servlet.jsp:jakarta.servlet.jsp-api:3.1.1' }  tasks.withType(JavaCompile) {     options.encoding = 'UTF-8' } |

**BƯỚC 3: VIẾT CODE SERVLET**

**📄 HelloServlet.java**

|  |
| --- |
| package com.example.servlet;  import jakarta.servlet.\*; import jakarta.servlet.http.\*;  import java.io.IOException;  public class HelloServlet extends HttpServlet {     @Override     protected void doGet(HttpServletRequest req, HttpServletResponse res)         throws ServletException, IOException {         res.setContentType("text/html");         res.getWriter().println("<h1>Hello from Jakarta Servlet 6 on JDK 21!</h1>");     } } |

**BƯỚC 4: VIẾT web.xml CHUẨN JAKARTA**

**📄 src/main/webapp/WEB-INF/web.xml**

|  |
| --- |
| <**web-app** xmlns="https://jakarta.ee/xml/ns/jakartaee"          xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"          xsi:schemaLocation="https://jakarta.ee/xml/ns/jakartaee                              https://jakarta.ee/xml/ns/jakartaee/web-app\_6\_0.xsd"          version="6.0">      <**servlet**>         <**servlet-name**>hello</**servlet-name**>         <**servlet-class**>com.example.servlet.HelloServlet</**servlet-class**>     </**servlet**>      <**servlet-mapping**>         <**servlet-name**>hello</**servlet-name**>         <**url-pattern**>/hello</**url-pattern**>     </**servlet-mapping**> </**web-app**> |

**BƯỚC 5: VIẾT TRANG index.jsp**

**📄 src/main/webapp/index.jsp**

|  |
| --- |
| <**%**@ page contentType="text/html;charset=UTF-8" %> <**html**> <**head**><**title**>Jakarta JSP</**title**></**head**> <**body**> <**h2**>Hello JSP on Jakarta Platform!</**h2**> <**a** href="hello">Visit Servlet</**a**> </**body**> </**html**> |

**BƯỚC 6: BUILD VÀ DEPLOY**

**📦 Build WAR**

./gradlew clean build

WAR file nằm tại build/libs/your-project-name.war

**🚀 Deploy WAR vào Tomcat 11**

1. Tải Tomcat 11:<https://tomcat.apache.org/download-11.cgi>
2. Giải nén Tomcat
3. Copy file WAR vào thư mục webapps/

Chạy Tomcat:

|  |
| --- |
| ./bin/startup.sh     # macOS/Linux startup.bat          # Windows |

**🌐 Truy cập:**

http://localhost:8080/your-project-name/

**GHI CHÚ**

* **Tomcat 11** chỉ hỗ trợ **Jakarta Servlet** (jakarta.servlet.\*) → KHÔNG dùng javax.servlet.\*.
* **JDK 21** tương thích hoàn toàn với Jakarta EE 10 (Servlet 6.0, JSP 3.1).