SWEN301 Tutorial 5 - HTTP Services

Objective

Write a simple JEE application providing a simple service, and a client to consume the service.

Instructions

Part 1: Create a simple Java web application using a servlet following the instructions from the previous tutorial. Create a project **ServiceServer** with a package **nz.ac.vuw.swen301.tuts.service.server**. In this package, create a servlet **OddServiceServlet** and map this (using web.xml to bind the servlet to the URL **/odd)**. The servlets answers to GET requests with a parameter **number=<some-number>**. The response is plain text, a simple word “yes” if the number submitted was an odd number, and “no” otherwise. If the query string is missing or the value of **number** is not a valid number, then the server response should have a status code **400.**

Part 2: Create a project ServiceClient with a package **nz.ac.vuw.swen301.tuts.service.client**. In this package, create a class **Client** with a main method that uses an http client to call the service deployed on a server.

Hints

1. Have a look at https://github.com/jensdietrich/se-teaching/tree/main/servlets for project structure and build file (including the configuration of the jetty plugin). It is recommended to check out this project first, and run it. In particular, pay attention to the folder **src/main/webapp** .
2. It is recommended to use a HTTP Client library for the application, such as the Apache HTTP Client. The basic API need to solve this task is described here. The Maven dependency is https://mvnrepository.com/artifact/org.apache.httpcomponents/httpclient (pick a version, and copy the xml snippet into the dependencies section of your pom.xml).

What to try next (not part of the tutorial)

Write the client using test cases instead of a class with a main method. Note that it is possible to create Maven projects with only test code. Also test whether illegal requests return the static code 400. Look into how to handle the case that the server is not available, i.e. by using junit preconditions (**Assume**).