

Web Services Application

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Introduction

The term Web service (WS) is either:

a service offered by an electronic device to another electronic device, communicating with each other via the World Wide Web, or

a server running on a computer device, listening for requests at a particular port over a network, serving web documents (HTML, JSON, XML, images), and creating[clarification needed] web applications services, which serve in solving specific domain problems over the Web (WWW, Internet, HTTP)

In a Web service a Web technology such as HTTP is used for transferring machine-readable file formats such as XML and JSON.

In practice, a Web service commonly provides an object-oriented Web-based interface to a database server, utilized for example by another Web server, or by a mobile app, that provides a user interface to the end-user. Many organizations that provide data in formatted HTML pages will also provide that data on their server as XML or JSON, often through a Web service to allow syndication, for example, Wikipedia's Export. Another application offered to the end-user may be a mashup, where a Web server consumes several Web services at different machines and compiles the content into one user interface.

This document is based on:

- Eclipse 4.5 MARS
- Tomcat 8.x

In this document, I will guide step by step how to create a simple web application with the combination of Servlet + JSP + Filter + JSP EL + JDBC.

The principle when programming Servlet + JSP

These are the principles that you should keep in mind to be able to build a Web application using Servlet + JSP satisfying criteria: code must be simple, easy to understand and easy to maintain.

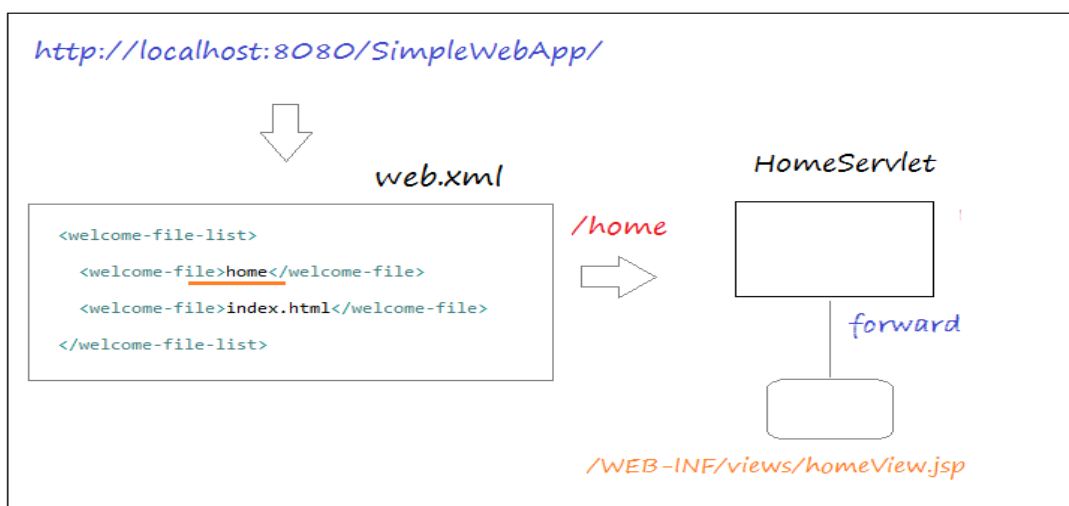
The principles:

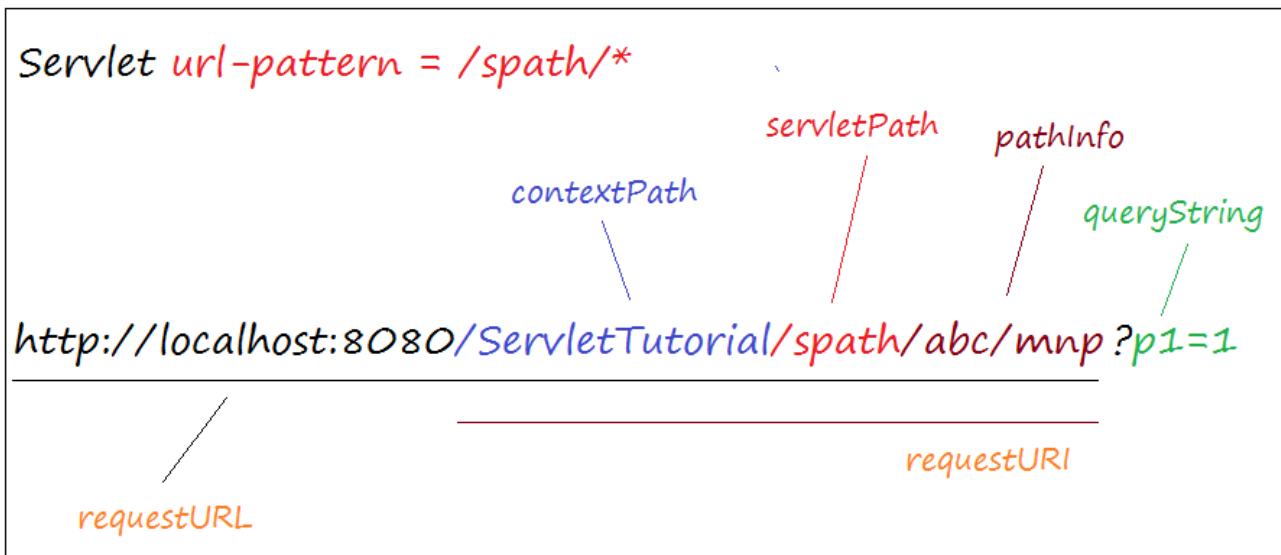
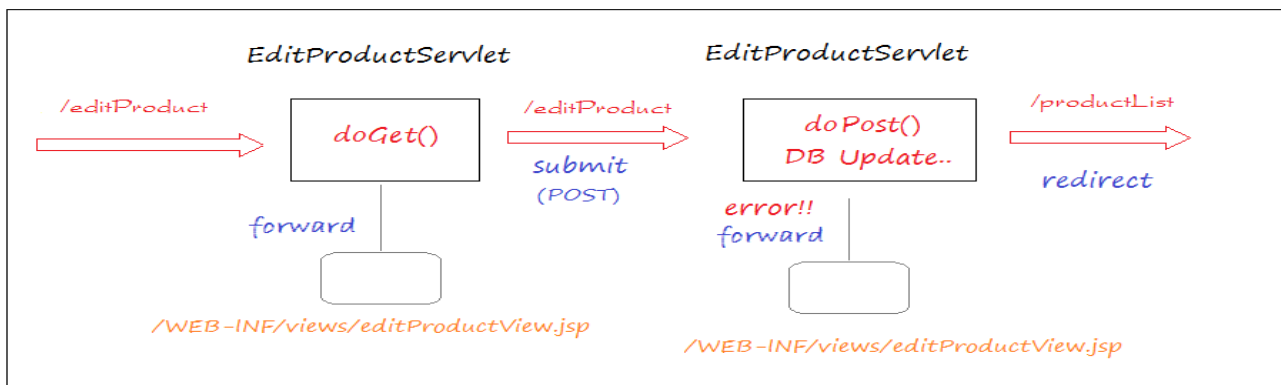
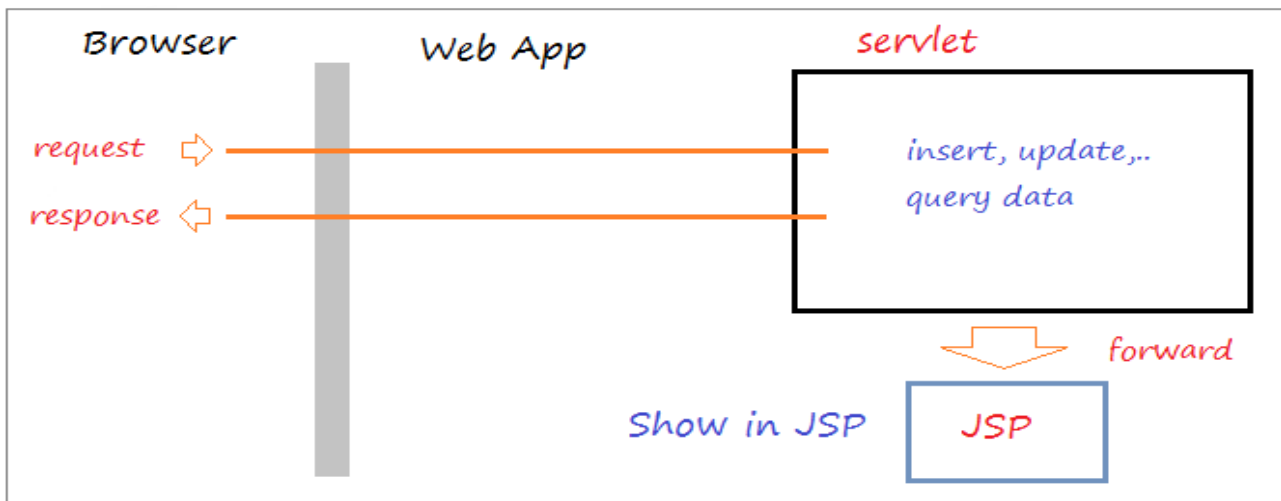
Never allow users to directly access to your JSP page.

JSP is only considered as the place to display interface.

Servlet acts as the controller of the application flows and program logical processing.

Open the JDBC connection and transaction management in Filter (Optional).





What is SOAP?

SOAP is an XML-based protocol for accessing web services over HTTP. It has some specification which could be used across all applications.

SOAP is known as the Simple Object Access Protocol, but in later times was just shortened to SOAP v1.2. SOAP is a protocol or in other words is a definition of how web services talk to each other or talk to client applications that invoke them.

SOAP was developed as an intermediate language so that applications built on various programming languages could talk easily to each other and avoid the extreme development effort.

The Purpose of this project

- In the beginning this project served as a starting point to learn how to program web services application.
- I created a database with MYSQL which would store some user data for the final project.
- I downloaded tomcat v8.5 application server to execute Java servlets and render the final web page, which makes use of Java Server page coding.
- After configuring the runtime environment to be compatible with Tomcat I was able to run a simple line of code to execute "Hello World" on local host 8080.
- I had to download and declare JDBC & JSTL library.
- Through the use of Java bean & Database Connection Utility classes I was able to simulate tables in the database.
- Through the use of utility classes it becomes easier to manipulate data.
- I created a Servlet Filter to serve 2 purposes first to connect the application to the database and to read Cookies for an automatic Login.
- I was able to add edit and create a product list page, login page and home page.

