



Java Web Application Technologies

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28th June 2020

Agenda



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Applets

- Applets were Java's first web technology.
- An Applet is a small Java program that is downloaded from a web server and executed in the browser. Just like a Flash movie or an ActiveX component.
- Today Applets is an "old" technology, which is being replaced in the future by the more modern RIA (Rich Internet Application) technology JavaFX.
- Applets could run entirely client side in the browser or connect back to the server it was downloaded from to send and receive data.

Servlets

- Servlets were Java's first server-side web technology. It was meant as an alternative to the early web technology "CGI scripts".
- CGI Scripts were programs that were executed on the web server when a request arrived which was to be handled by that CGI script.
- Thus, a CGI script process was to be started and finished whenever a request arrived at the web server for a CGI script. Starting a new process is rather slow and can be memory intensive.
- Therefore Sun came up with Sevlets. A CGI script could be written in many languages, e.g. Perl or C.

Servlets(cont'd)

- A Servlet is an ordinary Java class that implements a special Servlet interface. This class is then deployed in a Servlet container.
- The servlet container is connected to a web server. When an HTTP request arrives at the web server which should be handled by a servlet, the web server forwards the request to the servlet container. The servlet container then forwards the request to the servlet that is to handle the request.
- Since the servlet container is running all the time, so are the servlets. In other words, when a request arrives for a given servlet, that servlet is already loaded into memory, and ready to process the request. No starting up of CGI scripts or Java processes.
- Today most servlet containers comes with built-in web servers, so you do not often make the distinction between a Java web server and a Java servlet container. Examples of Java web servers with servlet containers are: Tomcat and Jetty

JSP

```
<html>
<body>
<table>
  <%
    for(int i=0; i<10; i++){
      %><tr><td><%=i%></td></tr><%
    }
  %>
</table>
</body>
</html>
```

- JSP is short for Java Server Pages. JSP was a reaction to the complaints that embedding HTML inside Servlets (Java code) was a bad idea.
- If the layout across a site needed to be changed, you would have to do so in the Java code. This wasn't always that easy to do, since HTML generating code was interleaved with domain logic code. JSP was also a reaction to the then new web technologies ASP (Active Server Pages) from Microsoft, and PHP, which are both technologies similar JSP.
- In JSP the roles are reversed. In a JSP you write you HTML as you would in a standard HTML page. Then you can insert little pieces of Java code inside the HTML. For instance, you can repeat a piece of HTML, or choose between two pieces of HTML.

Reference

<http://tutorials.jenkov.com/java-web-apps/index.html>