

Unit 1. Task 3: Tomcat, Jakarta Project, JSP, Servlets

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1 Tomcat

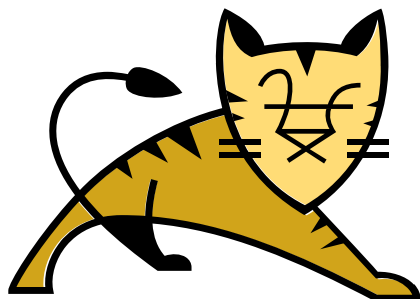


Figure 1: Tomcat logo

Apache Tomcat is a servlet container that can be used to compile and execute web applications coded in Java. It supports and implements servlets as well as JSP pages (Java Server Pages) or Java Sockets. Tomcat is also compatible with others tecnologies such us Java Expression Language and Java WebSocket.

Tomcat can work autonomously as Java web applications engine, although it is used to be combined with others products like Apache Web Server in order to bring a greater support technology and increase its features.

1.1 Releases

Tomcat has had the following versions:

Series	Release date	Latest release	Latest release date
2.0	1998	-	-
3.0	1999	3.3.2	09-03-2004
4.1	06-09-2002	4.1.40	25-06-2009
5.0	03-12-2003	5.0.03	30-08-2004
6.0	28-02-2007	6.0.53	07-04-2017
7.0	14-01-2011	7.0.109	26-04-2021
8.0	25-06-2014	8.0.53	05-07-2018
8.5	13-03-2016	8.5.72	06-10-2021
9.0	18-01-2018	9.0.54	01-10-2021
10.0	02-02-2021	10.0.12	01-10-2021

Table 1: Tomcat versions

1.2 Current version

Series 8.5 and 9 are still maintained. The current version is the 10.0.12.

2 Jakarta Project



Figure 2: Jakarta Project Logo

Founded in 1999, the Jakarta Project created and maintained open source software for the Java platform. The Jakarta Project was part of the Apache Software Foundation. In 2005, as a part of creating a easier internal structure in Apache, Jakarta subprojects began to become projects of Apache. This process has continued until 2011, when Jakarta was retired.

Some of the Jakarta subproject have become Apache top level projects (Tomcat, for example). Some others have been fusionated and others have been retired.

Ant	Avalon	BCEL	BSF	Commons
DB	Excalibur	Gump	HiveMind	HttpComponents
James	JCS	JMeter	Logging	Lucene
Maven	POI	Portals	Struts	Taglibs
Tapestry	Tomcat	Turbine	Velocity	Watchdog

Table 2: Ex-Jakarta subprojects

3 JSP



Figure 3: JSP logo

JSP is the acronym of Java Server Pages. As equal as PHP, it can be used with XHTML/HTML and XML formats. Its main characteristic is the possibility to include Java applications in the server side. It makes possible to process the web page before the user visualizes it in his browser. These applications are called servlets.

It requires a minimum set of exigences because inside the code is executed a servlet with its own engine inside the file.

Due to the fact that the language used is Java, it is cross-platform because it will run in a Java virtual machine.

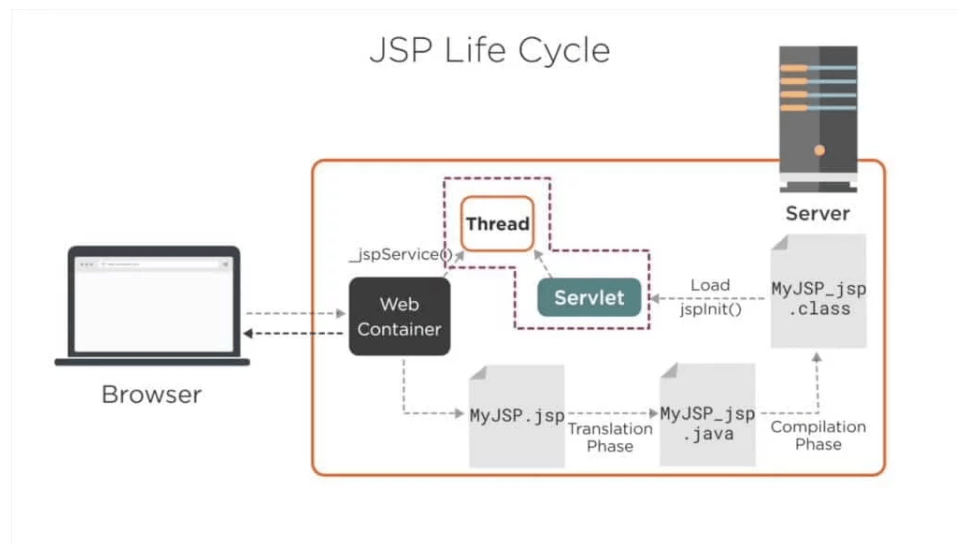


Figure 4: JSP life cycle

3.1 Scriptlet

An easy way to see how it works is by scriptlets. Scriptlets are Java fragments of code incrustrated inside the HTML file. Java code instructions are closed between the tags `<% %>`, like the PHP code (`<?php ?>`). Let's see an example:

```
<html>
  <head>
    <meta http-equiv="Content-Type"
      content="text/html; charset=UTF-8">
    <title>Scriptlet example in JSP</title>
  </head>
  <body>
    <h1>This is a practical example of Scriptlet in JSP</h1>
    <%
      int num = 3, factorial = 2;
```

```

        for(int i=num; i>2; i--) {
            factorial *= i; }
    %>
    <%— Inside the following tag will be the result
    of the factorial calculation using bold fonts —%>
    <%= "The factorial of <b>"+num+"</b> is <b>"+factorial+"</b>" %>
</body>
</html>

```

4 Servlets



Figure 5: Servlets logo

A servlet is a program coded in Java which is executed in a web server. It is used to build dynamic web pages, based in many variable sources: Data brought by the user, variable sources of information o programs that obtain information of a database.

4.1 Servlets and JSP

JSP and servlets are very close concepts. A JSP file, when it is translated and compiled into Java code, is a servlet. So we can almost talk about JSP and servlet without making any distinction because they are almost the same.

4.2 Current version

The current version of Servlets is the 5.0. The 6.0 is under development.

References

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