
SISTEMAS WEB

CURSO 2021/2022

JSP

JS vs JS



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JAVA SERVER PAGE (EJEMPLO 1)

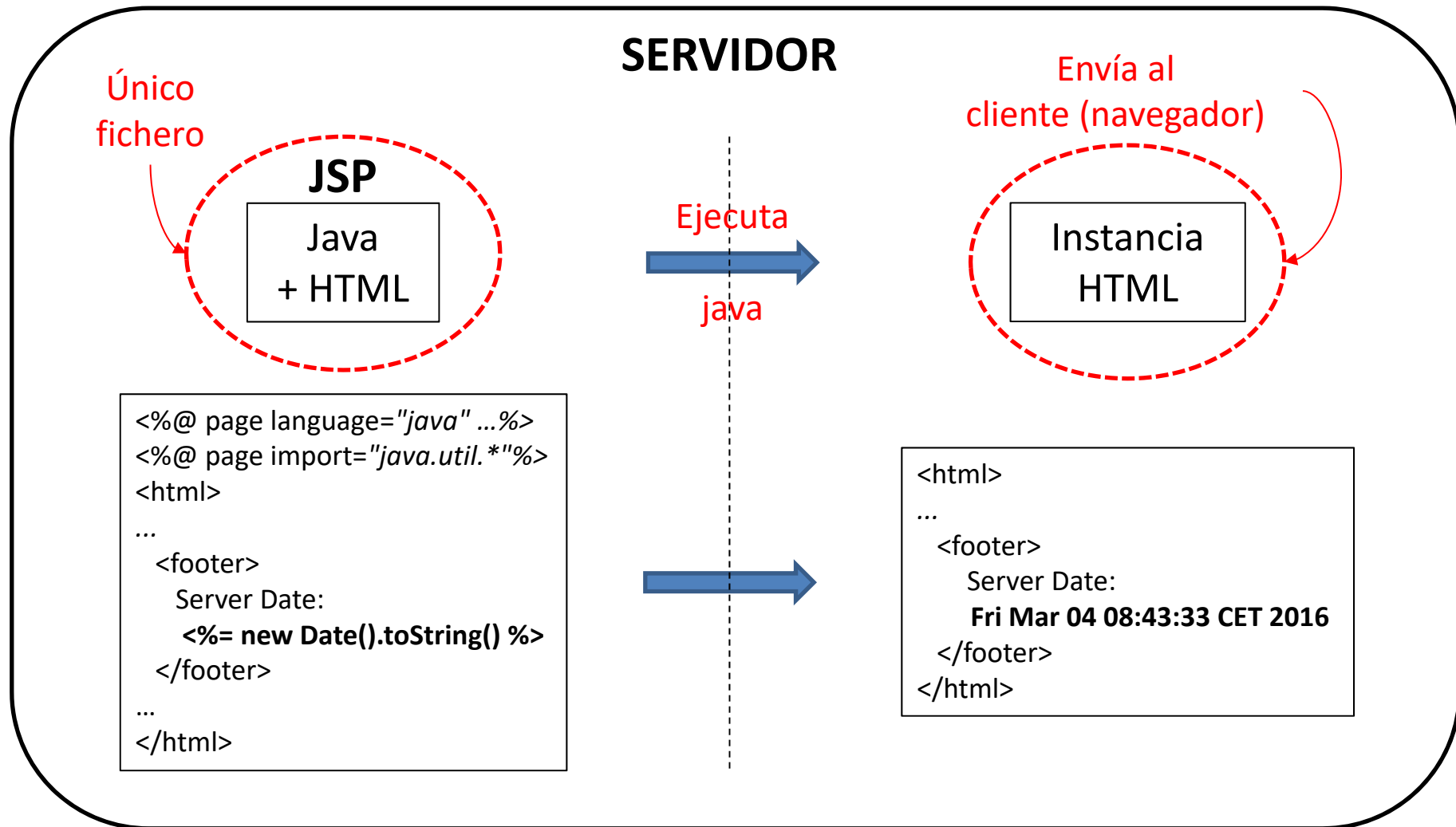
- En principio, las páginas HTML son documentos estáticos. Es decir:
 - para un contenido concreto en una pagina web hay un documento HTML concreto.
 - si se quiere cambiar el contenido de la pagina web se tiene que cambiar el documento HTML.
- Supongamos que en una pagina web se quiere imprimir la fecha, se necesitan tantos HTML como fechas diferentes.

<pre><html> ... <footer> Server Date: Fri Mar 04 08:43:33 CET 2016 </footer> ... </html></pre>	HTML 1
---	--------

<pre><html> ... <footer> Server Date: Fri Mar 04 08:43:34 CET 2016 </footer> ... </html></pre>	HTML 2
---	--------

<pre><html> ... <footer> Server Date: Fri Mar 04 08:43:59 CET 2016 </footer> ... </html></pre>	HTML N
---	--------

JAVA SERVER PAGE (EJEMPLO 1)



JAVA SERVER PAGE (EJEMPLO 2)

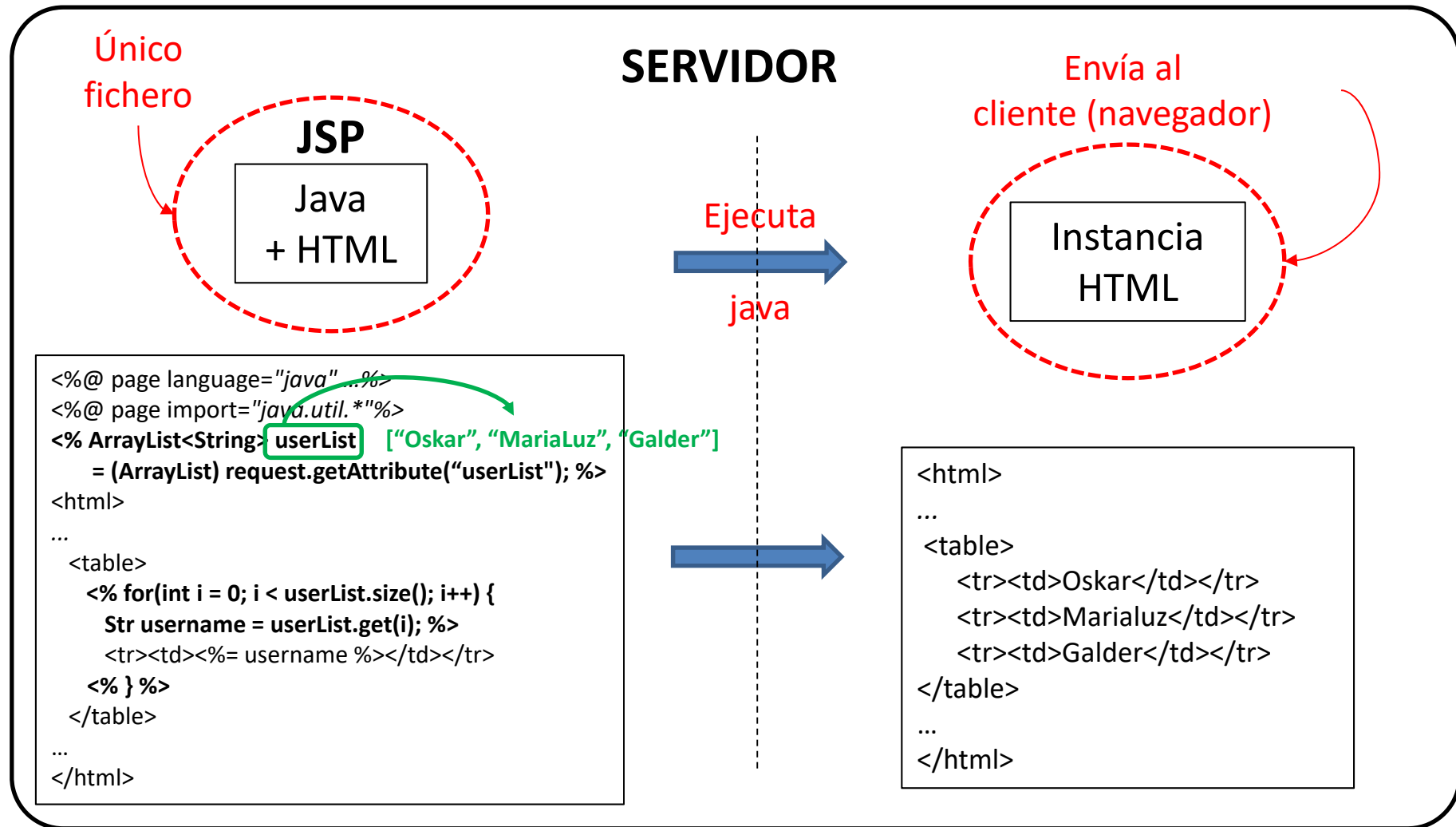
- Supongamos que en una pagina web se quiere imprimir el contenido de una base de datos en los instantes t=2, t=4 y t=6.
 - En el instante t=1 existe un solo registro.
 - En el instante t=3 se ha añadido otro registro.
 - En el instante t=5 se ha añadido un nuevo registro.
- En cada instante, la tabla HTML tendrá tantas filas como el número de registros de la base de datos en cada instante.

	HTML t=2
<pre><html> ... <table> <tr><td>Oskar</td></tr> </table> ... </html></pre>	

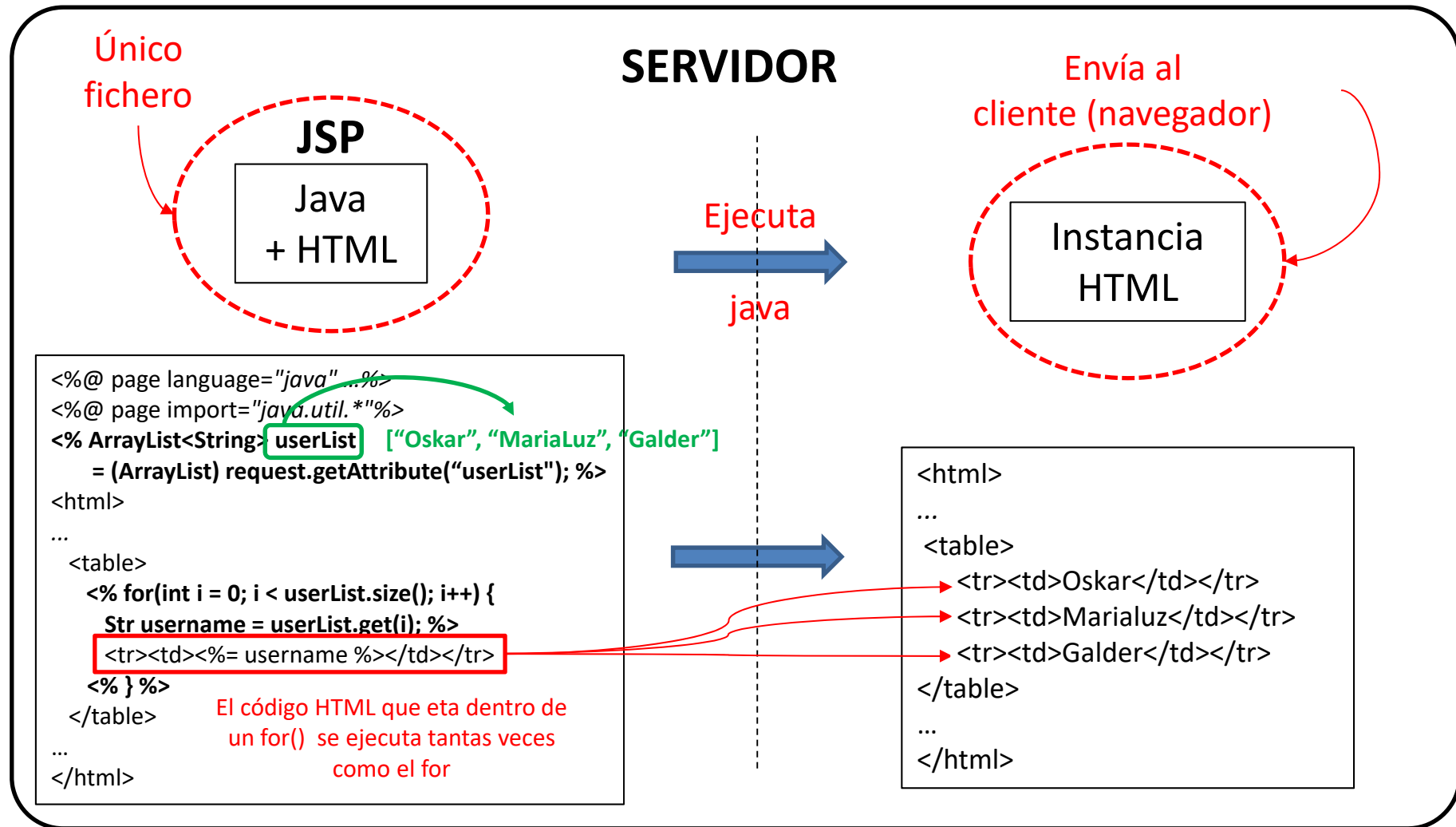
	HTML t=4
<pre><html> ... <table> <tr><td>Oskar</td></tr> <tr><td>Mariluz</td></tr> </table> ... </html></pre>	

	HTML t=6
<pre><html> ... <table> <tr><td>Oskar</td></tr> <tr><td>Mariluz</td></tr> <tr><td>Galder</td></tr> </table> ... </html></pre>	

JAVA SERVER PAGE (EJEMPLO 2)



JAVA SERVER PAGE (EJEMPLO 2)



ACTIVIDAD: EJERCICIO DE CABECERAS CON JSP

```
PrintWriter http_out = response.getWriter();
http_out.println("Cabeceras de Solicitud HTTP:");
http_out.println("<table border=\"1\">");
http_out.println("<tr>");
http_out.println("<th>NOMBRE CABECERA</th>");
http_out.println("<th>VALOR CABECERA</th>");
http_out.println("</tr>");
Enumeration<String> headerNames = request.getHeaderNames();
while(headerNames.hasMoreElements()) {
    http_out.println("<tr>");
    String headerName = (String)headerNames.nextElement();
    http_out.println("<td>");
    http_out.println(headerName);
    http_out.println("</td>");
    http_out.println("<td>");
    http_out.println(request.getHeader(headerName));
    http_out.println("</td>");
    http_out.println("</tr>");
}
http_out.println("</table>");
```

En este código queremos separar la vista (HTML) y el control (Java)

JAVA SERVER PAGE VS JAVASCRIPT

Servidor

```
<%@ page import="java.util.*"%>
...
<footer>
  Server Date: <%= new Date().toString() %>
  <script language="javascript">
    var fecha = new Date();
    document.write("Client Date: ");
    document.write(fecha);
  </script>
</footer>
```

JSP: se ejecuta en el servidor

```
...
<footer>
  Server Date: Fri Mar 04 08:43:33 CET 2016
  <script language="javascript">
    var fecha = new Date();
    document.write("Client Date: ");
    document.write(fecha);
  </script>
</footer>
```

Lo que llega al cliente

JAVA SERVER PAGE VS JAVASCRIPT

Le llega al cliente

```
...  
<footer>  
  Server Date: Fri Mar 04 08:43:33 CET 2016  
  <script language="javascript">  
    var fecha = new Date();  
    document.write("Client Date: ");  
    document.write(fecha);  
  </script>  
</footer>
```

JavaScript: se
ejecuta en el
cliente

```
Server Date: Fri Mar 04 08:43:33 CET 2016  
Client Date: Mon Mar 07 2016 16:04:47 GMT+0100
```

Se ve en el navegador

EJEMPLO JSP vs JS

The screenshot displays an IDE environment with the following components:

- Project Structure (Left Pane):**
 - JSPvsJS
 - Deployment Descriptor: JSPvsJS
 - JAX-WS Web Services
 - Java Resources
 - src
 - data
 - Data.java
 - Libraries
 - JavaScript Resources
 - build
 - WebContent
 - js
 - data.js
 - jsp
 - paginaweb.jsp
 - paginaweb2.jsp
 - META-INF
 - WEB-INF
 - lib
 - web.xml
- Data.java (Top Pane):**

```
1 package data;
2 import java.io.*;
3 import javax.servlet.*;
4 import javax.servlet.http.*;
5
6 public class Data extends HttpServlet{
7
8     public void doGet(HttpServletRequest request, HttpServletResponse response)
9         throws ServletException, IOException {
10
11         RequestDispatcher rd = request.getRequestDispatcher("/jsp/paginaweb.jsp");
12         rd.forward(request, response);
13
14     }
15 }
```
- paginaweb.jsp (Bottom Pane):**

```
<%@ page language="java" contentType="text/html; charset=ISO-8859-1" pageEncoding="ISO-8859-1"%>
<!DOCTYPE html PUBLIC "-//W3C//DTD HTML 4.01 Transitional//EN" "http://www.w3.org/TR/html4/loose.dtd">
<%@ page import="java.util.*" %>

<html>
<head>
<title>JSPvsJS</title>
</head>
<body>
    Server Date: <%= new Date().toString() %>
    <br/>
    <script language="javascript">
        var data = new Date();
        document.write("Client Date: ");
        document.write(data);
    </script>
</body>
</html>
```

EJEMPLO JSP vs JS

The screenshot shows an IDE with a project named 'JSPvsJS'. The left sidebar displays the project structure, including 'src', 'data', 'Libraries', 'JavaScript Resources', 'build', 'WebContent', 'js', 'META-INF', 'WEB-INF', and 'web.xml'. The 'js' folder contains 'data.js', 'paginaweb.jsp', and 'paginaweb2.jsp'. The 'data' folder contains 'Data.java'. The 'WebContent' folder contains 'js' and 'META-INF'. The 'WEB-INF' folder contains 'lib' and 'web.xml'. The 'web.xml' file is highlighted in red. The 'js' folder is also highlighted in red. The 'data.js' file is highlighted in red. The 'paginaweb.jsp' and 'paginaweb2.jsp' files are highlighted in blue. The 'Data.java' file is highlighted in blue. The 'Data.java' file is open in the editor, showing the following code:

```
1 package data;
2 import java.io.*;
3 import javax.servlet.*;
4 import javax.servlet.http.*;
5
6 public class Data extends HttpServlet{
7
8     public void doGet(HttpServletRequest request, HttpServletResponse response)
9         throws ServletException, IOException {
10
11         RequestDispatcher rd = request.getRequestDispatcher("/jsp/paginaweb2.jsp");
12         rd.forward(request, response);
13     }
14 }
15
16 }
```

The 'paginaweb2.jsp' file is also open in the editor, showing the following code:

```
<%@ page language="java" contentType="text/html; charset=ISO-8859-1" pageEncoding="ISO-8859-1"%>
<!DOCTYPE html PUBLIC "-//W3C//DTD HTML 4.01 Transitional//EN" "http://www.w3.org/TR/html4/loose.dtd">
<%@ page import="java.util.*" %>
<html>
<head>
<title>jspVSjs</title>
</head>
<body>
Server Date: <%= new Date().toString() %>
<br/>
<script src="/JSPvsJS/js/data.js"></script>
</body>
</html>
```

The 'data.js' file is also open in the editor, showing the following code:

```
var data = new Date();
document.write("Client Date: ");
document.write(data);
```

Annotations: A red arrow points from the 'data.js' file in the project structure to the 'data.js' file in the editor. A blue arrow points from the 'paginaweb2.jsp' file in the project structure to the 'paginaweb2.jsp' file in the editor. A blue arrow points from the 'Data.java' file in the project structure to the 'Data.java' file in the editor. A blue arrow points from the 'Data.java' file in the editor to the 'paginaweb2.jsp' file in the editor, specifically to the 'RequestDispatcher rd = request.getRequestDispatcher("/jsp/paginaweb2.jsp");' line. A red arrow points from the 'data.js' file in the editor to the 'data.js' file in the editor, specifically to the 'data.js' file in the editor.

JAVASCRIPT

“View Page Source”

```
<!DOCTYPE html PUBLIC "-//W3C//DTD HTML 4.01 Transitional//EN"

<html>
  <head>
    <title>jspVSjs</title>
  </head>
  <body>
    Server Date: Tue Mar 07 11:48:34 CET 2017
    <br/>
    <script src="/jspVSjs/js/data.js"></script>
  </body>
</html>
```

NOTA: JS puede cambiar el DOM de un documento HTML.

- Por tanto, la pagina web que descargamos y la que se ve en el navegador no tienen el mismo código.

“View Source Chart”

```
<!DOCTYPE html PUBLIC "-//W3C//DTD HTML 4.01 Transitional//EN"
"http://www.w3.org/TR/html4/loose.dtd">
<HTML>

  <head>
    <title>
      jspVSjs
    </title>
  </head>

  <body>
    Server Date: Tue Mar 07 11:48:34 CET 2017
    <br>
    <script src="/jspVSjs/js/data.js">
    </script>
    Client Date: Tue Mar 07 2017 11:48:34 GMT+0100 (Romance Standard Time)
  </body>

</html>
```