
GETTING CHECKBOX VALUES FROM HTML FORM IN SERVLET

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Environment Used

- JDK 6 (Java SE 6)
- Eclipse Indigo IDE for Java EE Developers (3.7.1)
- Apache Tomcat 6.x
- Java EE 5 API (Servlet 2.5)
- [Optional] For monitoring and analyzing HTTP headers between the browser and web servers, you can use one of these add-ons of Firefox
 - o Live HTTP Headers
 - o HttpFox

Setting up development environment

If you are new to developing Servlet with Tomcat and Eclipse, you can [read this page](#) before proceeding with this example.

Sending multiple values for single parameter

- If the same parameter name appears in the form data more than once, we use `getParameterValues` (which returns an array of strings) instead of `getParameter` (which returns a single string corresponding to the first occurrence of the parameter).
 - o The `<input type="checkbox">` and `<select>` allows user to select more than one option.

- The return value of `getParameterValues()` is null for nonexistent parameter names or none of the choices are selected.
- It is a one-element array when the parameter has only a single value.

HTML Form

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```
<html>
<head>
<title>
    Multiple Values Single Parameter
</title>
</head>
<body>
<h4>Please select your FAVORITE FRUIT(S)</h4>
<form action="multiplevalues.do" method="post">
<input type="checkbox" name="favoriteFruit" value="Apple">Apple<br>
<input type="checkbox" name="favoriteFruit" value="Banana">Banana<br>
<input type="checkbox" name="favoriteFruit" value="Orange">Orange<br>
<input type="checkbox" name="favoriteFruit" value="Pineapple">Pineapple<br>
<input type="checkbox" name="favoriteFruit" value="Strawberry">Strawberry<br>
<input type="submit" name="submit" value="My Favorite Fruits">
</form>
</body>
</html>
```

Checkbox elements should have same name

For checkbox elements, value should be different

The browser will send these form parameters to the Servlet

Defines a checkbox field. Checkboxes let a user to select one or more options of a limited number of choices.

Servlet Code

```
package com.ibc.multiplevalues;
```

```
import java.io.*;
import javax.servlet.*;
import javax.servlet.http.*;
```

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```
public class MultipleValuesSingleParamServlet extends HttpServlet
{
    public void doPost(HttpServletRequest request, HttpServletResponse response)
        throws ServletException, IOException
    {
        String[] favoriteFruits = request.getParameterValues("favoriteFruit");

        PrintWriter out = response.getWriter();
        response.setContentType("text/html");
        out.print("<html><body>");
        out.print("<h1> Your Favorite Fruits are</h1>");
        out.print("<ul>");
        for(String s : favoriteFruits)
        {
            out.print("<li>" + s + "</li>");
        }
        out.print("</ul>");
        out.print("</body></html>");
    }
}
```

This should match the checkbox

Method signature:

String[] getParameterValues(String name)

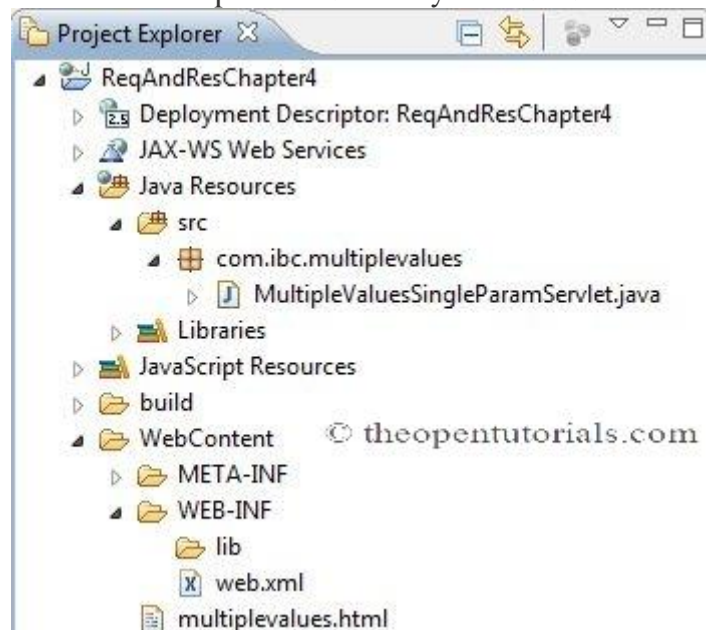
- Returns an array of String objects containing all of the values the given request parameter has, or null if the parameter does not exist.
- For Servlets, parameters are contained in the query string (GET request) or request body (POST request).
- This method should be used for the parameter which may have more than one value.
- If the parameter has a single value, the array has a length of 1.

web.xml

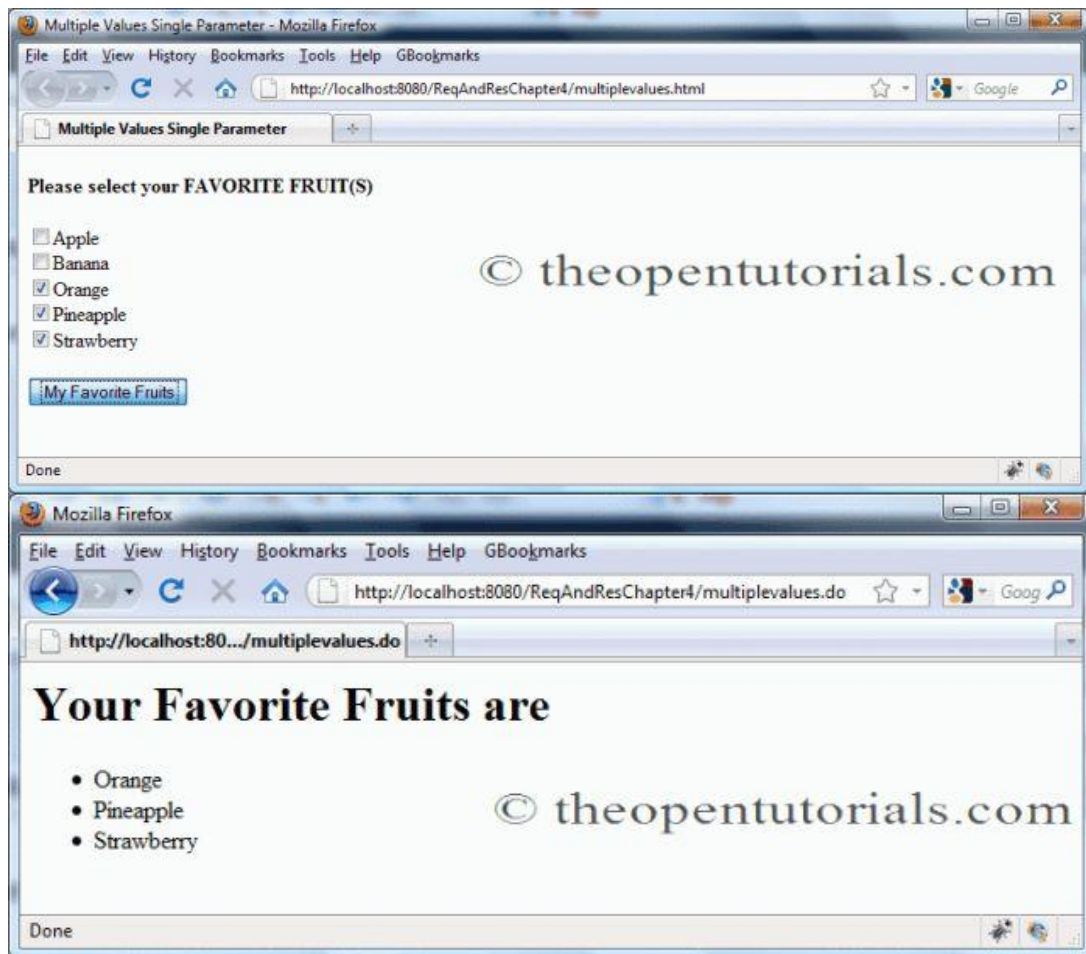
```
01 <?xml version="1.0" encoding="UTF-8"?>
02 <web-app xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
03     xmlns="http://java.sun.com/xml/ns/javaee"
04     xmlns:web="http://java.sun.com/xml/ns/javaee/web-app_2_5.xsd"
05     xsi:schemaLocation=
06         "http://java.sun.com/xml/ns/javaee http://java.sun.com/xml/ns/javaee/web-app_2_5.xsd"
07     id="WebApp_ID" version="2.5">
08     <servlet>
09         <servlet-name>MultipleValuesSingleParam</servlet-name>
10         <servlet-class>
11             com.abc.multiplevalues.MultipleValuesSingleParamServlet
12         </servlet-class>
13     </servlet>
14     <servlet-mapping>
15         <servlet-name>MultipleValuesSingleParam</servlet-name>
16         <url-pattern>/multiplevalues.do</url-pattern>
17     </servlet-mapping>
18 </web-app>
```

Project Folder Structure

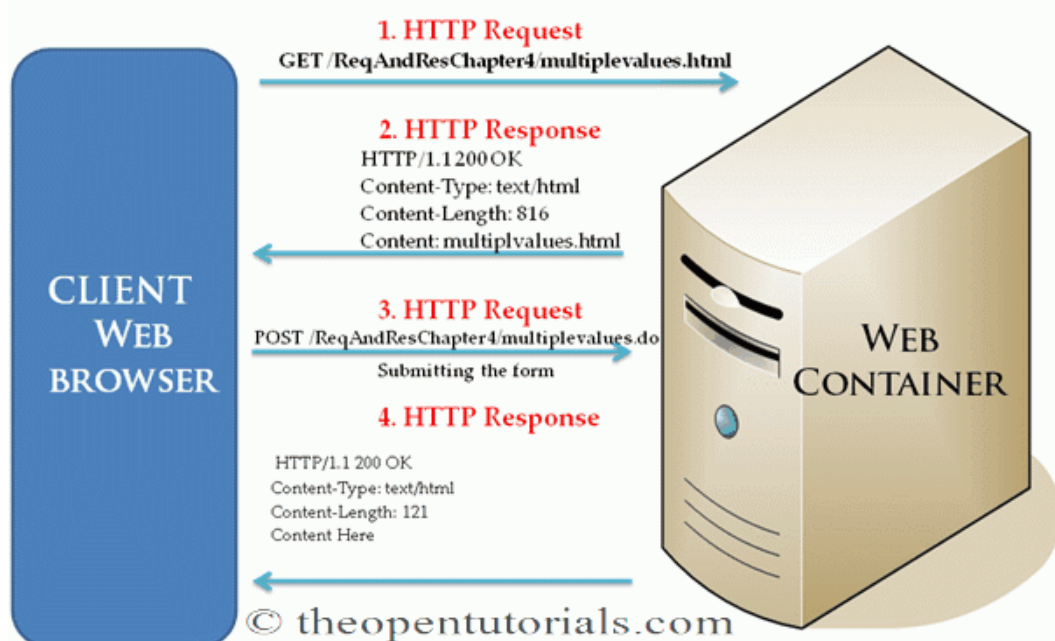
The complete directory structure of this project is shown below.



Output



Program Control Flow



- Web client (browser) requests the server/container for the HTML file (multiplevalues.html) through request URL.
- Container responds with the actual content of HTML file along with HTTP response headers.

- When the user submits the form, web client sends request to the Servlet along with form data in the body of HTTP header since it is a POST request.
- Servlet processes the form parameters and responds with the actual HTML content.

The content of HTTP request and response headers can be monitored using browser add-ons such as Live HTTP Headers, HttpFox, etc

Sample HTTP request and response headers using these add-ons is shown below.

HTTP Request

```
http://localhost:8080/ReqAndResChapter4/multiplevalues.html
GET /ReqAndResChapter4/multiplevalues.html HTTP/1.1
Host: localhost:8080
Accept: text/html,application/xhtml+xml,application/xml;q=0.9,*/*;q=0.8
Accept-Language: en-gb,en;q=0.5
Accept-Encoding: gzip,deflate
Connection: keep-alive
.....
.....
```

HTTP Response

```
HTTP/1.1 200 OK
Server: Apache-Coyote/1.1
Accept-Ranges: bytes
Content-Type: text/html
Content-Length: 816
Content: HTML Form (multiplevalues.html)
...
```

HTTP Request

http://localhost:8080/ReqAndResChapter4/multiplevalues.do

POST /ReqAndResChapter4/multiplevalues.do HTTP/1.1

Host: localhost:8080

User-Agent: Mozilla/5.0 (Windows; U; Windows NT 6.0; en-GB; rv:1.9.2.17) Gecko/20110420

Firefox/3.6.17 GTB7.1

Accept: text/html,application/xhtml+xml,application/xml;q=0.9,*/*;q=0.8

Referer: http://localhost:8080/ReqAndResChapter4/multiplevalues.html

Content-Type: application/x-www-form-urlencoded

Content-Length: 95

**favoriteFruit=Orange&favoriteFruit=Pineapple&favoriteFruit=Strawberry&
submit=My+Favorite+Fruits**

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FORM PARAMETERS

Form parameter in Request body, since it is a POST request.

HTTP Response

HTTP/1.1 200 OK

Server: Apache-Coyote/1.1

Content-Type: text/html

Content-Length: 121

<html><body>

<h1> Your Favorite Fruits are</h1>Orange

Pineapple Strawberry

</body></html>

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HTTP RESPONSE
HEADER

ACTUAL
CONTENT