

SESSIONS

- By default, HTTP protocol exhibits stateless behavior.
- The HTTP protocol doesn't remember anything about previous request, in the current request.
- Even though, same client is sending multiple requests to a server, HTTP protocol assumes that different clients are sending the requests.
- Each request will be treated as independent request to a server.
- By default, web application also exhibits stateless behavior.
- Session management is a mechanism, which provides stateful communication between a server and a client over multiple requests.
- Stateful behavior means, the web application will remember the information/data of a client over multiple requests.
- A session object is created in a server, for each client to manage the data/information of a client.
- The session objects are created as one per each client. Suppose, if there are two clients/users has logged in, then
- Two session objects are created.
- For example, one client/user has made 5 requests to a server, then one session object only created, because the client is one client only.

Syntax: `HttpSession session=req.getSession() :`

Creation of Session Object

- Call `getSession()` method of request object, to create a session object.
- `HttpSession session = request.getSession();`
- While calling `getSession()` method, we can pass a boolean value as a parameter also.
- `getSession()` and `getSession(true)` both behaviours like same. They return existing session object, if not exist then they create new session object.
- `getSession(false)` returns existing session object, if not exist then it returns null.

```
Syntax: HttpSession session=req.getSession();  
        HttpSession session=req.getSession(true);  
        HttpSession session=req.getSession(false);
```

Servlet1.java

```
package com.sessions;  
  
import java.io.IOException;  
import java.io.PrintWriter;  
  
import jakarta.servlet.ServletException;  
import jakarta.servlet.annotation.WebServlet;  
import jakarta.servlet.http.HttpServlet;  
import jakarta.servlet.http.HttpServletRequest;  
import jakarta.servlet.http.HttpServletResponse;  
import jakarta.servlet.http.HttpSession;  
  
@WebServlet("/login")  
public class Servlet1 extends HttpServlet{  
    @Override  
    protected void doPost(HttpServletRequest req, HttpServletResponse resp) throws  
ServletException, IOException {  
        String id=req.getParameter("id");  
        String password=req.getParameter("password");  
  
        //Creation of session object  
        HttpSession session=req.getSession(true);  
        // true -> new Session object  
        session.setAttribute("sid",id);
```

```
        session.setAttribute("pass", password);
        PrintWriter out=resp.getWriter();
        out.println("<a href=\"servlet2\">Page 2</a>");
        out.println("<a href=\"servlet3\">Page 3</a>");
    }
```

Servlet2.java

```
package com.sessions;

import java.io.IOException;
import java.io.PrintWriter;

import jakarta.servlet.ServletException;
import jakarta.servlet.annotation.WebServlet;
import jakarta.servlet.http.HttpServlet;
import jakarta.servlet.http.HttpServletRequest;
import jakarta.servlet.http.HttpServletResponse;
import jakarta.servlet.http.HttpSession;

@WebServlet("/servlet2")
public class Servlet2 extends HttpServlet{
    @Override
    protected void doGet(HttpServletRequest req, HttpServletResponse resp) throws
ServletException, IOException {
        HttpSession session=req.getSession(false);
        String id=(String)session.getAttribute("sid");
        String password=(String)session.getAttribute("pass");

        PrintWriter out=resp.getWriter();
        out.println("<h1>"+id+" "+password+" "+req.getRequestId()+"</h1>");
    }
}
```

```
}
```

Servlet3.java

```
package com.sessions;

import java.io.IOException;
import java.io.PrintWriter;
import jakarta.servlet.ServletException;
import jakarta.servlet.annotation.WebServlet;
import jakarta.servlet.http.HttpServlet;
import jakarta.servlet.http.HttpServletRequest;
import jakarta.servlet.http.HttpServletResponse;
import jakarta.servlet.http.HttpSession;

@WebServlet("/servlet3")
public class Servlet3 extends HttpServlet{

    @Override
    protected void doGet(HttpServletRequest req, HttpServletResponse resp) throws
ServletException, IOException {
        HttpSession session=req.getSession(false);

        String id=(String)session.getAttribute("sid");
        String pass=(String)session.getAttribute("pass");

        PrintWriter out=resp.getWriter();
        out.println("<h1>"+id+" "+pass+" "+req.getRequestId()+"</h1>");
    }
}
```

```
session.setMaxInactiveInterval(120);  
session.invalidate();  
  
//this method is used to destroy session  
}
```

```
]  
login.jsp
```

```
<%@ page language="java" contentType="text/html; charset=ISO-8859-1"  
    pageEncoding="ISO-8859-1"%>  
<!DOCTYPE html>  
<html>  
<head>  
<meta charset="ISO-8859-1">  
<title>Insert title here</title>  
</head>  
<body>  
<form action="login" method="post">  
Enter the id:  
<input type="number" name="id">  
<br>  
Enter the Password:  
<input type="password" name="password">  
<br>  
<input type="submit" value="login">  
</form>  
</body>  
</html>
```