

## ASSIGNMENT 5

### Aim : Validation using Servlet

Problem Statement : Understand servlet life cycle, create login page and apply proper validations with appropriate messages using `doGet()` / `doPost()` methods.

### Theory :

#### 1) What is servlet?

- Servlets are like applets but on server side. A server is any class that implements the `javax.servlet.Servlet` interface.
- It is a simple Java class, which is dynamically loaded on a web server and enhances the functionality of a web server.

#### • Types of Servlets :

##### 1) Generic Servlet

- `javax.servlet` (package)
- extends `javax.servlet.Servlet`
- service method

##### 2) HTTP Servlet

- `javax.servlet.http` (package)
- extends `javax.servlet.HttpServlet`
- `doGet()`, `doPost()`, ...

#### • Life cycle of servlet :

- The servlet is initialized by calling the `init()` method.
- The servlet calls `service()` method to process a client's request.
- The servlet is terminated by calling the `destroy()` method.
- Finally, servlet is garbage collected by garbage collector of the JVM.

#### 2) Advantages of Servlet

- Better performance - because it creates a thread for each request, not process.
- Portability - because it uses Java language.
- Robust - JVM manages servlets, so we don't need to worry about memory leak, garbage collection, etc.
- Secure - because it uses Java language.
- Extensible - Servlets written in Java, can be extended and polymorphed into the object that suits the user requirements.

### 3) Validations using doGet() / doPost() methods :

#### The doGet() Method :

A GET request results from a normal request for a URL or from an HTML form that has no Method specified and it should be handled by doGet() method.

Eg: public void doGet (HttpServletRequest request, HttpServletResponse response)

throws ServletException, IOException

{

// servlet code

}

#### The doPost() Method :

A POST request results from an HTML form that specifically lists POST as the METHOD and it should be handled by doPost() method

Eg: public void doPost (HttpServletRequest request, HttpServletResponse response)

throws ServletException, IOException

{

// servlet code

}

Conclusion : I studied the concepts of JAVA Servlets and servlet life cycle. I also implemented & created a login page using servlets and doGet() / doPost() methods.