**Parul**®University

NAAC A++

# Enterprise Programming using JAVA
## Chapter-2: Servlets

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# Content

## Servlets with annotation

Whenever an HttpRequest comes from the client browser, the servlet container will map the request to the corresponding servlet based on the URL mappings provided in the deployment descriptor file – web.xml.

## Servlets with annotation

**For example:** Consider the below servlet mappings in the web.xml file.

```
<servlet>
<servlet-name>HelloServlet</servlet-name>
<servlet-class>HelloServlet</servlet-class>
</servlet>

<servlet-mapping>
<servlet-name>HelloServlet</servlet-name>
<url-pattern>/hello</url-pattern>
</servlet-mapping>
```

## Servlets with annotation

Here, whenever there is a "**/hello**" URL coming from the client request, we are mapping it to the "**HelloServlet**" class.

Instead of providing these mappings in the **web.xml** file, we can simply provide an annotation in the Servlet as below,

## Servlets with annotation

```
@WebServlet("/hello")
public class HelloServlet extends HttpServlet {
        // Code to be executed...
}
```

Java Servlets provides a number of annotations to allow users to declare servlets, filters, listeners in the **javax.servlet.annotation** package.
It also provides annotations to specify metadata for the components that are declared.

## Servlets with annotation

**Annotation Type WebServlet:**

public @interface WebServlet

- Available in javax.servlet.annotation package.
- Used to declare a Servlet.
- At the time of deployment, the servlet container will identify and process the annotation and makes the corresponding servlet available at the specified URL patterns.

## Servlets with annotation

**Servlet with Annotation Examples**

we will create a simple HTML page to map the Servlet with the URL.
**Example 1:**
**Servlet annotated with only URL pattern:**
**index.html**

## Servlets with annotation

**Servlet with Annotation Examples**
```
<!DOCTYPE html>
<html>
<head>
<meta charset="ISO-8859-1">
<title>Home</title>
</head>
<body>
        <form action="hello" method="post">

                Welcome Page: <input type="submit" />

        </form>
</body>
</html>
```

## Servlets with annotation

**Servlet with Annotation Examples: HelloServlet.java**

```java
@WebServlet("/hello")
public class HelloServlet extends HttpServlet {
        private static final long serialVersionUID = 1L;
        protected void doPost(HttpServletRequest request,
        HttpServletResponse response)   throws
ServletException, IOException
        {
                // set the response content type
                response.setContentType("text/html");
                PrintWriter out = response.getWriter();
```

## Servlets with annotation

**Servlet with Annotation Examples: HelloServlet.java**

```
                // Print hello message to the client browser in
                // response object
                out.println( "<h3>Hello, Welcome to parul
University!!</h3>");
                out.close();
}}
```

- When user clicks submit for the welcome page, container will process the "**@WebServlet("/hello")**" annotation and maps the "**HelloServlet**" class.
- As the method is mentioned as "**post**" in Html page, container will execute "**doPost()**" method in "**HelloServlet**" class.

# PPT Content Resources Reference Sample:

1. **Book Reference**

   Jim Farley, William Crawford, David Flanagan. Java Enterprise in a Nutshell, O'Reilly

2. **Book Reference**

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3. **Website Reference**

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4. **Sources**

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5. **Article**

   https://www.researchgate.net/publication/276412369_Advanced_Java_Programming