



Vidyavardhini's College Of Engineering & Technology

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ROLL NO. : 16

SUBJECT : FULL STACK JAVA

AIM :

Program on Implementing Generic and HTTP servlet.

Description:

This program illustrates the use of **Generics** for reusable, type-safe classes and **HTTP Servlets** for handling web requests and generating dynamic responses in Java.

CODE :

// File: Box.java

// Generic class

```
public class Box<T> {
```

```
    private T value;
```

```
    public void setValue(T value) {
```

```
        this.value = value;
```

```
    }
```

```
    public T getValue() {
```

```
        return value;
```

```
    }
```

```

}
// File: GenericServlet.java
import java.io.IOException;
import java.io.PrintWriter;
import javax.servlet.ServletException;
import javax.servlet.annotation.WebServlet;
import javax.servlet.http.HttpServlet;
import javax.servlet.http.HttpServletRequest;
import javax.servlet.http.HttpServletResponse;

// URL pattern for accessing servlet
@WebServlet("/genericServlet")
public class GenericServlet extends HttpServlet {
    private static final long serialVersionUID = 1L;

    protected void doGet(HttpServletRequest request,
        HttpServletResponse response)
        throws ServletException, IOException {

        // Generics example in servlet
        Box<Integer> intBox = new Box<>();
        intBox.setValue(100);

        Box<String> strBox = new Box<>();
        strBox.setValue("Hello Servlet with Generics");

        // Set content type
        response.setContentType("text/html");
        PrintWriter out = response.getWriter();

        // Display output
        out.println("<html><body>");
    }
}

```

```
        out.println("<h2>Generics in Servlet Example</h2>");
        out.println("<p>Integer Value: " + intBox.getValue() + "</p>");
        out.println("<p>String Value: " + strBox.getValue() + "</p>");
        out.println("</body></html>");
    }
}
```

OUTPUT :

Generics in Servlet Example

Integer Value: 100

String Value: Hello Servlet with Generics

CONCLUSION :

This program demonstrates Generics for type-safe, reusable code and HTTP Servlets for dynamic web responses, showing how Java handles both console and web-based applications efficiently.