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## 18. Implementation of Servlets.

Aim/Objective: To understand the concept of servlets in Java and implement them in a web application.

pescription: The student will understand the concepts of servlets, which are Java classes used to extend the functionality of web servers and handle client requests.

Pre-Requisites: Classes, Objects, Java Servlet API, Understanding of HTTP protocol and web development concepts.

Tools: Eclipse IDE for Enterprise Java and Web Developers, Apache Tomcat - Web Server, Java Servlet APIs.

#### Pre-Lab:

1) Explanation of what a servlet is and how it differs from other Java classes. What are the main advantages of using servlets in web development?

A Servet is a jour class that extend sure b server capabilities to handle HTTP requests and deliver dynamic content unlike standard jour classes, servets on a server and Support elient server interactions.

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2) Write a servlet application code to print the current date and time.

Public class Dataline seneralet extands

Protected void doget (HHpsenvet request request,
HHpsenvlet Response response)

throws sowlet Exception, To Exception E
response, set content Type ("text 1 html");
Pontwister and = response get wister (1)
and . Romaln ("chiml > chody>");
and . Ponten ("chi> wrosent Data 4 Time;")
new Date (1) + "C/h1");
and . Providen ("c/body> 2/html>");
and . Providen ("c/body> 2/html>");
Oud . close (1);

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#### In-Lab:

1) You are developing a voter eligibility checker web application. The application should accept the user's age and name through a form submission and display a message indicating whether the user is eligible for voting or not. In this scenario, implement a servlet called "VoterEligibilityServlet" that handles the form submission and displays the eligibility message based on the user's age. If the age is 18 or above, display a message like "Hello [name], you are eligible to vote!" Otherwise, display a message like "Hello [name], you are not eligible to vote yet." Ensure proper validation and error handling for invalid input

Procedure/Program:

import jaan. servlet. httpservelet Requests.
import jaan. servlet. httpservlet Responsers.

Riblic Class voters Eligibitig Servlet extends

Hap servlet &

Botceted void dopost CHAApservlet Dequest,

Hapservlet Despore responses

Hapservlet Despore responses

Throws servlet Exception, To Exception.

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Experiment# Date Student ID **Student Name** response set ContentType ("text 1 html") Pointworter at = sexponse. getworters). Storng name = sequest get porometer ("none). Storing age str= request-get personneter (rage) int age = Integer, posallel cage sto); (f Cage >>18) E Out. Printiln ("Zhistello"+ nomes "+ you ore eligible to vote: (1h12) Out Pointela ("ChisHello"+ name+ "you ose not eligible to vote yet. (1/1) gratch (nombre Formad Exception e) { ad. Pontion ("chistmalid age input-please ontos avalid numbes (1615); out. dosel);

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## ✓ Data and Results:

The Server captures users input (name and age), checks eligibity for voting, and display's a message based on age critical

#### ✓ Analysis and Inferences:

This application effectively validates age input 4 provides feedbeek, ensuring user-friendly interaction by brandling both valid 4 invalid entires

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# VIVA-VOCE Questions (In-Lab):

1) What is a servlet? How does it relate to web development?

A servlet a java class extends web servers
functionality to hondle HTTP requests,
allowing do dynamic content generation
Tor web application.

2) How does a servlet handle client requests and generate responses?

A servlet Client requests, process them Cusually in the dochet EndoPost methods), and sends back response, typically in HTML Posmet

3) How can servlets handle user input data submitted through an HTML form?

Serviets octobive from data via request gettera meter in to access user input fieldy submitted through HTML roms.

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4) What is the role of a servlet in a web application

Servers some on the backhone for servers-side processing in jorg web application, managing client requests and generating dynamic content.

5) What are the steps involved in configuring and deploying a servlet in a web application

Define the searlet web-xml or use a motations,

complile the ode, and deploy it in a

server Ceg: To most to make it accessible

on the web.

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### Post-Lab:

a scenario where you need to retrieve user input from a form and display a customized response based on that input the entered data on the web page.

...

Public Class welcomeservet extends Httpsoontots
Protected void appost (Httpsoontet Regrest 'sequest,
Httpsoontet Response sesponse) Procedure/Program: Throws servlet Exception, To Exception &
response sed sontentType C" toxil himly Pointwoter out = sesponse. getwoiter ()) 5 Joing name = sequest getposameter ("noma), Stoing ageste= request-get Parsonneter ('age); Out. Pointen ("chimes chody >"); out points ("chi> wetome,"+ nome i"(chis") out Pointen ("Up> yours age is:"+age str +"LIP">"); out Point en ("Abody > alhtimes"), out. (bse ())

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#### ✓ Data and Results:

The servlet captures name 4 age from Users input and display a personalized message with his information.

#### ✓ Analysis and Inferences:

The demonstrates how servlets handle from data and dynamically generate that responses, enhancing user interactivity in web applications.

Evaluator Remark (if Any):	
	Marks Secured:out of 50
	Signature of the Evaluator with Date

Evaluator MUST ask Viva-voce prior to signing and posting marks for each experiment.

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