

EXPERIMENT NO. 4

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AIM : To design a Flask application that showcases URL building and demonstrates the use of HTTP methods (GET and POST) for handling user input and processing data.

PROBLEM STATEMENT :

Create a Flask application with the following requirements:

- 1. A homepage (/) with links to a "Profile" page and a "Submit" page using the url_for() function.**
- 2. The "Profile" page (/profile/<username>) dynamically displays a user's name passed in the URL.**
- 3. A "Submit" page (/submit) displays a form to collect the user's name and age. The form uses the POST method to send the data, and the server displays a confirmation message with the input.**

Theory:

1. What is a route in Flask, and how is it defined?

A route in Flask is a URL pattern that is associated with a specific function (view) that gets executed when the user accesses that URL. It is defined using the `@app.route()` decorator.

Example:

```
@app.route('/')
```

```
def home():
```

```
    return "Welcome to the homepage!"
```

2. How can you pass parameters in a URL route?

You can pass parameters in a URL route by including them in the route string using angle brackets (< >). These parameters are then passed as arguments to the view function.

Example:

```
@app.route('/user/<username>')

def show_user(username):

    return f"User: {username}"
```

3. What happens if two routes in a Flask application have the same URL pattern?

If two routes have the same URL pattern, Flask will raise an error (typically `AssertionError`) because routes must be unique. The second route defined with the same pattern will override the first one.

4. What are the commonly used HTTP methods in web applications?

The commonly used HTTP methods in web applications are:

- GET: Used to retrieve data from the server.
- POST: Used to send data to the server, typically to create or update resources.
- PUT: Used to update an existing resource.
- DELETE: Used to delete a resource.
- PATCH: Used to partially update a resource.

5. What is a dynamic route in Flask?

A dynamic route in Flask is a route that can accept variable data from the URL, making the route flexible. These routes use variables in the URL pattern, and the value of these variables is passed to the view function as arguments.

6. Write an example of a dynamic route that accepts a username as a parameter.

Example:

```
@app.route('/user/<username>')

def show_user(username):

    return f"Hello, {username}"
```

7. What is the purpose of enabling debug mode in Flask?

Enabling debug mode in Flask allows you to see detailed error messages, automatic reloading of the server when changes are made to the code, and other helpful features during development. It helps in identifying issues in the application during development.

8. How do you enable debug mode in a Flask application?

You can enable debug mode in Flask by setting the `debug` parameter to `True` when running the application or setting the `FLASK_ENV` environment variable to `development`.

Example:

```
if __name__ == '__main__':  
    app.run(debug=True)
```

Or set the environment variable before running the app:

```
export FLASK_ENV=development
```

```
flask run
```

Github: <https://github.com/ShravaniR2412/WebX-EXP4>

OUTPUT

This is Shravani's Flask Application

Welcome to Home Page . Choose a link to explore further:

[Go to Shravani's Page](#) | [Go to Janhavi's Page](#)

[Go to Submit Form](#)

Hello, Shravani!

Welcome to your personalized page. Have a great day!

[Back to Homepage](#)

[Go to Submit Form](#)

Hello, Janhavi!

Welcome to your personalized page. Have a great day!

[Back to Homepage](#)

[Go to Submit Form](#)

Submit Your Details

Name:

Age:

Submit

[Back to Homepage](#)

Submission Successful!

Thank you for submitting your details.

Name: Shravani Rasam

Age: 21

[Back to Homepage](#)