

Assignment -2
Flask Application Development

Assignment Date	10 October 2022
Student Name	DHANAVEL R
Register Number	822719104013
Maximum Marks	2 Marks

Question-1:

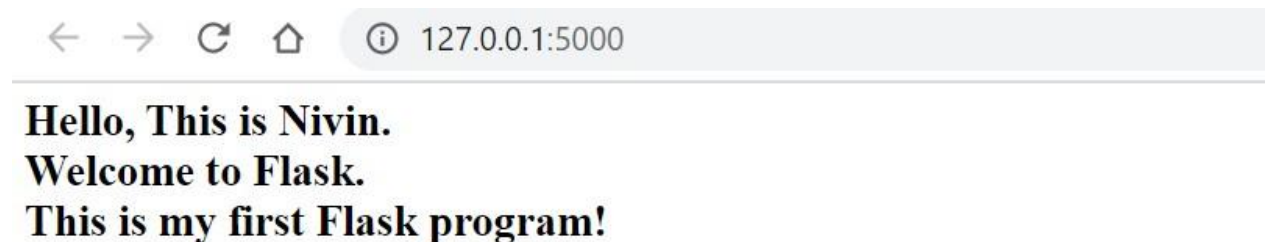
Create a Flask App

[Solution:](#)

[app.py:](#)

```
from flask import Flask
app = Flask(__name__)
@app.route("/")
def hello_world():
    return "<h1>Hello, This is Nivin. <br> Welcome to Flask.
    <br>This is my first Flask program!</h1>"
```

Output:



Question-2:

Add the Home page, About Page

[Solution:](#)

[app.py:](#)

```
from flask import Flask
from flask import render_template
```

```

app = Flask(__name__)

@app.route("/")
def hello_world():
    return "<h1>Hello, This is Nivin. <br> Welcome to Flask.
<br>This is a Flask program!</h1>"

@app.route("/home")
def home():
    return render_template('home.html')

@app.route("/about")
def about():
    return render_template('about.html')

@app.route("/profiles/<username>")
def profile(username):
    return " <h1>Hello,  "+ username  +".  Welcome  to  Flask
Programming!</h1>"

```

home.html:

```

<!DOCTYPE html>
<head>
    <title>
        Home
    </title>
    <link rel="stylesheet" href="static\css\home.css">
</head>
<body>
    <div class="titlediv">
        <h1>Home Page</h1>
    </div>
    <div class="bodydiv">
        <h3>
            This is home page for create home page assignment
        </h3>
    </div>
    
</body>
</html>

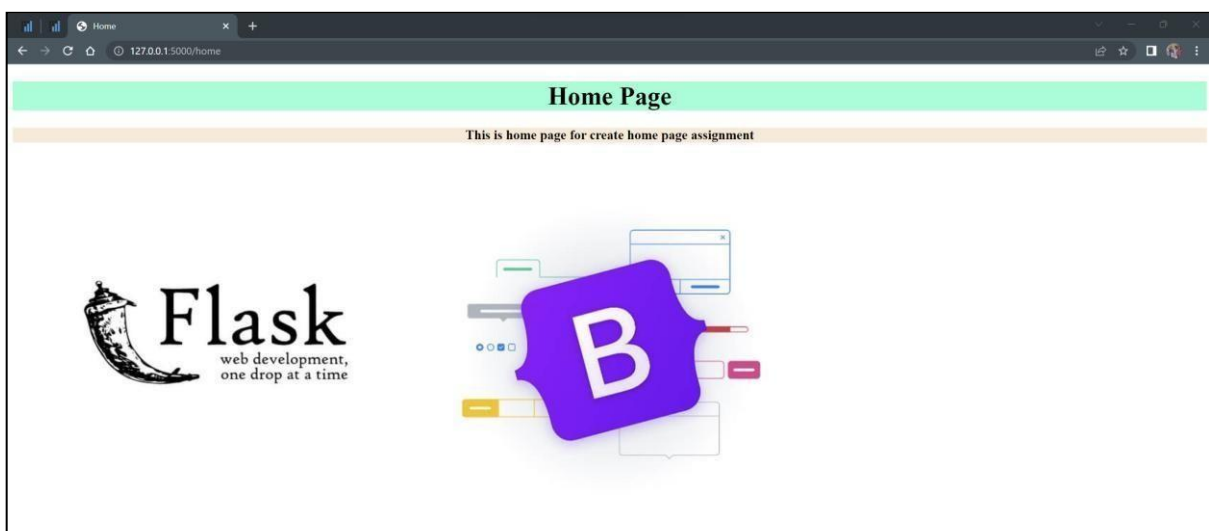
```

[about.html:](#)

```
<!DOCTYPE html>
<head>
  <title>
    About
  </title>
  <link rel="stylesheet" href="static\css\about.css">
</head>
<body>
  <div class="titlediv">
    <h1>About Page</h1>
  </div>
  <div class="bodydiv">
    <h3>
      This is about page for create about page assignment
    <br>
      This page is used to tell about the assignment that is
given to the flask
    <br>
    </h3>
  </div>
</body>
</html>
```

Output:

Home Page:



About Page:



Question-3:

Add the Bootstrap

Solution:

app.py:

```
from flask import Flask
from flask import render_template

app = Flask(__name__)

@app.route("/")
def welcome():
    return render_template("welcome.html")

@app.route("/bootstrap")
def bootstrap():
    return render_template('bootstrap.html')

@app.route("/withoutbootstrap")
def withoutbootstrap():
    return render_template('withoutbootstrap.html')
```

base.html:

```
<!DOCTYPE html>
<head>
    <meta charset="utf-8">
    <meta name="viewport" content="width=device-width, initial-
scale=1">
    <link
href="https://cdn.jsdelivr.net/npm/bootstrap@5.2.1/dist/css/bootstrap
.min.css" rel="stylesheet">
```

```

    <link
href="https://getbootstrap.com/docs/5.2/assets/css/docs.css"
rel="stylesheet">
    <script
src="https://cdn.jsdelivr.net/npm/bootstrap@5.2.1/dist/js/bootstrap.b
undle.min.js"></script>
    {% block head %} {% endblock %}
</head>
<body>
    <body background="static/images/signup.png">
    <div class="shadow p-3 mb-5 rounded">
        <nav class="navbar navbar-expand-md navbar-dark bg-dark">
            <div class="container-fluid">
                <div class="navbar-collapse collapse w-100 order-1
order-md-0 dual-collapse2">
                    <ul class="navbar-nav me-auto">
                        <li class="nav-item active">
                            <a class="nav-link" href="home">Home</a>
                        </li>
                        <li class="nav-item">
                            <a class="nav-link"
href="about">About</a>
                        </li>
                    </ul>
                </div>
                <div class="mx-auto order-0">
                    <a class="navbar-brand mx-auto"
href="home">Personal Expense Tracker Application</a>
                    <button class="navbar-toggler" type="button"
data-bs-toggle="collapse" data-bs-target=".dual-collapse2">
                        <span class="navbar-toggler-icon"></span>
                    </button>
                </div>
                <div class="navbar-collapse collapse w-100 order-3
dual-collapse2">
                    <ul class="navbar-nav ms-auto">
                        <li class="nav-item">
                            <a class="nav-link"
href="signin">Login</a>
                        </li>
                        <li class="nav-item">
                            <a class="nav-link"
href="signup">Register</a>
                        </li>
                    </ul>
                </div>
            </div>
        </nav>
    </div>
</body>

```

```
        </div>
    </nav>
</div>
{% block body %} {% endblock %}
</body></html>
```

home.html:

```
{% extends "base.html" %}

{% block head %}
    <title>Home</title>
{% endblock %}

{% block body %}
    <div style="text-align:center;" >
        
    </div>
{% endblock %}
```

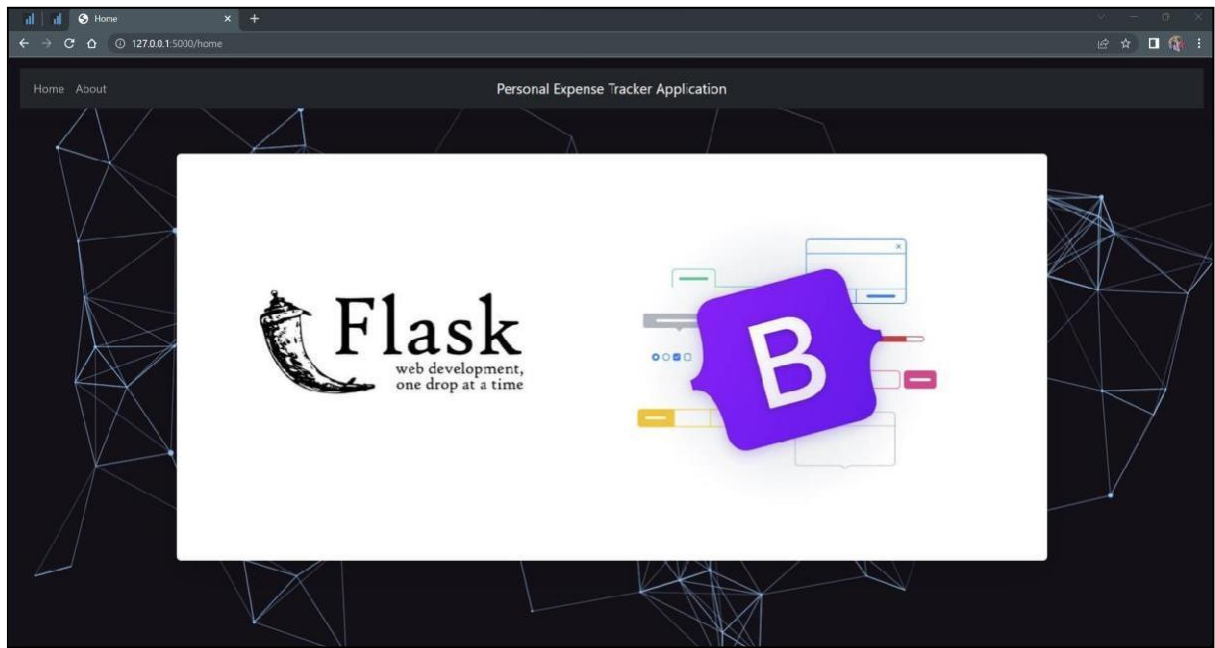
about.html:

```
{% block head %}
    <title>About</title>
{% endblock %}

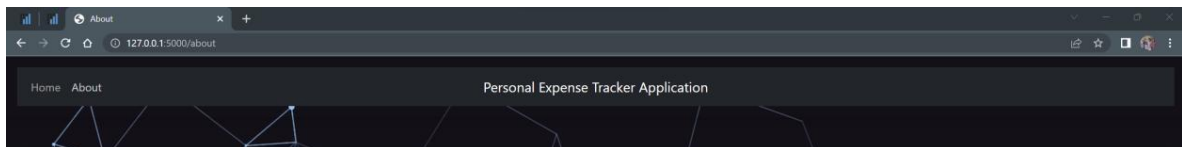
{% block body %}
    <div class="shadow-lg p-3 mb-5 bg-body rounded p-3 mx-auto">
        <h1 class="d-flex justify-content-center">About Page</h1>
        <h3>
            This is about page for create about page assignment
            <br>
            This page is used to tell about the assignment that is
given to the flask
            <br>
        </h3>
    </div>
{% endblock %}
```

Output:

Home Page:

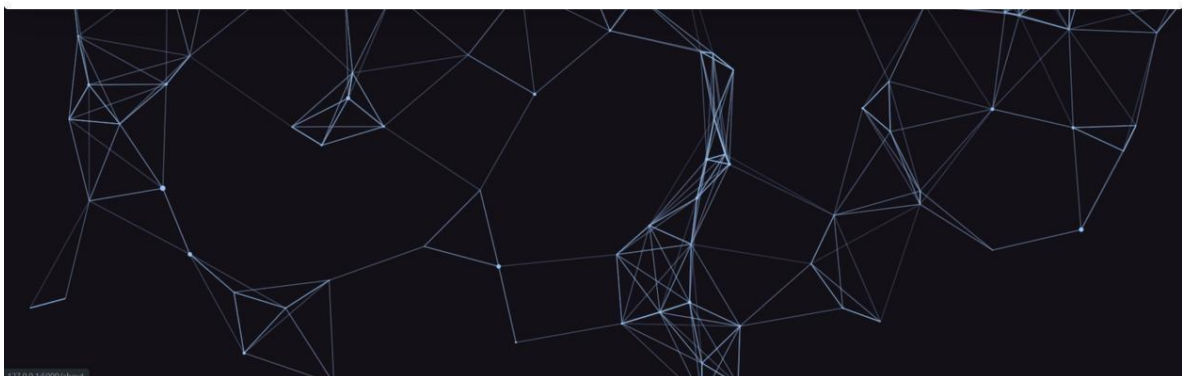


About Page:



About Page

This is about page for create about page using Bootstrap assignment
This page is used to tell about the assignment that is given to the flask



Question-4,5:

4. Add the Sign in page and add the Signup Page with database connectivity

5. Use IBM Db2 as Database.

Solution:

app.py:

```
from flask import Flask, render_template, request, url_for, flash,
redirect
import ibm_db

app = Flask(__name__)
app.debug=True

conn = ibm_db.connect("DATABASE=bludb;HOSTNAME=54a2f15b-5c0f-46df-
8954-
7e38e612c2bd.c1ogj3sd0tgtu0lqde00.databases.appdomain.cloud;PORT=327
33;SECURITY=SSL;SSLServerCertificate=DigiCertGlobalRootCA.crt;UID=cj
177846;PWD=k3WDjLvi6S4zsDZi", '', '')

@app.route("/")
def base():
    return render_template("base.html")

@app.route("/home")
def home():
    return render_template("home.html")

@app.route("/signup", methods=('GET', 'POST'))
def signup():
    if request.method == 'POST':
        name = request.form['firstname']
        email = request.form['femail']
        username = request.form['username']
        mobile = request.form['mobile']
        password = request.form['password']

        sql = "SELECT * FROM users WHERE name =? and username=?"
        stmt = ibm_db.prepare(conn, sql)
        ibm_db.bind_param(stmt,1,name)
        ibm_db.bind_param(stmt,2,username)
        ibm_db.execute(stmt)
        account = ibm_db.fetch_assoc(stmt)

        if account:
```



```

        return render_template('registered.html')
    else:
        insert_sql = "INSERT INTO users VALUES (?, ?, ?, ?, ?)"
        prep_stmt = ibm_db.prepare(conn, insert_sql)
        ibm_db.bind_param(prepare_stmt, 1, name)
        ibm_db.bind_param(prepare_stmt, 2, email)
        ibm_db.bind_param(prepare_stmt, 3, username)
        ibm_db.bind_param(prepare_stmt, 4, mobile)
        ibm_db.bind_param(prepare_stmt, 5, password)
        ibm_db.execute(prepare_stmt)
        return render_template('success.html')

    return render_template('signup.html')

@app.route("/about")
def about():
    return render_template('about.html')

@app.route("/signin" , methods=('GET', 'POST'))
def signin():
    if request.method == 'POST':
        femail = request.form['femail']
        fpassword = request.form['password']

        sql = "SELECT * FROM users WHERE email =? and password=?"
        stmt = ibm_db.prepare(conn, sql)
        ibm_db.bind_param(stmt,1,femail)
        ibm_db.bind_param(stmt,2,fpassword)
        ibm_db.execute(stmt)
        account = ibm_db.fetch_assoc(stmt)

        if account:
            return render_template('loginsuccess.html')
        else:
            return render_template('loginfailure.html')
    return render_template('signin.html')

if __name__ == '__main__':
    app.run()

```

base.html:

```

<!DOCTYPE html>
<head>
    <meta charset="utf-8">

```

```

        <meta name="viewport" content="width=device-width, initial-
scale=1">
        <link
href="https://cdn.jsdelivr.net/npm/bootstrap@5.2.1/dist/css/bootstrap
.min.css" rel="stylesheet">
        <link
href="https://getbootstrap.com/docs/5.2/assets/css/docs.css"
rel="stylesheet">
        <script
src="https://cdn.jsdelivr.net/npm/bootstrap@5.2.1/dist/js/bootstrap.b
undle.min.js"></script>
        {% block head %} {% endblock %}
</head>
<body>
    <body background="static/images/signup.png">
    <div class="shadow p-3 mb-5 rounded">
        <nav class="navbar navbar-expand-md navbar-dark bg-dark">
            <div class="container-fluid">
                <div class="navbar-collapse collapse w-100 order-1
order-md-0 dual-collapse2">
                    <ul class="navbar-nav me-auto">
                        <li class="nav-item active">
                            <a class="nav-link" href="home">Home</a>
                        </li>
                        <li class="nav-item">
                            <a class="nav-link"
href="about">About</a>
                        </li>
                    </ul>
                </div>
                <div class="mx-auto order-0">
                    <a class="navbar-brand mx-auto"
href="home">Personal Expense Tracker Application</a>
                    <button class="navbar-toggler" type="button"
data-bs-toggle="collapse" data-bs-target=".dual-collapse2">
                        <span class="navbar-toggler-icon"></span>
                    </button>
                </div>
                <div class="navbar-collapse collapse w-100 order-3
dual-collapse2">
                    <ul class="navbar-nav ms-auto">
                        <li class="nav-item">
                            <a class="nav-link"
href="signin">Login</a>
                        </li>
                        <li class="nav-item">

```

```

                                <a class="nav-link"
href="signup">Register</a>
                                </li>
                                </ul>
                                </div>
                                </div>
                                </nav>
                                </div>
                                {% block body %} {% endblock %}
</body>
</html>

```

signin.html:

```

{% extends "base.html"%}

{% block head %}
    <title>Sign In</title>
    <link rel="stylesheet"
href="https://cdnjs.cloudflare.com/ajax/libs/font-
awesome/5.13.0/css/all.min.css">
{% endblock %}

{% block body %}
    <form class="row g-3 needs-validation" novalidate novalidate
action = "{{ url_for('signin') }}" method = "POST">
        <div class="w-25 p-3 mx-auto shadow-lg p-3 mb-5 bg-body
rounded">
            <div class="mb-3" name="formpad">

                <label for="femail" class="form-label">Email:
</label>

                <input type="email" class="form-control"
name="femail" placeholder="Your Email" required>
                <div class="invalid-feedback">
                    Please enter valid email
                </div><br>

                <label for="password" class="form-label">Password :
</label>

                <input type="password" class="form-control"
name="password" placeholder="Your Password" required>
                <div class="invalid-feedback">
                    Please enter your password
                </div><br>

```

```

        <div class="col-12">
            <button class="btn btn-primary"
type="submit">Login</button>
        </div>
    </div>
</div>
</form>

<script>
    (function()
    {
        'use strict';
        window.addEventListener('load', function()
        {
            var forms = document.getElementsByClassName('needs-
validation');
            var validation = Array.prototype.filter.call(forms,
function(form)
            {
                form.addEventListener('submit', function(event)
                {
                    if (form.checkValidity() === false)
                    {
                        event.preventDefault();
                        event.stopPropagation();
                    }
                    form.classList.add('was-validated');
                }, false);
            });
        }, false);
    })();
</script>
{% endblock %}

```

signup.html:

```

{% extends "base.html"%}

{% block head %}
    <title>Signup</title>
{% endblock %}

{% block body %}
    <form class="row g-3 needs-validation" novalidate action =
"{{url_for('signup')}}" method = "POST">

```

```

<div class="shadow-lg p-3 mb-5 bg-body rounded w-25 p-3
mx-auto">
    <div class="mb-3" name="formpad">
        <label for="firstname" class="form-label">Name :
    </label>

        <input type="text" class="form-control"
name="firstname" placeholder="Your Name" required>
        <div class="invalid-feedback">
            Please enter your name
        </div><br>

        <label for="femail" class="form-label">Email:
    </label>

        <input type="email" class="form-control"
name="femail" placeholder="Your Email" required>
        <div class="invalid-feedback">
            Please enter valid email
        </div><br>

        <label for="username" class="form-label">Username
: </label>

        <input type="text" class="form-control"
name="username" placeholder="Your User Name" required>
        <div class="invalid-feedback">
            Please enter your username
        </div><br>

        <label for="mobile" class="form-label">Mobile :
    </label>

        <input type="text" class="form-control"
name="mobile" placeholder="Your mobile number" required>
        <div class="invalid-feedback">
            Please enter your mobile
        </div><br>

        <label for="password" class="form-label">Password
: </label>

        <input type="password" class="form-control"
name="password" placeholder="Your Password" onkeyup='check();'
required>
        <div class="invalid-feedback">
            Please enter your password
        </div><br>

        <label for="repassword" class="form-label">Re-
type password : </label>

```

```

        <input type="password" class="form-control"
name="repassword" placeholder="Re-type your Password"
onkeyup='check();'required>
        <div class="invalid-feedback">
            Please retype your password
        </div><br>

        <div class="col-12">
            <button class="btn btn-primary" type="submit"
onclick="matchPassword()">Register</button>
        </div>
    </div>
</div>
</form>

<script>
    (function()
    {
        'use strict';
        window.addEventListener('load', function()
        {
            var forms = document.getElementsByClassName('needs-
validation');
            var validation = Array.prototype.filter.call(forms,
function(form)
            {
                form.addEventListener('submit', function(event)
                {
                    if (form.checkValidity() === false)
                    {
                        event.preventDefault();
                        event.stopPropagation();
                    }
                    form.classList.add('was-validated');
                }, false);
            });
        }, false);
    }
    );

</script>
{% endblock %}

```

SQL Code :

```

CREATE TABLE users
( NAME VARCHAR(255),

```

```
email VARCHAR(255),  
username VARCHAR(255),  
mobile VARCHAR(255),  
password VARCHAR(255)  
);
```

Output:

Signin Page:

The screenshot shows a web browser window with the URL `127.0.0.1:5000/signin`. The page title is "Personal Expense Tracker Application". The navigation bar includes "Home" and "About" links on the left, and "Login" and "Register" links on the right. The main content area features a dark background with a white geometric pattern. A white login form is centered, containing the following fields and buttons:

- Email:
- Password:
- Login button: [Login](#)

Signup Page:

The screenshot shows a web browser window with the URL `127.0.0.1:5000/signup`. The page title is "Personal Expense Tracker Application". The navigation bar includes "Home" and "About" links on the left, and "Login" and "Register" links on the right. The main content area features a dark background with a white geometric pattern. A white signup form is centered, containing the following fields and buttons:

- Name:
- Email:
- Username:
- Mobile:
- Password:
- Re-type password:
- Register button: [Register](#)

Database Details:

The screenshot shows the IBM Db2 on Cloud web interface. The 'Tables' tab is selected, displaying a list of tables. The 'USERS' table is selected, and its definition is shown on the right. The table has five columns: NAME, EMAIL, USERNAME, MOBILE, and PASSWORD, all of type VARCHAR(255) and nullable.

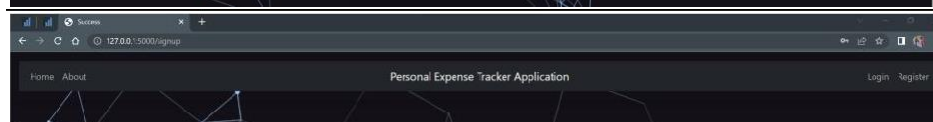
Name	Schema	Properties
USERS	EXY80423	...

Name	Data type	Nullable	Length	Scale
NAME	VARCHAR	Y	255	0
EMAIL	VARCHAR	Y	255	0
USERNAME	VARCHAR	Y	255	0
MOBILE	VARCHAR	Y	255	0
PASSWORD	VARCHAR	Y	255	0

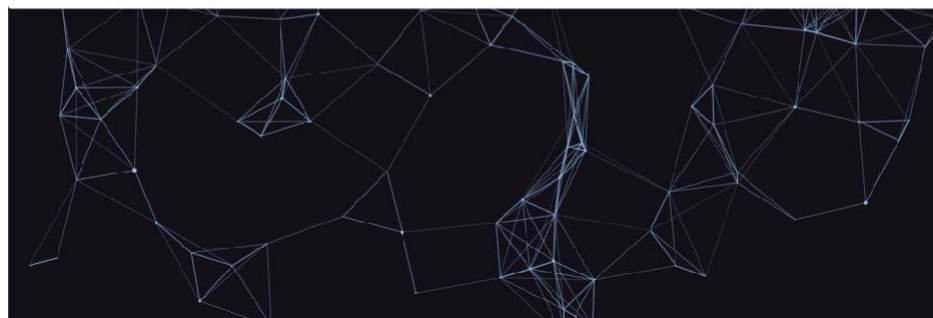
Registration Process:

If New User:

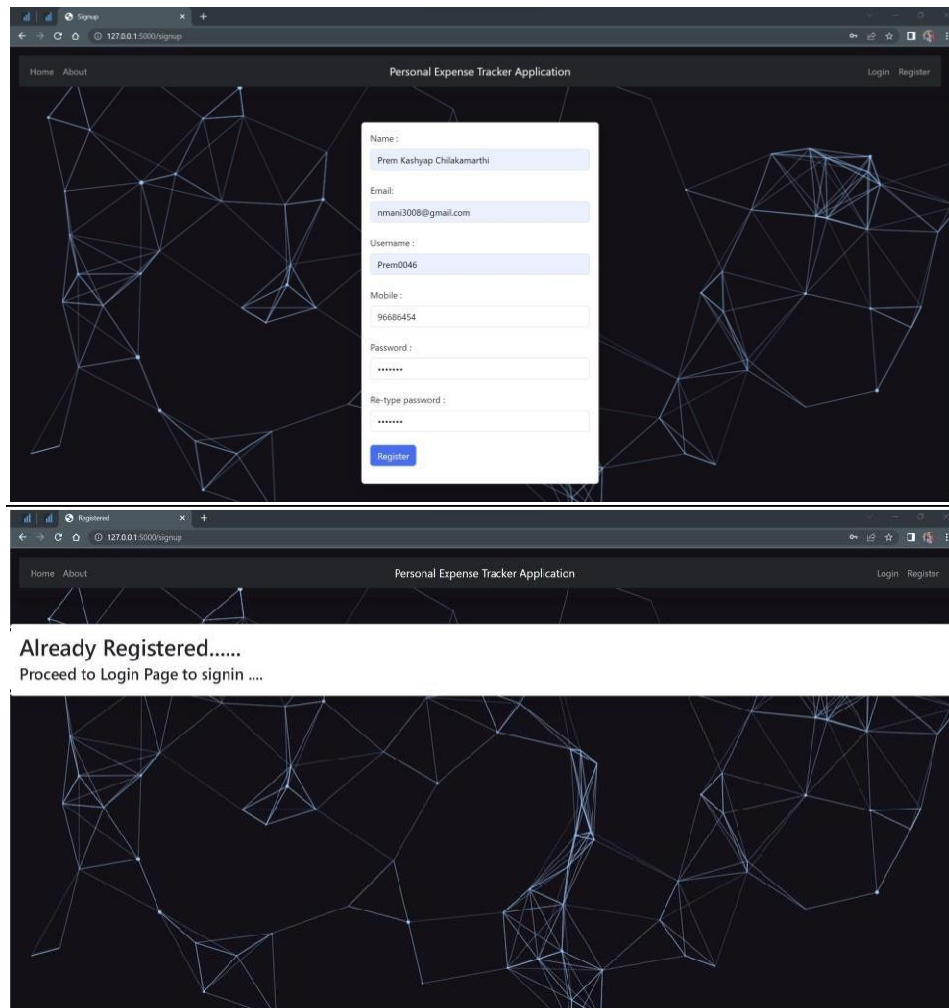
The screenshot shows the 'Personal Expense Tracker Application' registration form. The form is titled 'Personal Expense Tracker Application' and has a 'Login Register' link. The form fields are: Name (Prem Kashyap Chalakamathi), Email (nmani3008@gmail.com), Username (Prem0046), Mobile (96686454), Password (masked with asterisks), and Re-type password (masked with asterisks). A 'Register' button is at the bottom.



Registration successful...
Proceed to Login Page to signin

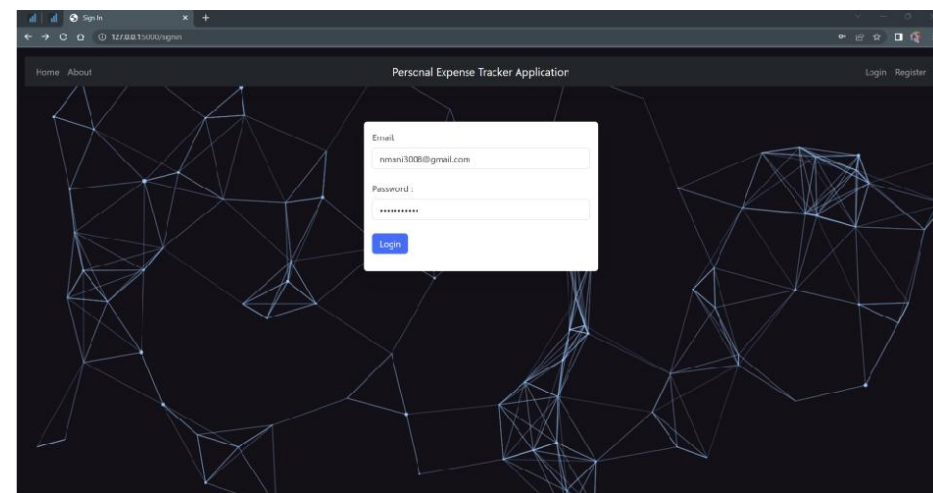


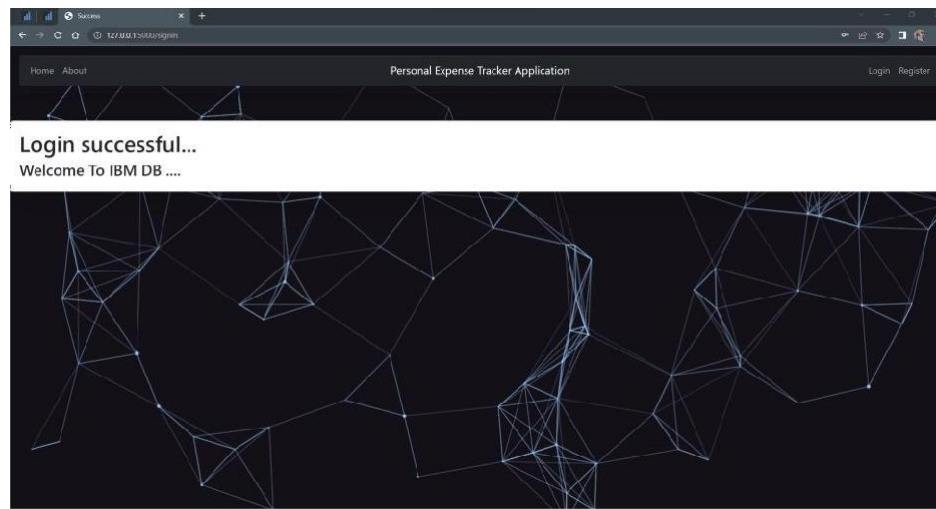
If already registered User:



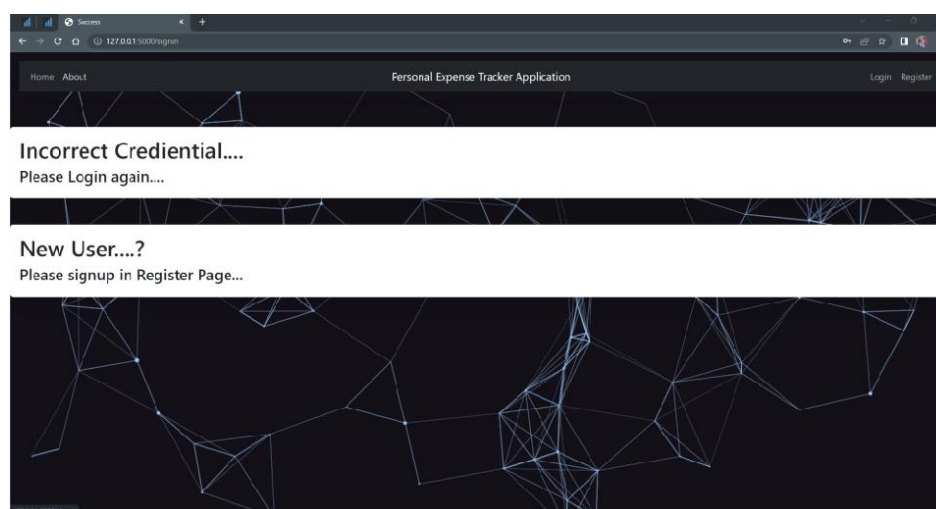
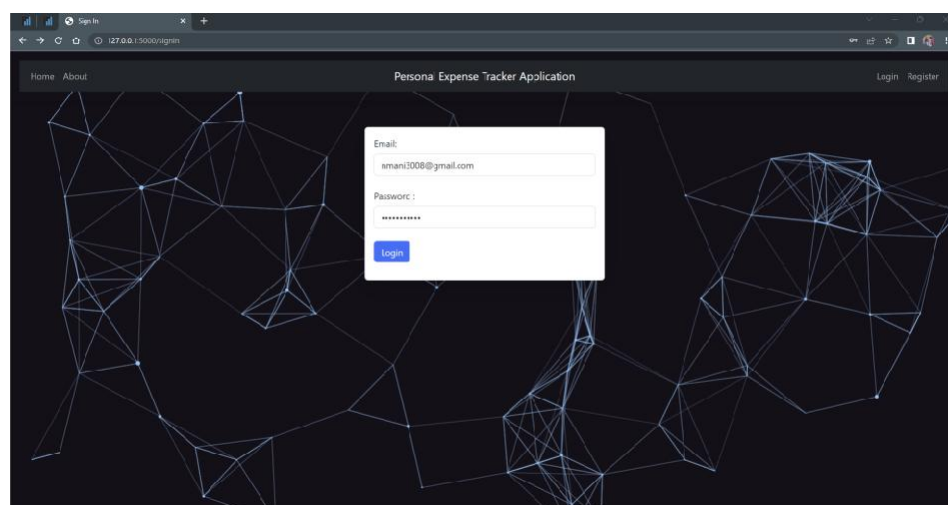
Login Process:

If already registered User:

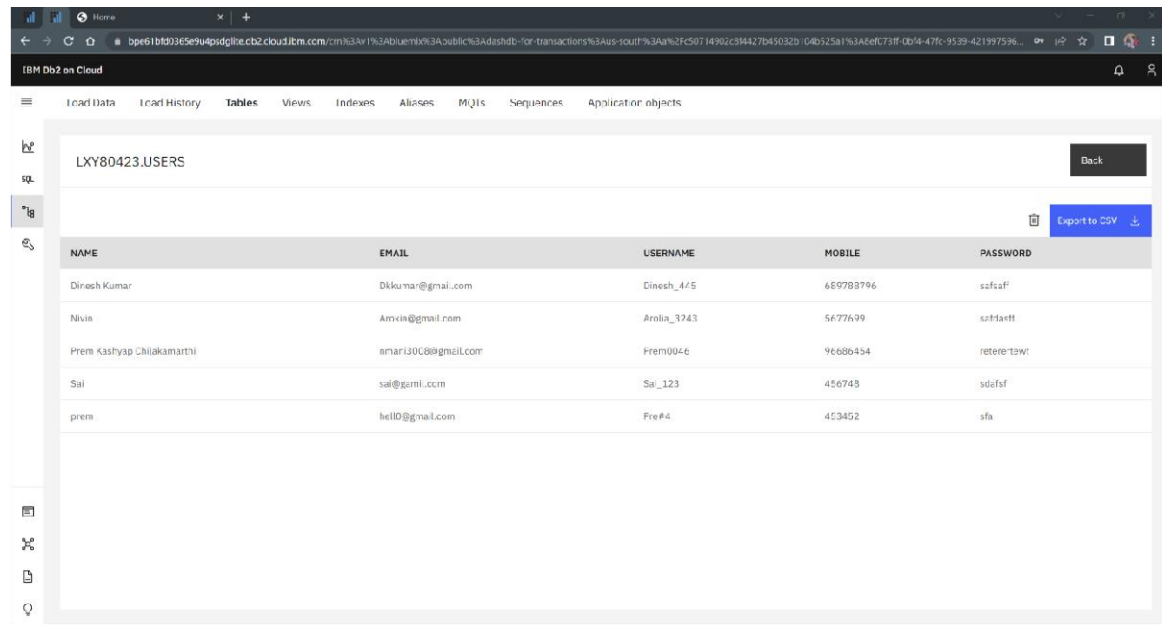




If Not Registered or Invalid Credentials:



Some User Deatails in IBM-db2:



The screenshot shows the IBM Db2 on Cloud web interface. The browser address bar displays a long URL. The interface includes a top navigation bar with tabs for 'Load Data', 'Load History', 'Tables', 'Views', 'Indexes', 'Aliases', 'MJIs', 'Sequences', and 'Application objects'. The 'Tables' tab is selected, showing a table named 'LXY80423.USERS'. A 'Back' button is in the top right corner. Below the table name, there is a trash icon and an 'Export to CSV' button. The table has five columns: 'NAME', 'EMAIL', 'USERNAME', 'MOBILE', and 'PASSWORD'. It contains five rows of user data.

NAME	EMAIL	USERNAME	MOBILE	PASSWORD
Direch Kumar	Dkkumar@gmail.com	Dinesh_445	669783796	szfratf
Nivis	Amcin@gmail.com	Amilia_3743	5677699	szfratf
Prem Kashyap Chilikamathi	amari3008@gmail.com	Prem0046	96686454	retete1awt
Sai	sai@gmail.com	Sa_123	466743	sdafsf
prem	hell0@gmail.com	Prem#4	463452	sfa