Phone No: 8763178948

Email: nayaksofia1989@gmail.com

Form Design: Queen Project

[Angular 17+Express.js+ Node.js+MySQL]

Company Name:

Link: Queens Agro Technology and Innovation Center

Project Assignment:

Build a form using Angular 17 for the front end and Node.js for the backend API to save user data. You're welcome to choose the database that best suits the project requirements.

Deadline: 25th Mar 2024 5:00 PM IST **User Info** First Name Last Name Preferred Name Pronouns Email Address (Work) Phone Number Fax Number Department Work Address Address Line 1 Address Line 2 Province Country Zip Code My Manager **Email Address** First Name Last Name **Social Profile** Facebook Linked In

Phone No: 8763178948

Email: nayaksofia1989@gmail.com

Requirements:

For Front End:

Angular-17

For Back End:

Node.js Express.js MySQL Database

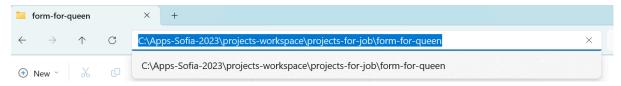
My GitHub Link: For Form Project

Clone Using The Web URL: https://github.com/nayaksofia/form-design-sofi.git

Backend-Part: [Express.js + Node.js + MySQL]

Step-1: Select the path, where you work onproject and type **cmd**. It opens the following:

1. Selected the path and typed cmd.



Phone No: 8763178948

Email: nayaksofia1989@gmail.com

2. Then it opened this cmd window.

```
C:\Windows\System32\cmc \times + \times \
Microsoft Windows [Version 10.0.22631.3296]
(c) Microsoft Corporation. All rights reserved.

C:\Apps-Sofia-2023\projects-workspace\projects-for-job\form-for-queen> \forall \end{align*
```



```
C:\Apps-Sofia-2023\projects-workspace\projects-for-job\form-for-queen>ng new queen-project

? Would you like to add Angular routing? Yes

? Which stylesheet format would you like to use? CSS

CREATE queen-project/angular.json (2735 bytes)

CREATE queen-project/package.json (1044 bytes)
```

```
CREATE queen-project/src/app/app.component.stm (23115 bytes)
CREATE queen-project/src/app/app.component.spec.ts (1012 bytes)
CREATE queen-project/src/app/app.component.spec.ts (1012 bytes)
CREATE queen-project/src/app/app.component.css (0 bytes)
CREATE queen-project/src/app/app.component.css (0 bytes)

CREATE queen-project/src/aps/app.component.css (0 bytes)

/ Packages installed successfully.

/ Packages installed success
```

Phone No: 8763178948

Email: nayaksofia1989@gmail.com Step-3: Install Express.js

```
C:\Apps-Sofia-2023\projects-workspace\projects-for-job\form-for-queen\\
npm WARN config global `--global`, `--local` are deprecated. Use `--location=global` instead.
Wrote to C:\Apps-Sofia-2023\projects-workspace\projects-for-job\form-for-queen\package.json:

{
    "name": "form-for-queen",
    "version": "1.0.0",
    "description": "",
    "main": "index.js",
    "scripts": {
        "test": "echo \"Error: no test specified\" && exit 1"
    },
    "keywords": [],
    "author": "",
    "license": "ISC"
}
```

Step-4: Install dependencies like < express, mysql, body-parser, cors > to connect with MySQL

```
C:\Apps-Sofia-2023\projects-workspace\projects-for-job\form-for-queen>npm install express mysql body-parser cors 

marn config global `--global`, `--local` are deprecated. Use `--location=global` instead.

added 78 packages, and audited 79 packages in 4s

12 packages are looking for funding run `npm fund` for details

found 0 vulnerabilities
```

```
EXPLORER
                                   {} package.json X
                                                    JS server.js U •
FORM-FOR-QUEEN
                                    {} package.json > ...
> node_modules

✓ gueen-project

                                       2
                                              "name": "form-for-queen",
                                              "version": "1.0.0",
                                       3
 > node_modules
                                              "description": "",
                                       4
 > src
                                              "main": "index.js",
                                       5
.editorconfig
                                               ▶ Debug
 aitignore
                                       6
                                              "scripts": {
{} angular.json
                                                "test": "echo \"Error: no test specified\" && exit 1"
                                       7
{} package-lock.json
                                       8
{} package.json
                                              "keywords": [],
                                       9
① README.md
                                              "author": "",
                                      10
 JS server.js
                                              "license": "ISC",
{} tsconfig.app.json
                                      11
                                              "dependencies": {
   "body-parser": "^1.20.2",
stsconfig.json
                                      12
{} tsconfig.spec.json
                                      13
{} package-lock.json
                                                 "cors": "^2.8.5",
                                      14
{} package.json
                                                 "express": "^4.19.2",
                                      15
                                                 "mysql": "^2.18.1"
                                      16
                                      17
                                      18
                                      19
```

Phone No: 8763178948

Email: nayaksofia1989@gmail.com

Step-5: Install MySQL2 <Switching from using mysql library to mysql2> npm install mysql2

```
C:\Apps-Sofia-2023\projects-workspace\projects-for-job\form-for-queen>npm install mysql2
npm WARN config global `--global`, `--local` are deprecated. Use `--location=global instead.

added 11 packages, and audited 90 packages in 4s

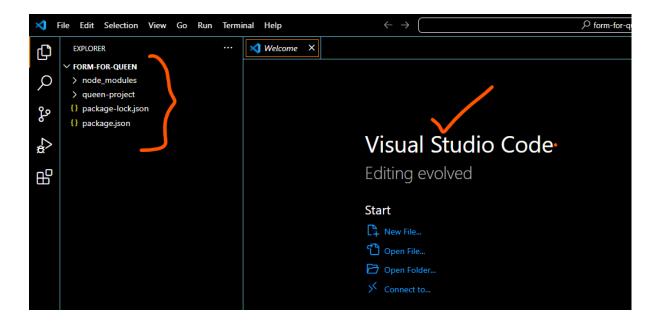
12 packages are looking for funding
    run `npm fund` for details

found 0 vulnerabilities
```

Now: the mysql2 version has been added, which will work properly.

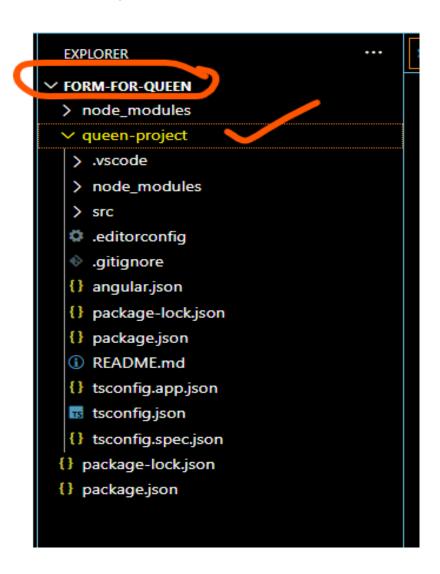
```
stsconfig.json
                                     12
                                              dependencies": {
                                               "body-parser": "^1.20.2",
{} tsconfig.spec.json
                                     13
{} package-lock.json
                                     14
                                               "cors": "^2.8.5",
{} package.json
                                               "express": "^4.19.2",
                                     15
                                               "mysql": "^2.18.1",
                                     16
                                     17
                                               "mysql2": "^3.9.3"
                                     18
                                     19
```

Step-6: Open VS Code



Phone No: 8763178948

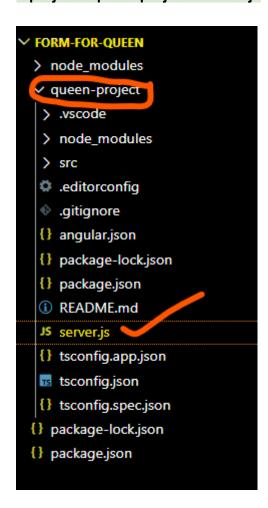
Step-7: Create file **server.js** inside the project folder <queen-project>



Phone No: 8763178948

Email: nayaksofia1989@gmail.com

Inside <project:: queen-project> server.js file is created i.e the following pic:



Phone No: 8763178948

Email: nayaksofia1989@gmail.com

Step-8: Define Configuration inside the server.js file

```
//let's define : dependencies
const express = require('express')
const bodyParser = require('body-parser') //to
understand json data body-parser is required
const cors = require('cors')
const mysql = require('mysql2')
//let's define : express operations
const app=express(); //express is initiated
//let's define : port
const port=3000;
//defining the cors- cross origin by receiving the data
in json format
app.use(cors()); //open to cross origin
app.use(bodyParser.json())
//Establish the connection with dB
const db=mysql.createConnection(
        host: 'localhost',
        user: 'root',
        password:'root',
        database: 'queen db'
);
//Verifying whether DB is connected or not
```

Phone No: 8763178948

Email: nayaksofia1989@gmail.com

```
db.connect(err=> {
    if(err) {
        console.log('Connection is not established with
    the db',err);
    }else {
        console.log('Connection established with db
    successfully');
    }
});

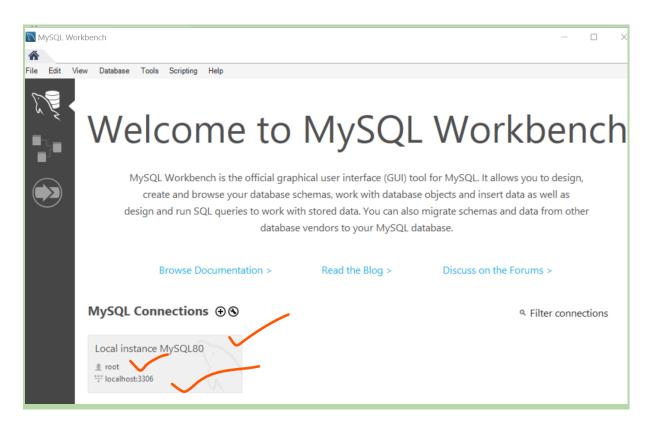
//Show :: On what port number having this application
app.listen(port, ()=> {console.log('Server port
    established on 3000')})
```

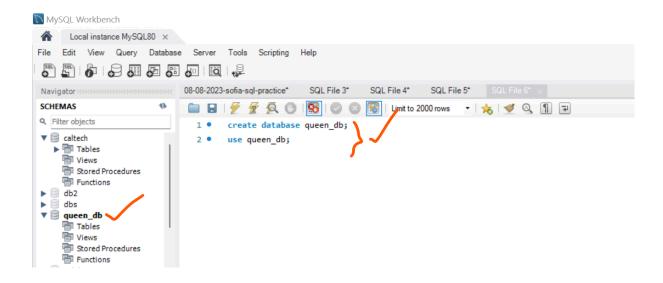
Step-9: Open MySQL Workbench and Create Database

My database name: queen db

Phone No: 8763178948

Email: nayaksofia1989@gmail.com



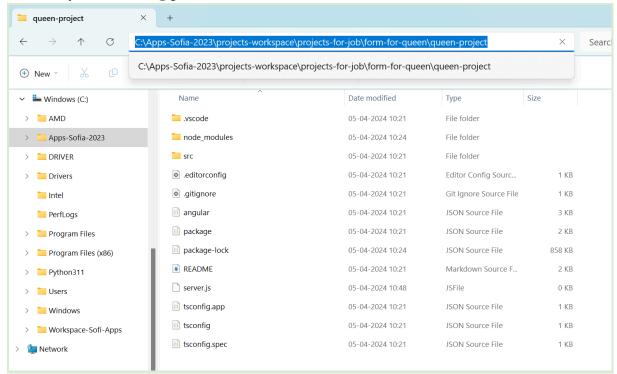


Step-10: Established Connect to server.js

- 1. Go to the path of the project and select the path up to the server.js file
- 2. Then type cmd and presser Enter → It will open another command prompt window
- 3. Where we connect the database by using the command \rightarrow node server.js

Phone No: 8763178948

Email: nayaksofia1989@gmail.com



A new command prompt window is opened for server connection.



Type: node server.js

C:\Apps-Sofia-2023\projects-workspace\projects-for-job\form-for-queen\queen-project>node server.js Server port established on 3000 Connection established with db succesfully

Step-11: Create Table Inside Database <queen_db>

create database queen_db;
use queen_db;

#Table-1 : User Information CREATE TABLE UserInformation (

```
Sofia Nayak
Phone No: 8763178948
Email: nayaksofia1989@gmail.com
  Id INT AUTO INCREMENT PRIMARY KEY,
  FirstName VARCHAR(255),
  LastName VARCHAR(255),
  PreferredName VARCHAR(255),
  Pronouns VARCHAR(50),
  EmailAddressWork VARCHAR(255),
  PhoneNumber VARCHAR(20),
  FaxNumber VARCHAR(20),
  Department VARCHAR(100)
);
#Table-2: User Work Address
CREATE TABLE UserWorkAddress (
  Userld INT,
  AddressLine1 VARCHAR(255),
  AddressLine2 VARCHAR(255),
  City VARCHAR(100),
  Province VARCHAR(100),
  Country VARCHAR(100),
  ZipCode VARCHAR(20),
  FOREIGN KEY (UserId) REFERENCES UserInformation(Id)
);
#Table-3: User Social Media
CREATE TABLE UserSocialMedia (
  Userld INT,
  LinkedIn VARCHAR(255),
  Facebook VARCHAR(255),
  Other VARCHAR(255),
  FOREIGN KEY (UserId) REFERENCES UserInformation(Id)
);
#Table-4: My Manager Information
CREATE TABLE ManagerInformation (
  Managerld INT,
  FirstName VARCHAR(255),
  LastName VARCHAR(255),
  EmailAddress VARCHAR(255),
  FOREIGN KEY (Managerld) REFERENCES UserInformation(Id)
);
```

Phone No: 8763178948

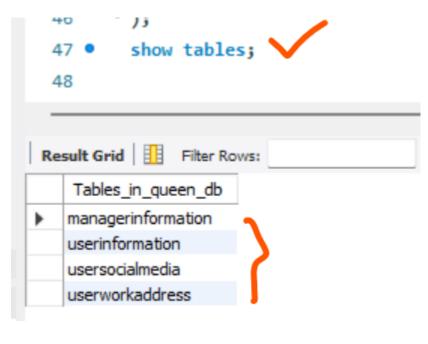
Email: nayaksofia1989@gmail.com

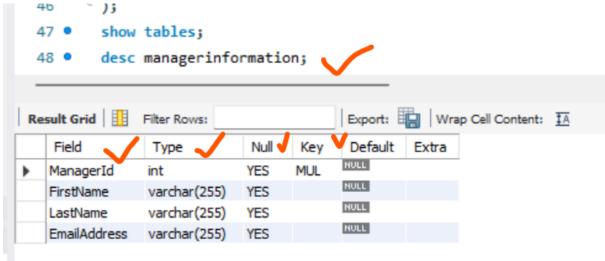
Here's the scenario:

The UserWorkAddress table uses the UserId foreign key to reference the Id column of the UserInformation table for storing work-related address information.

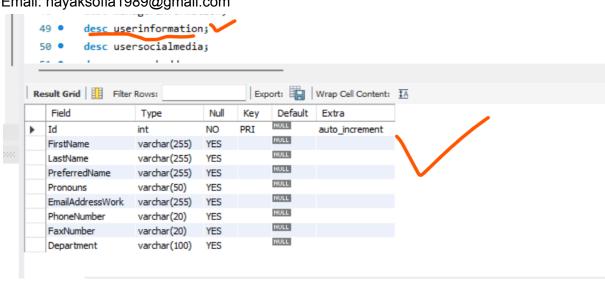
The UserSocialMedia table also uses the UserId foreign key to reference the Id column of the UserInformation table for storing social media information.

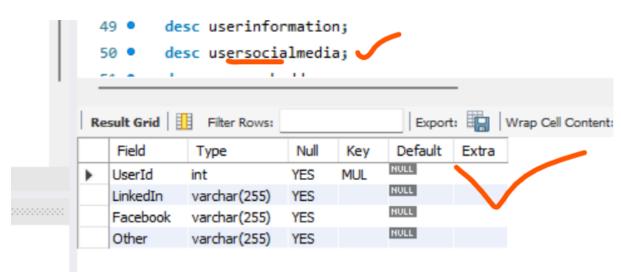
And so on.

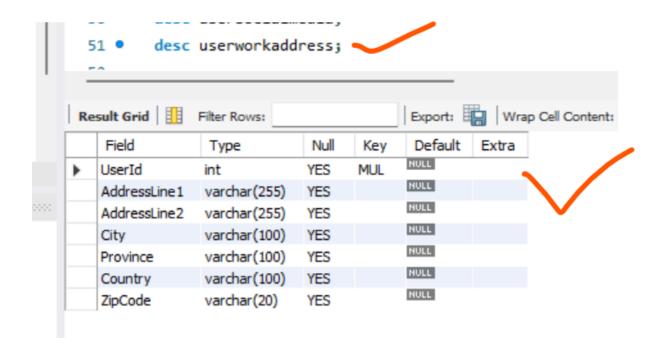




Phone No: 8763178948







Phone No: 8763178948

Email: nayaksofia1989@gmail.com

Step-12: Define API inside the **server.js** file.

```
//Define API
 /To insert userinformation into database queen db
/endpoints
app.post('/addUser', (req, res) =>{
    //Pass the data in the form of json
const{Id,FirstName,LastName,PreferredName,Pronouns,Emai
lAddressWork,PhoneNumber,FaxNumber,Department} =
req.body;
    //Write SQL Query
    const sql = 'insert into userinformation
values(null,?,?,?,?,?,?,?,?)';
    //Connect the database and access the query method
db.query(sql,[Id,FirstName,LastName,PreferredName,Prono
uns,EmailAddressWork,PhoneNumber,FaxNumber,Department],
(err, result) => {
        if(err){
            console.error('Error in Adding The User
Infromation', err);
```

```
res.status(500).json({error:'An error
occured'});
        }else{
            res.status(200).json({message:'User
Infromation Added Successfully'});
    });
    // Close the connection
    // db.end();
});
List Of Data That
Inserted-----
 //To view list of users ---- To get all the users
lists
 app.get('/getUsers', (req, res) => {
    //Because it is a get operation, there is no data
supply here.
    //Write SQL Query
    const sql = 'select * from userinformation';
    //Connect database and call the query method
    db.query(sql,(err,result)=>{
     if(err){
        console.error('Error in fetching the user
informations',err);
        res.status(500).jshon({error:'An error
occured'});
     }else{
```

```
res.status(200).json(result);//No message here
   });
});
//-----View The
List Of Data By
//To get User By Id
app.get('/getUsers/:id',(req,res)=>{
   const id = req.params.id;
   //Define Query . [No data supply here]
   const sql = 'select * from userinformation where
id= ?';
    //Connect database and call the query method
    db.query(sql,[id],(err,result)=>{
       if(err){
          console.error('Error in fetching the user
informations by Id', err);
          res.status(500).jshon({error:'An error
occured'});
       }else{
          res.status(200).json(result);//No message
here
      });
```

Phone No: 8763178948

Email: nayaksofia1989@gmail.com

Remaining:

API For Update Data
API For Delete Data
API For Other Tables; except User Information

Frontend-Part: Angular

F_Step-1: Create components

 Go to the project folder in the command prompt window >> cd queen-project

```
C:\Apps-Sofia-2023\projects-workspace\projects-for-job\form-for-queen>cd queen-project C:\Apps-Sofia-2023\projects-workspace\projects-for-job\form-for-queen\queen-project>
```

- 2. Then, create components >>
 - ng g c add-user
 - ng g c view-user

```
C:\Apps-Sofia-2023\projects-workspace\projects-for-job\form-for-queen\queen-project>ng g c add-user

? Would you like to share pseudonymous usage data about this project with the Angular Team
at Google under Google's Privacy Policy at https://policies.google.com/privacy. For more
details and how to change this setting, see https://angular.io/analytics. Yes

Thank you for sharing pseudonymous usage data. Should you change your mind, the following
command will disable this feature entirely:

ng analytics disable

Global setting: enabled
Local setting: enabled
Effective status: enabled
CREATE src/app/add-user/add-user.component.html (23 bytes)
CREATE src/app/add-user/add-user.component.ts (269 bytes)

CREATE src/app/add-user/add-user.component.ts (209 bytes)

UPDATE src/app/view-user/view-user.component.html (24 bytes)

C:\Apps-Sofia-2023\projects-workspace\projects-for-job\form-for-queen\queen-project>ng g c view-user
CREATE src/app/view-user/view-user.component.spec.ts (574 bytes)

CREATE src/app/view-user/view-user.component.ts (213 bytes)

CREATE src/app/view-user/view-user.component.ts (213 bytes)

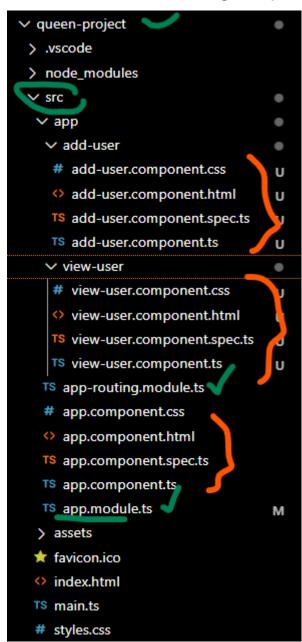
CREATE src/app/view-user/view-user.component.ts (213 bytes)

UPDATE src/app/view-user/view-user.component.css (0 bytes)

UPDATE src/app/app.module.ts (573 bytes)
```

Email: nayaksofia1989@gmail.com

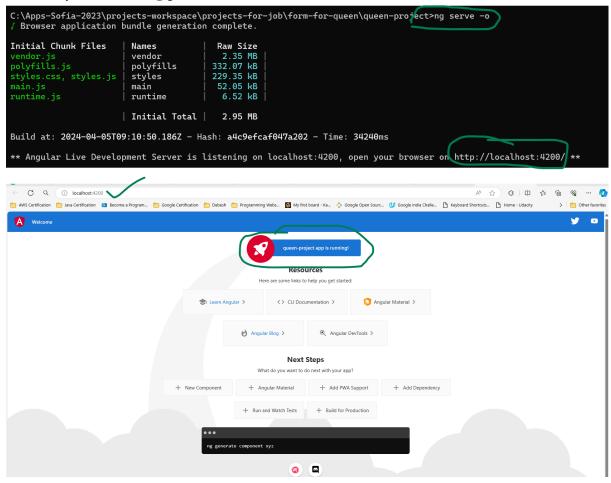
3. File Structure after creating components



F_Step-2: Run the server on angular → ng serve -o

Phone No: 8763178948

Email: nayaksofia1989@gmail.com



F_Step-3: app.module.ts → start to work

1st: Configure routers

```
//Configure Routes
const routes:Routes=[
    {path:'',redirectTo:'/addUs',pathMatch:'full'},
    {path:'view',component:ViewUserComponent},
    {path:'addUs',component:AddUserComponent}
]
```

2nd: Configure the http modules, form module, etc.

```
import RouterModule Routes from '@angular/router'
//Add
import { FormsModule } from '@angular/forms'; //Add
```

Phone No: 8763178948

Email: nayaksofia1989@gmail.com

```
import { HttpClient, HttpClientModule} from
'@angular/common/http'; //Add
```

3rd: Imports

HttpClientModule //Add

```
FormsModule, //Add
RouterModule.forRoot(routes) //Add
```

4th: Write code

import NgModule from '@angular/core'

```
import { BrowserModule } from
'@angular/platform-browser';
import { AppRoutingModule } from
'./app-routing.module';
import { AppComponent } from './app.component';
import { AddUserComponent } from
'./add-user/add-user.component';
import { ViewUserComponent } from
'./view-user/view-user.component';
import { RouterModule, Routes } from '@angular/router';
//Add
import { FormsModule } from '@angular/forms'; //Add
import { HttpClient, HttpClientModule} from
'@angular/common/http'; //Add
//Configure Routes
const routes:Routes=[
  {path:'', redirectTo:'/addUs', pathMatch:'full'},
  {path:'view',component:ViewUserComponent},
  {path: 'addUs', component:AddUserComponent}
```

Phone No: 8763178948

Email: nayaksofia1989@gmail.com

```
@NgModule({
  declarations: [
    AppComponent,
   AddUserComponent,
   ViewUserComponent
  ],
  imports: [
    BrowserModule,
   AppRoutingModule,
   HttpClientModule, //Add
   FormsModule, //Add
   RouterModule.forRoot(routes) //Add
  ],
 providers: [],
 bootstrap: [AppComponent]
export class AppModule { }
```

F_Step-4: add-user

add-user.component.ts file:

```
import HttpClient from '@angular/common/http'
import { Component, OnInit } from '@angular/core';
import { response } from 'express';

@Component({
   selector: 'app-add-user',
   templateUrl: './add-user.component.html',
   styleUrls: ['./add-user.component.css']
})
export class AddUserComponent implements OnInit {
```

Phone No: 8763178948

```
FirstName:string ='';
  LastName: string ='';
  PreferredName : string='';
  Pronouns: string='';
  EmailAddressWork:string='';
  PhoneNumber:number= 0 ;
  FaxNumber:number =0;
  Department: string='';
 message:string='';
  //Create Object To HTTPClient
  constructor(private http:HttpClient){}
ngOnInit(): void {
addUser(){
  //Create a json object
  const user={
    FirstName: this.FirstName,
    LastName: this.LastName,
    PreferredName: this.PreferredName,
    Pronouns: this. Pronouns,
    EmailAddressWork:this.EmailAddressWork,
    PhoneNumber: this. PhoneNumber,
    FaxNumber: this.FaxNumber,
    Department: this. Department
  };
  //Send to localhost 3000
  this.http.post('http://localhost:3000/addUser', user)
```

Phone No: 8763178948

Email: nayaksofia1989@gmail.com

```
.subscribe((response:any) => {this.message =
response.message},
  (error) => {console.error('Error adding the user
information', error);}
);
}
```

add-user.component.html file:

```
<div class="container mt-3">
    < h4 > \{ \{ message \} \} < / h4 > 
    <h1>User Info</h1>
    <div class="row">
        <div class="col-md-6">
            <div class="form-group">
                 <label for="fname">First Name:</label>
                 <input id="fname" type="text"</pre>
class="form-control" [(ngModel)]="FirstName" />
            </div>
            <div class="form-group">
                 <label for="lname">Last Name:</label>
                 <input id="lname" type="text"</pre>
class="form-control" [(ngModel)]="LastName" />
            </div>
            <div class="form-group">
                 <label for="prefname">Preferred
Name:</label>
                 <input id="prefname" type="text"</pre>
class="form-control" [(ngModel)]="PreferredName" />
            </div>
```

Phone No: 8763178948

```
<div class="form-group">
                <label for="pronoun">Pronoun:
                <select id="pronoun"</pre>
class="form-control" [(ngModel)]="Pronouns">
                    <option value="he">He</option>
                    <option value="she">She</option>
                    <option value="she">Other</option>
                </select>
            </div>
        </div>
        <div class="col-md-6">
            <div class="form-group">
                <label for="email-work">Email Address
(Work):</label>
                <input id="email-work" type="text"</pre>
class="form-control" [(ngModel)]="EmailAddressWork" />
            </div>
            <div class="form-group">
                <label for="phonenumber">Phone
Number:</label>
                <input id="phonenumber" type="number"</pre>
class="form-control" [(ngModel)]="PhoneNumber" />
            </div>
            <div class="form-group">
                <label for="faxnum">Fax Number:</label>
                <input id="faxnum" type="number"</pre>
class="form-control" [(ngModel)]="FaxNumber" />
            </div>
            <div class="form-group">
```

Phone No: 8763178948

Email: nayaksofia1989@gmail.com

```
<label for="dept">Department:</label>
                <select id="dept" class="form-control"</pre>
[ (ngModel) ] = "Department">
                     <option value="cs">Computer
Science</option>
                    <option value="es">Electronics
Science</option>
                    <option value="ele">Electrical
Science</option>
                    <option value="esd">Embedded System
Design</option>
                    <option value="esd">Others
                </select>
            </div>
        </div>
    </div>
    <div class="text-center">
        <button class="btn btn-primary"</pre>
(click) = "addUser()">Save</button>
    </div>
</div>
```

F_Step-5: app.component.html

```
<router-outlet></router-outlet>
```

Phone No: 8763178948

Email: nayaksofia1989@gmail.com

F_Step-6: Output of add-use.component file

\leftarrow	C	Q	i	localhost:42	00/a	ddUs
AV	VS Certifi	cation	a Jav	a Certification	Þ	Become a Pr

Add User Information

First Name:	
Last Name:	
Preferred Name	
Pronoun	_
Email Address(Work)	
Phone Number 0	
Fax Number 0	_
Departement	
Save	

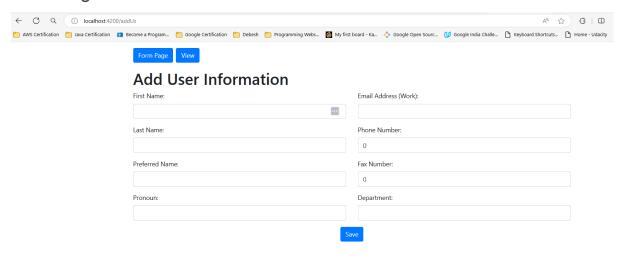
F_Step-7: app.component.html to Add Bootstrap Design on the Form

```
<html lang "en">
```

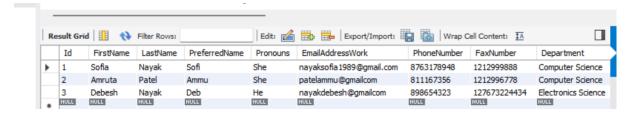
Phone No: 8763178948

Email: nayaksofia1989@gmail.com

Form Page:



F_Step-8: User Information Added Successfully



Phone No: 8763178948

Email: nayaksofia1989@gmail.com

F_Step-9: view-user

view-user.component.ts file

To Fetch User Data:

```
import HttpClient from '@angular/common/http'
```

```
import { Component, OnInit } from '@angular/core';
@Component({
  selector: 'app-view-user',
 templateUrl: './view-user.component.html',
 styleUrls: ['./view-user.component.css']
} )
export class ViewUserComponent implements OnInit {
 users:any[] = [];
  message:string='';
  constructor(private http:HttpClient) { }
  ngOnInit(): void {
    this.fetchUsers();
  fetchUsers() {
    this.http.get('http://localhost:3000/getUsers')
    .subscribe((response:any)=>
    {this.users=response},
    (error) => {console.error('Error Fetching the User
Informations',error);}
    );
```

Phone No: 8763178948

Email: nayaksofia1989@gmail.com

NextToDo: Delete Operation

View-user.component.html file

```
<div class="container mt-3">
  < h3 > { message } < /h3 >
  <h1>View Users </h1>
  <thead class="thead-dark">
    Id
      First Name
      Last Name
      Preferred Name
      Pronouns
      Email Address (Work) 
      Phone Number
      Fax Number
      Department
    </thead>
   { (user.Id) } 
      {td>{{user.FirstName}}
      { {user.LastName } } 
      { {user.PreferredName } } 
      { (user.Pronouns) } 
      { {user.EmailAddressWork} }
      {td>{{user.PhoneNumber}}
```

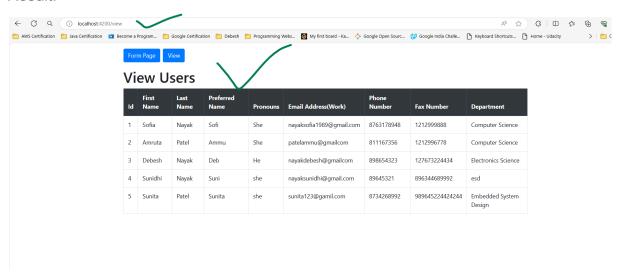
Phone No: 8763178948

Email: nayaksofia1989@gmail.com

```
{td>{{user.FaxNumber}}

{td>{{user.Department}}
```

Result:



F_Step-10:

Step-[Optional]: Git and GitHub

Git Operation: Open another command prompt window for git operation

- Select the path up to the project and type cmd.
- It will open the command prompt window.
- Where you do perform the git operation.

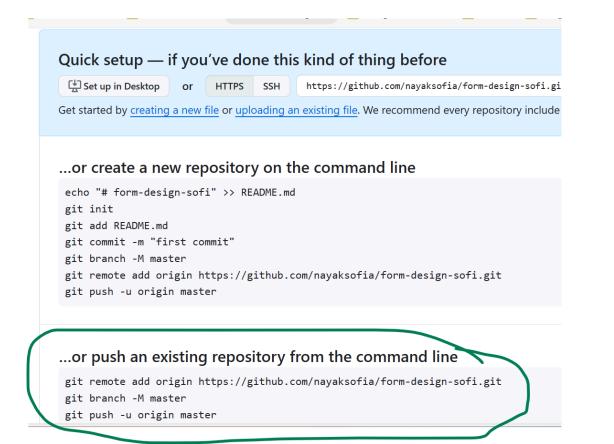
Phone No: 8763178948

Email: nayaksofia1989@gmail.com

Pic: first operation

To Upload In GitHub

Create Repository



Phone No: 8763178948

```
C:\Apps-Sofia-2023\projects-workspace\projects-for-job\form-for-queen\queen-project>git push -u origin master
Enumerating objects: 76, done.

Counting objects: 100% (76/76), done.

Delta compression using up to 4 threads

Compressing objects: 100% (72/72), done.

Writing objects: 100% (76/76), 236.77 KiB | 5.26 MiB/s, done.

Total 76 (delta 32), reused 0 (delta 0), pack-reused 0 (from 0)

remote: Resolving deltas: 100% (32/32), done.

To https://github.com/nayaksofia/form-design-sofi.git

* [new branch] master -> master

branch 'master' set up to track 'origin/master'.
```