# **Practical Assignment -3**

Name:Rana Aayurshi VijayKumar

Semester: 7th

Roll No.:39

Subject: Application development using FullStack (701)

# **Question 1:**

Create Angular application with routing link assigned for following requirements:.

- Display integer, sting, date data in a component.
- Display array values in html list.
- Display array in combo.
- Take a combo with two values (textbox, textarea). Display textbox or textarea depending on selection of a combo.
- -Make another component for user input form with user's personal details, take input and display data on submit.

# **Solution:**

### →Code:

# -app.component.html

```
</h6>
</div>
<hr><br><
<h2>Combo of array elements</h2>
<select>
  <option *ngFor="let data of ColorsArr">{{data}}</option>
</select>
<hr>>
<h2>Display textbox or textarea depending on selection of a
combo</h2>
<select #MyChoice (change)="GetMyChoice(MyChoice.value)">
  <option selected>Textbox</option>
  <option>Textarea</option>
</select>
<hr>>
<h3>Display user data</h3>
<userdata></userdata>
```

# -app.component.ts:

```
import { Component } from '@angular/core';

@Component({
   selector: 'app-root',
   templateUrl: './app.component.html',
   styleUrls: ['./app.component.css']
})

export class AppComponent {
   title = 'Ass3Ques1';

ColorsArr = ['Black','Sky','White','Green','Aqua','Gray'];
```

```
GetMyChoice(value:any)
{
    alert(value);
}
```

### -comp1.Component.html:

# -comp1.component.ts:

```
import { Component, OnInit } from '@angular/core';

@Component({
    selector: 'component1',
    templateUrl: './comp1.component.html',
    styleUrls: ['./comp1.component.css']
})

export class Comp1Component implements OnInit {
    constructor() { }
    ngOnInit(): void {
```

```
intValue:number = 176;
strValue:string = "Aayurshi Rana";
dateValue:Date = new Date();
}
```

### -userdata.component.html

```
<!DOCTYPE html>
<html lang="en">
<head>
    <meta charset="UTF-8">
    <meta http-equiv="X-UA-Compatible" content="IE=edge">
    <meta name="viewport" content="width=device-width, initial-</pre>
scale=1.0">
    <title>Document</title>
</head>
<body>
    <form method="post" [formGroup]="angForm"</pre>
(submit)="saveData()">
        Name : <input type="text" formControlName="name"><br/>><br/>
        Age : <input type="number" formControlName="age"><br/>
        City : <input type="text" formControlName="city"><br/>>
        Email : <input type="email" formControlName="email"><br/>
```

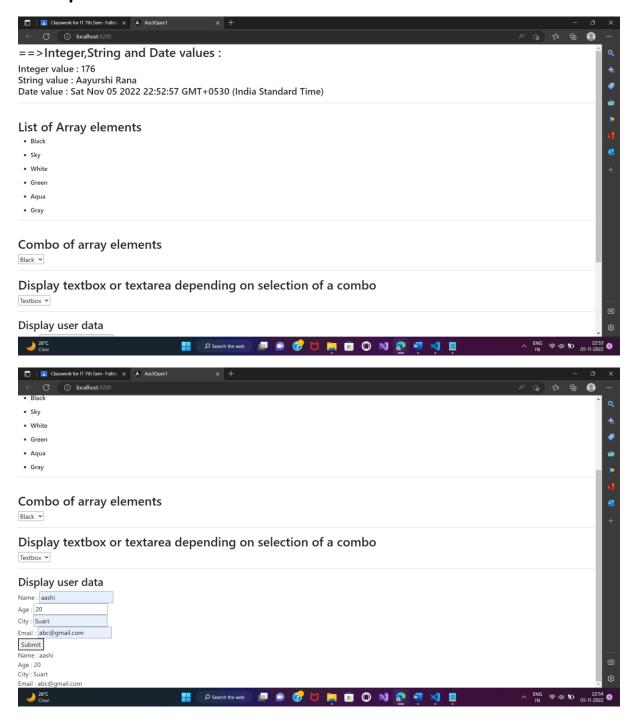
### -userdata.component.ts

```
import { Component, OnInit } from '@angular/core';
import { FormGroup,FormControl} from '@angular/forms';
import { User } from '../Models/user';

@Component({
    selector: 'userdata',
    templateUrl: './userdata.component.html',
    styleUrls: ['./userdata.component.css']
})
export class UserdataComponent implements OnInit {
    constructor() { }
```

```
angForm = new FormGroup({
    name:new FormControl(''),
    age : new FormControl(''),
    city: new FormControl(''),
    email : new FormControl('')
});
public data:User=new User();
saveData()
{
      this.data = {
      name :this.angForm.value.name,
      age :this.angForm.value.age,
      city :this.angForm.value.city,
      email :this.angForm.value.email,
    }
ngOnInit(): void {
}
```

### ->Output:



# **Question 3:**

Design and develop a module to manage vehicle data for a vehicle resale

agency considering following requirements.

- Design two collections

- o (1) vehicle category (c id, category name)
- o (2) vehicle\_data (\_id, vehicle\_brand, category\_name, vehicle picture,

price, depreciation, number of years, total price)

- Insert vehicle
- o upload a picture
- o Load category data in a combo
- o Establish relation between two collections
- List vehicle data along with category\_name.

## **Solution:**

### Backend:

-app.js

```
const express = require("express");
const app = express();
const vehRoute = require("./Route/VehRoute");
const dbCon = require("./DbConnection/dbCon");
const cors = require("cors");
app.use(express.urlencoded({extended:false}));
app.use(express.json());
app.use(cors());
app.use("/",vehRoute);
const start = ()=>{
    try{
            dbCon("mongodb://localhost:27017/vehicleDb");
            var server = app.listen(8000,()=>{
                console.log("Server is listening on port " +
server.address().port);
            });
    catch(err)
```

```
{
    console.log("Error : " + err);
};
start();
```

# -mongoDb Connection:

```
const mongoose = require("mongoose");

const Connection = (url)=>{
    try{
        mongoose.connect(url);
        console.log("Mongodb connected successfully");
    }
    catch(err)
    {
        console.log("Can not connect mongoDb\n" + err);
    }
};

module.exports = Connection;
```

#### -Models:

#### -Vehicle:

```
const mongoose = require("mongoose");

const vehSchema = new mongoose.Schema({
    vehicle_brand:{
        type : String
    },
    category_name : {
        type:String
    },
    vehicle_picture : {
        type:String
    },
    price : {
        type:Number
    },
```

```
depreciation:{
    type : Number
},
noOfYears : {
    type:Number
},
totalPrice : {
    type:Number
},
});
const vehModel = mongoose.model("Vehicles",vehSchema);
module.exports = vehModel;
```

#### -Category:

```
const mongoose = require("mongoose");

const categorySchema = new mongoose.Schema({
    category_name : {
        type:String
    }
});

const categoryModel = mongoose.model("Categories", categorySchema);
module.exports = categoryModel;
```

#### -Controller:

```
catch(err)
    console.log("Error : " + err);
};
const add = async(req,res)=>{
    try{
        let vehPrice = req.body.price;
        for(let i=0;i<req.body.noOfYears;i++)</pre>
        {
            var temp = vehPrice * req.body.depreciation/100;
            vehPrice = vehPrice - temp;
        }
        const data = new vehicle({
            vehicle brand :req.body.vehicle brand,
            category name : req.body.category name,
            vehicle_picture : req.body.vehicle_picture,
            price : req.body.price,
            depreciation : req.body.depreciation,
            noOfYears : req.body.noOfYears,
            totalPrice : vehPrice
        });
        vehicle.create(data,(err)=>{
            if(err)
                res.send("Error : " + err);
            else
                res.send("Vehicle added successfully");
        });
    }
    catch(err)
        console.log(err);
```

#### -Route:

```
const {display,add,loadCategories} =
require("../Controller/vehController");
const vehRoute = require("express").Router();
const multer = require("multer");

var options = multer.diskStorage({
    destination : function(req,file,cb){
        cb(null,'./uploads');
    },
    filename : function(req,file,cb){
        cb(null,file.originalname );
    }
});

var upload = multer({storage:options});

vehRoute.route("/").get(display);
```

```
vehRoute.route("/add").post(upload.single("Image"),add).get(
loadCategories);
module.exports = vehRoute;
```

#### → FrontEnd:

#### **Classes:**

-vehicles.ts:

```
export class Vehicles {
    _id : string="";
    vehicle_brand: string="";
    category_name:string="";
    vehicle_picture :string="";
    price :number=0;
    depreciation:number=0;
    noOfYears:number=0;
    totalPrice : number=0;
}
```

# -categories.ts:

```
export class Categories {
    _id:string="";
    category_name : string="";
}
```

# -app.component.html:

```
<h3><a href="/add" class="link-primary" style="text-decoration:
none;">Add New</a></h3>
```

#### -service:

```
import { Injectable } from '@angular/core';
import {HttpClient} from '@angular/common/http';
import { Observable } from 'rxjs';
import{Vehicles} from '../Models/vehicles';
import{Categories} from '../Models/categories';
@Injectable({
  providedIn: 'root'
})
export class MySericeService {
  constructor(private http:HttpClient) { }
  getCategories():Observable<Categories[]>
  {
     var data =
this.http.get<Categories[]>('http://localhost:8000/add');
     return data;
  }
  getVehicles():Observable<Vehicles[]>
      var data =
this.http.get<Vehicles[]>('http://localhost:8000');
      return data;
  }
  addVehicle(brand:any,category:any,pic:any,price:any,depr:any,ye
ars:any,total:any)
  {
      const data = {
        vehicle brand:brand,
        category_name : category,
        vehicle_picture : pic,
        price : price,
        depreciation :depr,
        noOfYears : years,
```

```
totalPrice : total
}
console.log(data);
this.http.post("http://localhost:8000/add",data).subscribe(
res=>console.log("Vehicle added successfully"));
}
}
```

### Add.component.html:

```
<html>
    <head>
        <title>Add new vehicle</title>
        link
href="https://cdn.jsdelivr.net/npm/bootstrap@5.0.2/dist/css/
bootstrap.min.css" rel="stylesheet">
    </head>
    <body>
        <form method="post" [formGroup]="angForm"</pre>
(submit)="addNewVehicle()" enctype="multipart/form-data">
            <div class="form-group col-md-6">
              <h6><label>Vehicle Brand</label></h6>
              <input type="text" class="form-control"</pre>
formControlName="brand" name="vehicle brand"
placeholder="Vehicle Brand">
            </div>
            <div class="form-group col-md-4">
              <h6><label>Vehicle category</label></h6>
              <select name="category_name"</pre>
formControlName="category" class="form-control">
                <option *ngFor="let cate of</pre>
categories">{{cate.category name}}</option>
              </select>
            </div>
            <div class="form-group col-md-6">
```

```
<h6><label>Vehicle Picture</label></h6>
              <input type="file" class="form-control"</pre>
formControlName="picture" name="vehicle_picture">
            </div>
            <div class="form-group col-md-6">
               <h6><label>Price</label></h6>
               <input type="number" class="form-control"</pre>
formControlName="price" name="price" placeholder="Price">
            </div>
            <div class="form-group col-md-6">
               <h6><label>Depreciation</label></h6>
              <input type="number" class="form-control"</pre>
name="depreciation" formControlName="depreciation"
placeholder="Depreciation">
            </div>
            <div class="form-group col-md-6">
               <h6><label>No of years</label></h6>
              <input type="number" class="form-control"</pre>
name="noOfYears" placeholder="No of years"
formControlName="years">
            </div><br/>
            <button type="submit" class="btn btn-</pre>
primary">Add Vehicle</button>
        </form>
    </body>
</html>
```

# -add.component.ts:

```
import { Component, OnInit } from '@angular/core';
import { Vehicles } from '../Models/vehicles';
import { Categories } from '../Models/categories';
import { MySericeService } from '../services/my-
serice.service';
```

```
import{FormGroup,FormBuilder,FormControl} from
"@angular/forms";
import { ActivatedRoute, Router, } from '@angular/router';
@Component({
  selector: 'add',
 templateUrl: './add.component.html',
 styleUrls: ['./add.component.css']
})
export class AddComponent implements OnInit {
  constructor(private MySer:MySericeService,private
router:Router,private route :ActivatedRoute) { }
  angForm = new FormGroup({
      brand : new FormControl(''),
      category : new FormControl(''),
      picture : new FormControl(''),
      price : new FormControl(''),
      depreciation : new FormControl(''),
      years : new FormControl(''),
      total : new FormControl('')
  });
  categories:Categories[]=[];
  getCategories()
      this.MySer.getCategories().subscribe((data:Categories[
])=>{
          this.categories=data;
      });
  }
  addNewVehicle()
      this.MySer.addVehicle(this.angForm.value.brand,this.an
gForm.value.category,
```

### -home.component.html:

```
<html>
  <head>
     <title>Display Vehicles</title>
     link
href="https://cdn.jsdelivr.net/npm/bootstrap@5.0.2/dist/css/
bootstrap.min.css" rel="stylesheet">
  </head>
  <body>
     <thead>
       Vehicle brand
          Category name
          Picture
          Price
          Depreciation %
          No of years
          Total price
```

### -home.component.ts:

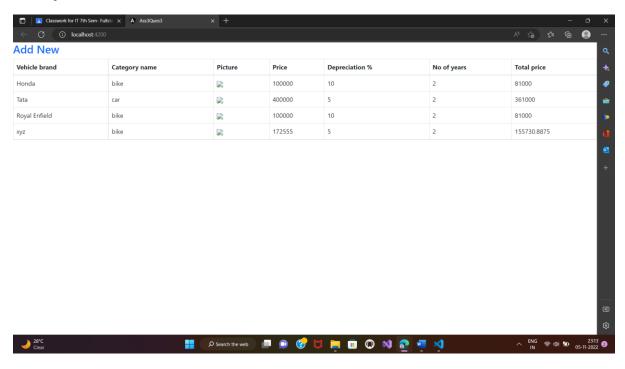
```
import { Component, OnInit } from '@angular/core';
import { MySericeService } from '../services/my-
serice.service';
import { Vehicles } from '../Models/vehicles';

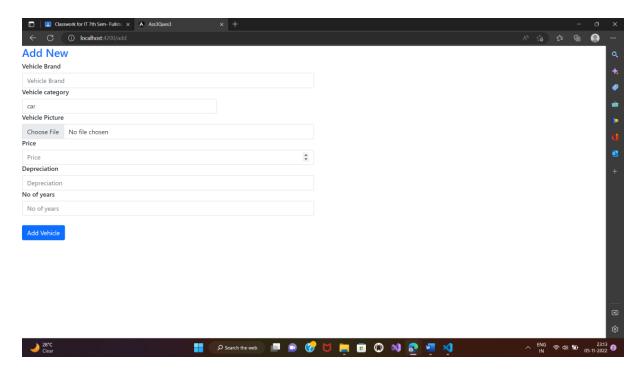
@Component({
    selector: 'display',
    templateUrl: './home.component.html',
    styleUrls: ['./home.component.css']
})
export class HomeComponent implements OnInit {
    constructor(private MySer : MySericeService) { }
    vehicles:Vehicles[]=[];
    getData()
    {
        this.MySer.getVehicles().subscribe((data:Vehicles[])=>
    {
            console.log(data);
        }
}
```

```
this.vehicles = data;
});

ngOnInit(): void {
   this.getData();
}
```

# -Output:





### **Question 2:**

Design and develop shopping cart system.

**Backend - Products (CRUD) API in Express.** 

#### **Frontend**

- Call CRUD API
- Display products in grid (3xn)

**Solution:** 

**Backend:** 

-app.js:

```
const express = require("express");
const app = express();
const dbCon = require("./MongoDb/dbCon");
const ShopRoute = require("./Route/ShoppingRoute");

app.use(express.urlencoded({extended:false}));
app.use(express.json());
app.use("/",ShopRoute);

const start = ()=>{
    try{
        dbCon("mongodb://localhost:27017/Shopping");
    }
}
```

### -mongoDb connection:

```
const mongoose = require("mongoose");

const connection = (url)=>{
    try{
        mongoose.connect(url);
        console.log("mongoDb Connected...");
    }
    catch(err)
    {
        console.log(err);
    }
};

module.exports = connection;
```

#### -Models

#### -user:

```
const mongoose = require("mongoose");

const userSchema = mongoose.Schema({
    name :{
        type:String
    },
    gender : {
        type : String
    },
    city : {
        type :String
    },
    email : {
```

```
type :String
},
contact : {
    type :Number
},
password : {
    type :String
}
});
const userModel = mongoose.model("users", userSchema);
module.exports = userModel;
```

### -product:

```
const mongoose = require("mongoose");
const prodSchema = mongoose.Schema({
    name :{
        type:String
    },
    category : {
        type : String
    },
    price : {
        type : Number
    },
   description : {
        type :String
});
const prodModel = mongoose.model("products",prodSchema);
module.exports = prodModel;
```

### -Controller:

```
const users = require("../Models/UserModel");
const products = require("../Models/ProductModel");

const login = async(req,res)=>{
    try{
        await
users.findOne({"email":req.body.email,"password":req.body.password},(err,data)
=>{
        if(err)
```

```
res.send("Error\n" + err);
            if(!data)
                res.send(false);
            else
                res.send(true);
        });
    catch(err)
        console.log("Error : " + err);
};
const register = async(req,res)=>{
 try{
        var user = new users({
            name : req.body.name,
            gender : req.body.gender,
            city : req.body.city,
            email : req.body.email,
            contact : req.body.contact,
            password : req.body.password
        });
        await users.create(user,(err,data)=>{
            if(err)
                console.log("Error : " + err );
            else
                res.send("Congratulations.Your account is created
successfully");
        });
 catch(err)
    console.log("Error : " + err);
};
const displayProducts = (req,res)=>{
    try{
            var data = products.find({},(err,data)=>{
                if(err)
                    console.log("Error : " + err);
                else
                    res.send({data:data,status:"Success"});
```

```
});
       }
    catch(err)
        console.log("Error : " + err);
};
const addProduct = async(req,res)=>{
    try{
        var data = new products({
            name : req.body.name,
            category : req.body.category,
            price : req.body.price,
            description : req.body.description
        });
        await products.create(data,(err,prod)=>{
            if(err)
                console.log("Error : " + err);
            else
                res.send({data:prod,status:"Success"});
        })
    catch(err)
        console.log(err);
    }
};
const deleteProduct = async(req,res)=>{
    try{
          await products.findOneAndDelete({_id:req.params.id},(err)=>{
                if(err)
                    console.log("Error : " + err);
                else
                    res.send({status:"Success"});
          });
    catch(err)
        console.log("Error" + err);
};
const getProduct = async(req,res)=>{
    try{
            var data = await
products.findOne({_id:req.params.id},(err,data)=>{
```

```
if(err)
               res.send("Error\n" + err);
            if(err)
                res.send("Product not found....");
            else
                res.send({data:data,message:"Success"});
        });
    catch(err)
        console.log("Error : " + err);
};
const updateProduct = async(req,res)=>{
    try{
        await
products.findOneAndUpdate({_id:req.params.id},req.body,{new:true},(err,data)=>
                if(err)
                    console.log("Error : " + err);
                else
                    res.send({data:data,status:"Success"});
        });
    catch(err)
        console.log("Error : " + err);
};
module.exports =
{login,register,displayProducts,addProduct,deleteProduct,getProduct,updateProd
uct};
```

#### -Route:

```
const ShopRoute = require("express").Router();
const
{login,register,displayProducts,addProduct,deleteProduct,getProduct,updateProd
uct} = require("../Controller/Shopping");
```

```
ShopRoute.route("/add").post(register);
ShopRoute.route("/login").post(login);
ShopRoute.route("/").get(displayProducts);
ShopRoute.route("/addProduct").post(addProduct);
ShopRoute.route("/:id").get(getProduct).delete(deleteProduct).put(updateProduct);
module.exports = ShopRoute;
```

**Frontend:** 

**Classes:** 

**Users.ts:** 

```
export class Users {
   name : string="";
   gender : string="";
   city : string="";
   email : string = "";
   contact : number=0;
   password : string="";
}
```

#### **Products.ts:**

```
export class Products {
   name :string="";
   category : string="";
   price : number=0;
   description : string="";
}
```

#### Service:

```
import { Injectable } from '@angular/core';
import {HttpClient} from '@angular/common/http';
import { Observable } from 'rxjs';
import { Users } from '../Models/users';
import { Products } from '../Models/products';

@Injectable({
    providedIn: 'root'
```

```
})
export class MyServiceService {
  constructor(private http:HttpClient) { }
  loginUser(email:any,password:any)
      const data = {
        email:email,
        password : password,
      console.log(data);
      var response = this.http.post("http://localhost:8000/login",data);
  registerUser(name:any,gender:any,city:any,email:any,contact:any,password:any
  {
      const data = {
        name:name,
        gender:gender,
        city:city,
        email:email,
        contact:contact,
        password: password,
      console.log(data);
      var response = this.http.post("http://localhost:8000/add",data);
  displayProduct():Observable<Users[]>
     var data = this.http.get<Users[]>('http://localhost:8000/');
     return data;
  addNewProduct(name:any,category:any,price:any,description:any)
     const data = {
       name : name,
       category:category,
       price : price,
       description : description
     this.http.post('http://localhost:8000/addProduct',data).subscribe(res=>co
nsole.log("Added succefully"));
  }
```

```
deleteProduct(id:any)
   var url = "http://localhost:8000/" + id;
   return this.http.delete(url);
getOneProduct(id:any):Observable<Products>
   var url = "http://localhost:8000/" + id;
  return this.http.get<Products>(url);
updateStud(id:any,name:any,category:any,price:any,description:any)
   var updStud = {
   name : name,
   category:category,
   price : price,
   description : description
   };
   var url = "http://localhost:8000/" + id;
   return this.http.put(url,updStud).subscribe(res=>{
     console.log("Record updated successfully");
   });
```

# -login.component.html

```
<div class="form-row">
                                 <div class="col-lg-7">
                                     <input type="text" placeholder="Email Address"</pre>
formControlName="email" class="form-control">
                                 </div>
                             </div>
                             <div class="form-row">
                                 <div class="col-lg-7">
                                     <input type="password" placeholder="*****"</pre>
formControlName="password" class="form-control">
                             </div>
                             <div class="form-row">
                                 <div class="col-lg-7">
                                     <input type="submit" value="Login" class="btn1 btn</pre>
btn-primary my-">
                                 </div>
                             </div>
                             Don't have an account??<br/>
                             <a href="#" class="link-primary">Register here</a>
                    </div>
                </div>
            </div>
```

# -registration.component.html:

```
<div class="form-row">
                                 <div class="col-lg-7">
                                     <label>Name</label>
                                     <input type="text" placeholder="Name"</pre>
formControlName="name" class="form-control">
                             </div>
                             <div class="form-row">
                                 <div class="col-lg-7">
                                     <label>Gender</label><br>
                                     <input type="radio" value="male"</pre>
formControlName="gender" name="gender">Male
                                     <input type="radio" value="female"</pre>
formControlName="gender" name="gender">Female
                                     <input type="radio" value="other"</pre>
formControlName="gender" name="gender">Other
                                 </div>
                             </div>
                             <div class="form-row">
                                 <div class="col-lg-7">
                                     <label>City</label>
                                     <input type="text" placeholder="City"</pre>
formControlName="city" class="form-control">
                                 </div>
                             </div>
                             <div class="form-row">
                                 <div class="col-lg-7">
                                     <label>Email</label>
                                     <input type="email" placeholder="Email ID"</pre>
formControlName="email" class="form-control">
                             </div>
                             <div class="form-row">
                                 <div class="col-lg-7">
                                     <label>Contact Number</label>
                                     <input type="number" placeholder="Contact Number"</pre>
formControlName="contact" class="form-control">
                                 </div>
                             </div>
                             <div class="form-row">
                                 <div class="col-lg-7">
                                     <label>Password</label>
                                     <input type="password" placeholder="****"</pre>
formControlName="password" class="form-control">
                             </div>
                             <div class="form-row">
                                 <div class="col-lg-7">
```

//39 Aayurshi Rana//