**db1.js**

const {MongoClient}=require('mongodb')

const { connectToDb } = require('./db')

let dbconnection

module.exports={

    connectToDb:(cb)=>{

        MongoClient.connect('mongodb://127.0.0.1:27017/art\_museum')

        .then((client)=>{

            dbconnection=client.db()

            return cb()

        })

        .catch(err=>{

            console.log(err)

            return cb(err)

        })

    },

    getdb:()=>dbconnection

}

**app1.js**

const express=require('express')

const cors = require('cors');

const {connectToDb,getdb}=require('./db1')

const { ObjectId } = require('mongodb')

const app=express()

app.use(express.json());

app.use(cors());

let db

connectToDb(err=>{

    if(!err){

        app.listen(3000,()=>{

            console.log('app listening on port 3000')

        })

        db=getdb()

    }

})

app.get('/artists',(req,res)=>{

    let artists=[]

    db.collection('artists')

    .find({},{projection:{name:1,\_id:0}})

    .forEach(artist=>artists.push(artist))

    .then(()=>{

        res.status(200).json(artists)

    })

})

app.get('/artists/expensive',(req,res)=>{

    db.collection('artists')

    .find({paintingPrice:{$gt:1000}},{projection:{name:1,paintingPrice:1}})

    .toArray()

    .then((artists\_exp)=>{

        res.status(200).json(artists\_exp)

    })

})

app.get('/artists/age',(req,res)=>{

    db.collection('artists')

    .find({age:{$gte:5,$lte:15}},{projection:{\_id:0,name:1,age:1}})

    .sort({age:-1})

    .toArray()

    .then((artists\_age)=>{

        res.status(200).json(artists\_age)

    })

})

app.get('/artists/k',(req,res)=>{

    db.collection('artists')

    .find({name:{$regex:/^K/i}},{projection:{name:1,\_id:0}})

    .toArray()

    .then((artists\_k)=>{

        res.status(200).json(artists\_k)

    })

})

app.get('/artists/sum',(req,res)=>{

    db.collection('artists')

    .aggregate([

        {$match:{name:{$regex:/^K/i}}},

        {$group:{

            \_id:null,

            count:{$sum:1},

            total:{$sum:"$paintingPrice"}

        }}

    ])

    .toArray()

    .then((artists\_sum)=>{

        res.status(200).json(artists\_sum)

    })

})

app.get('/artists/:id',(req,res)=>{

    db.collection('artists')

    .find({\_id:new ObjectId(req.params.id)})

    .toArray()

    .then((doc)=>{

        res.status(200).json(doc)

    })

})

app.post('/artists',(req,res)=>{

    const {name,age,paintingPrice}=req.body;

    db.collection('artists')

    .insertOne({name,age,paintingPrice})

    .then((result)=>{

        res.status(200).json({message:"Artist added successfully",artistid: result.insertId})

    });

})

app.put('/artists/:id', (req, res) => {

    const { name, age, paintingPrice } = req.body;

    const artistId = req.params.id;

    db.collection('artists')

        .updateOne(

            { \_id: new ObjectId(artistId) },

            { $set: { name, age, paintingPrice } }

        )

        .then((result) => {

            if (result.matchedCount > 0) {

                res.status(200).json({ message: "Artist updated successfully" });

            } else {

                res.status(404).json({ message: "Artist not found" });

            }

        })

});

app.delete('/artists/:id', (req, res) => {

    const artistId = req.params.id;

    db.collection('artists')

        .deleteOne({ \_id: new ObjectId(artistId) })

        .then((result) => {

            if (result.deletedCount > 0) {

                res.status(200).json({ message: "Artist deleted successfully" });

            } else {

                res.status(404).json({ message: "Artist not found" });

            }

        })

});

**App.js**

import React from "react";

import { BrowserRouter as Router, Route, Routes, Link } from "react-router-dom";

import ArtistsList from "./ArtistsList";

import AddArtist from "./AddArtist";

import UpdateArtist from "./UpdateArtist";

import DeleteArtist from "./DeleteArtist";

function App() {

  return (

    <Router>

      <div>

        <h1>Artists Management</h1>

        <nav>

          <ul>

            <li><Link to="/">View Artists</Link></li>

            <li><Link to="/add">Add Artist</Link></li>

            <li><Link to="/update">Update Artist</Link></li>

            <li><Link to="/delete">Delete Artist</Link></li>

          </ul>

        </nav>

        <Routes>

          <Route path="/" element={<ArtistsList />} />

          <Route path="/add" element={<AddArtist />} />

          <Route path="/update" element={<UpdateArtist />} />

          <Route path="/delete" element={<DeleteArtist />} />

        </Routes>

      </div>

    </Router>

  );

}

export default App;

**ArtistsList.js**

import React, { useEffect, useState } from "react";

function ArtistsList() {

  const [artists, setArtists] = useState([]);

  useEffect(() => {

    fetch("http://localhost:3000/artists")

      .then((response) => response.json())

      .then((data) => setArtists(data))

      .catch((error) => console.error("Error fetching artists:", error));

  }, []);

  return (

    <div>

      <h2>Artists List</h2>

      <ul>

        {artists.map((artist, index) => (

          <li key={index}>{artist.name}</li>

        ))}

      </ul>

    </div>

  );

}

export default ArtistsList;

**AddArtist.js**

import React, { useState } from "react";

function AddArtist() {

  const [name, setName] = useState("");

  const [age, setAge] = useState("");

  const [paintingPrice, setPaintingPrice] = useState("");

  const handleSubmit = (e) => {

    e.preventDefault();

    fetch("http://localhost:3000/artists", {

      method: "POST",

      headers: {

        "Content-Type": "application/json",

      },

      body: JSON.stringify({ name, age, paintingPrice }),

    })

      .then((response) => response.json())

      .then((data) => alert(data.message))

      .catch((error) => console.error("Error adding artist:", error));

  };

  return (

    <div>

      <h2>Add Artist</h2>

      <form onSubmit={handleSubmit}>

        <input placeholder="Name" value={name} onChange={(e) => setName(e.target.value)} />

        <input placeholder="Age" value={age} onChange={(e) => setAge(e.target.value)} />

        <input placeholder="Painting Price" value={paintingPrice} onChange={(e) => setPaintingPrice(e.target.value)} />

        <button type="submit">Add</button>

      </form>

    </div>

  );

}

export default AddArtist;

**UpdateArtists.js**

import React, { useState, useEffect } from 'react';

function UpdateArtist() {

  const [id, setId] = useState('');

  const [name, setName] = useState('');

  const [age, setAge] = useState('');

  const [paintingPrice, setPaintingPrice] = useState('');

  const handleUpdate = (e) => {

    e.preventDefault();

    // Ensure that id is provided before attempting the update

    if (!id) {

      alert('Artist ID is required!');

      return;

    }

    fetch(`http://localhost:3000/artists/${id}`, {

      method: 'PUT',

      headers: {

        'Content-Type': 'application/json',

      },

      body: JSON.stringify({ name, age, paintingPrice }),

    })

      .then((response) => response.json())

      .then((data) => alert(data.message))

      .catch((error) => console.error('Error updating artist:', error));

  };

  return (

    <div>

      <h2>Update Artist</h2>

      <form onSubmit={handleUpdate}>

        <input

          placeholder="Artist ID"

          value={id}

          onChange={(e) => setId(e.target.value)}

        />

        <input

          placeholder="Name"

          value={name}

          onChange={(e) => setName(e.target.value)}

        />

        <input

          placeholder="Age"

          value={age}

          onChange={(e) => setAge(e.target.value)}

        />

        <input

          placeholder="Painting Price"

          value={paintingPrice}

          onChange={(e) => setPaintingPrice(e.target.value)}

        />

        <button type="submit">Update</button>

      </form>

    </div>

  );

}

export default UpdateArtist;

**DeleteArtist.js**

import React, { useState } from "react";

function DeleteArtist() {

  const [id, setId] = useState("");

  const handleDelete = () => {

    fetch(`http://localhost:3000/artists/${id}`, {

      method: "DELETE",

    })

      .then((response) => response.json())

      .then((data) => alert(data.message))

      .catch((error) => console.error("Error deleting artist:", error));

  };

  return (

    <div>

      <h2>Delete Artist</h2>

      <input

        placeholder="Artist ID"

        value={id}

        onChange={(e) => setId(e.target.value)}

      />

      <button onClick={handleDelete}>Delete</button>

    </div>

  );

}

export default DeleteArtist;