University of Information Technology (UIT)



Subject: Web application

Lab 4: React

Instructor: Trần Vĩnh Khiêm Report date: 20/12/2023

1. **GENERAL INFORMATION:**

Class: MSIS207.012.CTTT.1

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2			

DETAILED REPORT

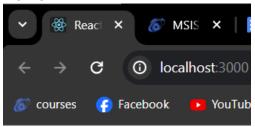
Link Github contain code:

https://github.com/KRocker3512/Web-app-practice-class

Note: If you can't access link above, please contact to me via email: 20521472@gm.uit.edu.vn.

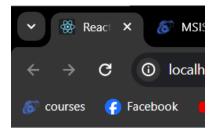
Exercise 1.1:

Demo:



ID: loading...

Name: loading...



ID: 1

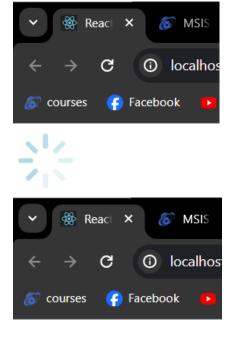
Name: Adam

```
JS AppEx1.1.js U
                                                                                                                                            JS index.is M X
JS AppEx1.1.js U X JS index.js M
exercise > src > Exercise > JS AppEx1.1.js > ♦ App > ♦ React.useEffect() callback
                                                                                                                           import React from 'react';
import ReactDOM from 'react-dom/client';
import Appl_1 from './Exercise/AppEx1.1';
import reportWebVitals from './reportWebVitals';
            function fetchUser() {
                        setTimeout(() => {
    resolve({ id: 1, name: "Adam" });
                                                                                                                             const root = ReactDOM.createRoot(document.getElementById('root'));
                                                                                                                             root.render(
     <React.StrictMode>
                         }, 1000);

<
           function App() {
                                                                                                                             reportWebVitals();
                  const [name, setName] = React.useState("loading...");
                         fetchUser().then((user) => {
                                setName(user.name);
                                Name: {name}
           export default App;
```

Exercise 1.2:

Demo:



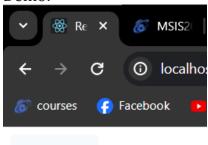
My Page

My Feature

```
JS AppEx1.1.js U
                       JS index.js M
                                            JS AppEx1.2
                                                                          JS index.js M • JS AppEx1.2.js U
exercise > src > Component > JS MyPage1.2.js > ...
         import * as React from "react";
                                                                 import reportWebVitals from './reportWebVitals';
         const MyFeature = React.lazy(() =>
                                                                 //import App1_1 from './Exercise/AppEx1.1';
import App1_2 from './Exercise/AppEx1.2';
         Promise.all([
               import("./MyFeature1.2"),
                                                                 const root = ReactDOM.createRoot(document.getElementById('root'));
                                                                 root.render(
                    new Promise((resolve) => {
                         setTimeout(() => {
                                                                  <App1_2 />
</React.StrictMode>
                              resolve();
                         }, 3000);
                                                                 reportWebVitals();
               ]).then(([m]) => m)
         );
  12
         function MyPage() {
                         <h1>My Page</h1>
                         <MyFeature />
         export default MyPage;
```

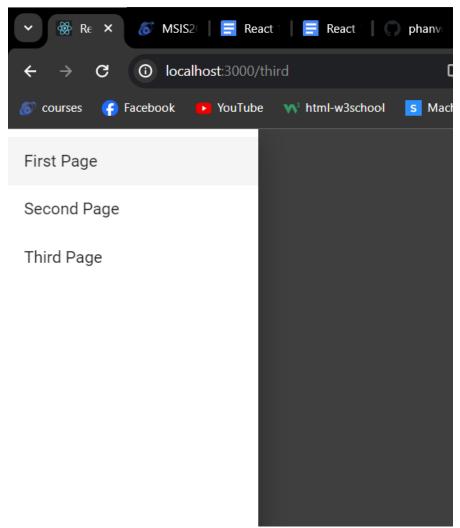
Exercise 1.3:

Demo:



OPEN NAV





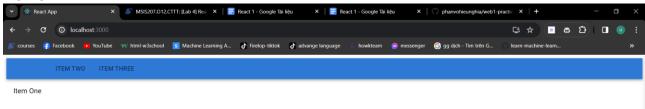
```
import "typeface-roboto";
import React, { useState } from "react"; import Drawer from "@mui/material/Drawer";
import Button from "@mui/material/Button";
import List from "@mui/material/List";
import ListItem from "@mui/material/ListItem";
import ListItemText from "@mui/material/ListItemText";
import { BrowserRouter as Router, Route, Switch, Link } from "react-router-dom";
import First from "./First";
import Second from "./Second";
import Third from "./Third";
export default function App({ links }) {
    const [open, setOpen] = useState(false);
    function toggleDrawer({ type, key}){
        if (type === "keydown" && (key = "Tab" || key ==="Shift")) {
            return;
        setOpen (!open);
```



```
return (
<Router>
    <Button onClick={toggleDrawer}>Open Nav</Button>
        <section>
            <Route path="/first" component={First} />
            <Route path="/second" component={Second} />
            <Route path="/third" component={Third} />
        </section>
        <Drawer open={open} onClose={toggleDrawer}>
        <Drawer open={open} onClose={toggleDrawer}>
                 style={{ width: 250 }}
                 role="presentation"
                 onClick={toggleDrawer}
                onkeyDown={toggleDrawer}
                <List>
                     {links.map((link) => (
                         <ListItem button key={link.url} component={Link}</pre>
to={link.url}>
                             <Switch>
                                 <Route
                                      exact
                                      path={link.url}
                                      render={() => (
                                          <ListItemText</pre>
                                              primary={link.name}
                                              primaryTypographyProps={{ color: "primary"
}}
                                      )}
                                 <Route
                                      path="/"
                                      render={() => <ListItemText primary={link.name}</pre>
                                  </Switch>
                             </ListItem>
                         ))}
                     </List>
                </div>
            </Drawer>
        </Drawer>
    </Router>
```

Exercise 1.3.1:

Demo:



```
import "typeface-roboto";
import React from "react";
import { BrowserRouter as Router, Route, Link } from "react-router-dom";
import AppBar from "@mui/material/AppBar";
import Tabs from "@mui/material/Tabs";
import Tab from "@mui/material/Tab";
import Typography from "@mui/material/Typography";
const tabContentStyle = {
    padding: 16,
};
function TabContainer({ value }) {
    return (
        <AppBar position="static">
            <Tabs value={value}>
                <Tab label="Item One" component={Link} to="/" />
                <Tab label="Item Two" component={Link} to="/page2" />
```



```
<Tab label="Item Three" component={Link} to="/page3" />
            </Tabs>
        </AppBar>
    );
export default function App() {
    return (
        <Router>
            <Route
                exact
                path="/"
                render={() => (
                         <TabContainer value={0} />
                         <Typography component="div" style={tabContentStyle}>
                             Item One
                         </Typography>
                )}
            <Route
                exact
                path="/page2"
                render={() => (
                         <TabContainer value={1} />
                         <Typography component="div" style={tabContentStyle}>
                             Item Two
                         </Typography>
                )}
            <Route
                exact
                path="/page3"
                render={() => (
                         <TabContainer value={2} />
                         <Typography component="div" style={tabContentStyle}>
                             Item Three
                         </Typography>
                )}
        </Router>
    );
```

```
import App1_3_1 from './Exercise/AppEx1.3.1';
const root = ReactDOM.createRoot(document.getElementById('root'));
root.render(
 <React.StrictMode>
    <App1_3_1 />
  </React.StrictMode>
reportWebVitals();
```

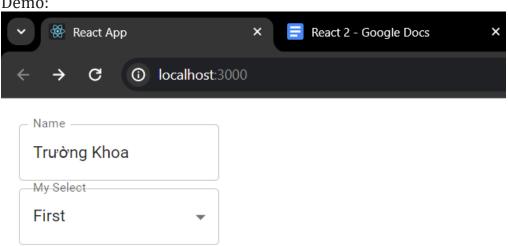
Exercise 1.3.2:

Demo:

Code:

Exercise 1.4:

Demo:

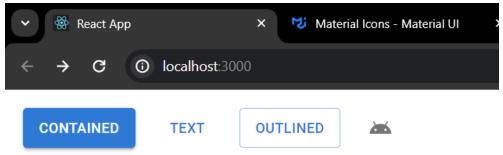


```
import React from 'react'
                                                import React, { useState } from 'react'
import "typeface-roboto"
                                                import TextField from "@mui/material/TextField"
import FormGroup from
"@mui/material/FormGroup"
                                                export default function MyTextInput() {
                                                    const [value, setValue] = useState("")
import MyTextInput from
'../Component/MyTextInput'
import MySelect from '../Component/MySelect'
                                                  return (
                                                    <TextField
export default function App() {
                                                        label="Name"
 return (
                                                        value={value}
```

```
import React, { useState } from 'react'
import InputLabel from "@mui/material/InputLabel"
import MenuItem from "@mui/material/MenuItem"
import FormControl from "@mui/material/FormControl"
import Select from "@mui/material/Select"
export default function MySelect() {
    const [value, setValue] = useState("first")
  return (
    <FormControl>
        <InputLabel htmlFor='my-select'>My Select</InputLabel>
            value={value}
            onChange={(e) => setValue(e.target.value)}
            inputProps={{id: "my-select"}}
            <MenuItem value="first">First</MenuItem>
            <MenuItem value="second">Second/MenuItem>
            <MenuItem value="third">Third</MenuItem>
        </Select>
    </FormControl>
```

Exercise 1.5:

Demo:



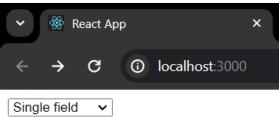


```
import "typeface-roboto"
import React, { useState } from 'react'
import Button from "@mui/material/Button"
import Grid from "@mui/material/Grid"
import IconButton from "@mui/material/IconButton"
import AndroidIcon from "@mui/icons-material/Android"
const buttonStyle = {margin: 10}
function toggleColor(setter, value) {
    setter(value === "default" ? "primary" : "default")
export default function App() {
    const [contained, setContained] = useState("default")
   const [text, setText] = useState("default")
    const [outlined, setOutlined] = useState("default")
    const [icon, setIcon] = useState("default")
  return (
    <Grid container>
            <Grid
                item
                component={Button}
                variant="contained"
                style={buttonStyle}
                color={contained}
                onClick={() => toggleColor(setContained, contained)}
                Contained
            </Grid>
            <Grid
                item
                component={Button}
                style={buttonStyle}
                color={text}
                onClick={() => toggleColor(setText, text)}
                Text
            </Grid>
            <Grid
                item
                component={Button}
                variant="outlined"
```



Exercise 1.6:

Demo:



Single field

```
Field 1: hello there

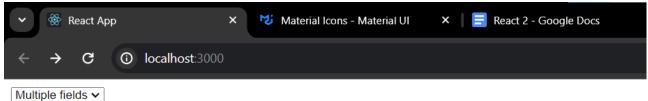
Submit!

Current value:
{ "field1": "hello there" }

Valid?
false

Errors?
{ "field1": true }
```





Mutiple fields

```
import { createContext } from "react"

const FormContext = createContext({})

export default FormContext
```

```
import SimpleForm from './SimpleForm'
import InputField from './InputField'

import { useState, useEffect } from 'react'

const FormExample0 = ({ onSubmit, onChange, initialValue = {}}) => {
    const [formFields, setFormFields] = useState(initialValue)

    const [valid, setValid] = useState(true)
    const [errors, setErrors] = useState({})

    useEffect(() => {
        if(onChange) {
            onChange(formFields, valid, errors)
        }
}
```

```
}, [onChange, formFields, valid, errors])
    return (
        <div className="TheForm">
            <h1>Single field</h1>
            <SimpleForm</pre>
                         value={formFields}
                         onChange={setFormFields}
                         onValid={(v, errs) => {
                             setValid(v)
                             setErrors(errs)
                         }}
                <InputField</pre>
                name="field1"
                onValidate={(v) =>
                     !v || v.length < 3 ? 'Too short!' : null</pre>
                <button
                onClick={() => onSubmit && onSubmit(formFields)}
                disabled={!valid}
                     Submit!
                 </button>
            </SimpleForm>
        </div>
export default FormExample0
```

```
import { useState, useEffect } from 'react'
import SimpleForm from './SimpleForm'
import InputField from './InputField'

const FormExample1 = ({ onSubmit, onChange, initialValue = {}}) => {
    const [formFields, setFormFields] = useState(initialValue)

    const [valid, setValid] = useState(true)
    const [errors, setErrors] = useState({})

    useEffect(() => {
        if(onChange) {
            onChange(formFields, valid, errors)
        }
}
```

```
}, [onChange, formFields, valid, errors])
return (
    <div className="TheForm">
        <h1>Mutiple fields</h1>
        <SimpleForm</pre>
        value={formFields}
        onChange={setFormFields}
        onValid={(v, errs) => {
             setValid(v)
             setErrors(errs)
        }}
             <InputField</pre>
             name="address1"
             onValidate={(v) =>
                 !v || v.length < 3 ? 'Too short!' : null</pre>
             <InputField</pre>
             name="address2"
             onValidate={(v) => (v ? null: 'Required')}
             <InputField</pre>
             name="price"
             type="number"
             onValidate={(v) =>
                 !v || parseInt(v) < 102 ? 'Must be at least 102!' : null</pre>
             <InputField</pre>
             name="requiredBy"
             type="date"
             onValidate={(v) => (v ? null: 'Required')}
             <button</pre>
             onClick={() => onSubmit && onSubmit(formFields)}
             disabled={!valid}
                 Submit!
             </button>
        </SimpleForm>
    </div>
```

```
}
export default FormExample1
```

```
import { useState, useEffect, useContext } from "react"
import FormContext from "./FormContext"
const splitCamelCase = (s) =>
      .replace(/([a-z0-9])([A-Z0-9])/g, "$1 $2")
      .replace(/^([a-z])/, (x) => x.toUpperCase())
const InputField = (props) => {
    const form = useContext(FormContext)
    const [error, setError] = useState('')
    const { onValidate, name, label, ...otherProps} = props
    let value = form.value && form.value(name)
    useEffect(() => {
        if(onValidate) {
            setError(onValidate(value))
    }, [onValidate, value])
    const setInvalid = form.setInvalid
    useEffect(() => {
        if(setInvalid){
            setInvalid(name, error)
    }, [setInvalid, name, error])
   if(!form.value){
        return "InputField should be wrapped in a for"
  return (
    <div className="InputField">
        <label htmlFor={name}>{label || splitCamelCase(name)}:</label>
        <input</pre>
        id={name}
        onBlur={() => form.setDirty(name)}
        value={value || ''}
        onChange={(event) => {
            form.setDirty(name)
            form.setValue(name, event.target.value)
```



```
import { useCallback, useState, useEffect } from "react"
import FormContext from "./FormContext"

const SimpleForm = ({ children, value, onChange, onValid}) => {
    const [values, setValues] = useState(value || {})
    const [dirtyFields, setDirtyFields] = useState({})

const [invalidFields, setInvalidFields] = useState({})

useEffect(() => {
    setValues(value || {})
}, [value])

useEffect(() => {
    if(onChange){
        onChange(values)
    }
}, [onChange, values])
```

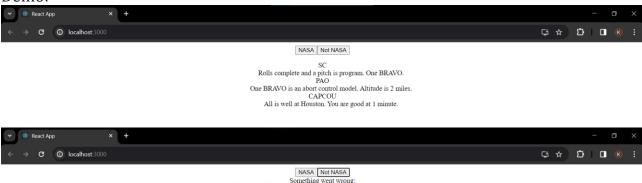


```
useEffect(() => {
    if(onValid){
        onValid(
            Object.keys(invalidFields).every((i) => !invalidFields[i]),
            invalidFields
}, [onValid, invalidFields])
const setValue = useCallback(
    (field, v) => setValues((vs) => ({...vs, [field]: v})),
    [setValues]
const getValue = useCallback((field) => values[field], [values])
const setDirty = useCallback(
    (field) => setInvalidFields((df) => ({...df, [field]:true})),
    [setDirtyFields]
const getDirty = useCallback(
    (field) => Object.keys(dirtyFields).includes(field),
    [dirtyFields]
const setInvalid = useCallback(
    (field, error) => {
        setInvalidFields((i) => ({
            [field]: error ? error : undefined,
        }))
   [setInvalidFields]
const form = {
   setValue: setValue,
    value: getValue,
    setDirty: setDirty,
    isDirty: getDirty,
    setInvalid: setInvalid,
return(
    <div className="SimpleForm-container">
        <FormContext.Provider value={form}>
            {children}
```



Exercise 1.7:

Demo:



Unable to fetch messages for notNasa: {"error":"Unknown forum"}

Code:

Client:

```
import { useState, useEffect } from "react";
const useMessages = (forum) => {
  const [data, setData] = useState([]);
  const [loading, setLoading] = useState(false);
  const [error, setError] = useState(null);
  useEffect(() => {
    let didCancel = false;
    setError(null);
      if (forum) {
        ; (async () => {
        try {
          setLoading(true);
          const response = await fetch(
            `http://localhost:5000/messages/${forum}`, {method :"GET"}
          );
          if (!response.ok) {
            const text = await response.text()
            throw new Error(
                `Unable to fetch messages for ${forum}: ${text}`
```

```
const body = await response.json();
          if (!didCancel) {
            setData(body);
        } catch (err) {
          setError(err);
        } finally {
          setLoading(false);
      })()
    } else {
        setData([]);
        setLoading(false);
    return () => {
      didCancel = true;
  }, [forum])
  return { data, loading, error }
};
export default useMessages;
```

```
import { useState } from "react";
import useMessages from "../Component/useMessages";
function App() {
  const [forum, setForum] = useState("nasa");
  const {
   data: messages,
    loading: messagesLoading,
    error: messagesError,
  } = useMessages(forum);
  return (
    <div className="App">
      <button onClick={() => setForum("nasa")}>NASA</button>
      <button onClick={() => setForum("notNasa")}>Not NASA</button>
      {messagesError ? (
        <div className="error">
          Something went wrong:
          <div className="error-contents">
            {messagesError.message}
          </div>
        </div>
      ) : messagesLoading ? (
```



Server

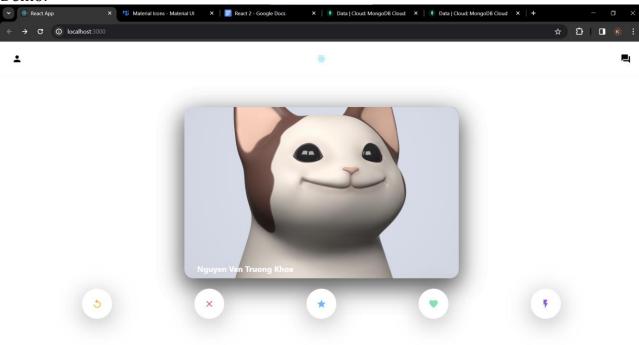
```
const cors = require("cors");
const express = require("express");
const app = express();
app.use(express.json());
app.use(cors());
const messages = [
    author: "SC",
    text: "Rolls complete and a pitch is program. One BRAVO.",
  },
    author: "PAO",
    text: "One BRAVO is an abort control model. Altitude is 2 miles.",
  },
    author: "CAPCOU",
    text: "All is well at Houston. You are good at 1 minute.",
 },
];
app.get('/messages/:forum', (request, response) => {
 if (request.params && request.params.forum === 'nasa') {
    return response.send(messages);
  return response.status(404).send({ error: "Unknown forum" });
```

```
22
```

```
app.post("/messages/:forum", (request, response) => {
  if (request.params && request.params.forum === 'nasa') {
    messages.push(request.body);
    return response.send("OK");
  }
  return response.status(404).send({ error: "Unknown forum" });
});
app.listen(5000, () => console.log("Launched on port 5000!"));
```

Exercise 2:

Demo:



Code:

Front-end:

- Lab 04: React

Group X



DatingCards:

```
import axios from 'axios';
import React, { useEffect, useState } from 'react';
import TinderCard from 'react-tinder-card';
import './DatingCards.css';
const DatingCards = () => {
    const [people, setPeople] = useState([]);
    useEffect(() => {
        async function fetchData() {
            const req = await axios.get('http://localhost:4000/dating/cards');
            setPeople(req.data);
        fetchData();
    }, []);
    const swiped = (direction, nameToDelete) => {
        console.log('receiving' + nameToDelete);
    };
    const outOfFrame = (name) => {
        console.log(name + 'left the screen!!');
    };
    return (
        <div className="datingCards">
            <div className="datingCards__container">
                {people.map((person) => (
                    <TinderCard
                        className="swipe"
                        key={person.name}
                        preventSwipe={['up', 'down']}
                        onSwipe={(dir) => swiped(dir, person.name)}
                        onCardLeftScreen={() => outOfFrame(person.name)}
                        <div style={{ backgroundImage: `url(${person.imgUrl})`,</pre>
                                         backgroundSize: 'cover' }}
className="card">
                            <h3>{person.name}</h3>
                        </div>
                    </TinderCard>
```

- Lab 04: React

Group X

```
.datingCards__container{
   display: flex;
   justify-content: center;
   margin-top: 10vh;
.card{
   position: relative;
   background-color: white;
   width: 600px;
   padding: 20px;
   max-width: 85vw;
   height: 50vh;
   box-shadow: 0px 18px 53px 0px rgba(0, 0, 0, 0.3);
   border-radius: 20px;
   background-size: contain;
   background-position: center;
   background-repeat: no-repeat;
.swipe{
   position: absolute;
.cardContent{
   width: 100%;
   height: 100%;
.card h3{
   position: absolute;
   bottom: 0;
   margin: 10px;
   color: white;
 margin: 0;
 padding: 0;
```

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Header

```
import PersonIcon from '@mui/icons-material/Person';
import ForumIcon from '@mui/icons-material/Forum';
import { IconButton } from '@mui/material';
import './Header.css';
import React from 'react';
const Header = () => {
    return (
        <div className="header">
            <IconButton>
                <PersonIcon fontsize="large" className="header__icon" />
            </IconButton>
            <img width="20px" height="20px" className="header logo"</pre>
src="logo192.png" alt="header" />
            <IconButton>
                <ForumIcon fontsize="large" className="header__icon" />
            </IconButton>
       </div>
    );
};
export default Header;
```

```
.header {
    display: flex;
    align-items: center;
    justify-content: space-between;
    z-index: 100;
    border-bottom: 1px solid #f9f9f9;
}

.header_logo {
    object-fit: contain;
    height: 40px;
}

.header_icon {
    padding: 20px;
    color: black;
}
```

Swipebutton:

```
import React from "react";
import "./SwipeButtons.css";
```

```
import ReplayTwoToneIcon from '@mui/icons-material/ReplayTwoTone';
import CloseTwoToneIcon from '@mui/icons-material/CloseTwoTone';
import StarIcon from '@mui/icons-material/Star';
import FavoriteIcon from '@mui/icons-material/Favorite';
import FlashOnTwoToneIcon from '@mui/icons-material/FlashOnTwoTone';
import { IconButton } from '@mui/material';
const SwipeButtons = () => {
   return (
        <div className="swipeButtons">
            <IconButton>
                <ReplayTwoToneIcon className="swipeButtons repeat" />
            </IconButton>
            <IconButton>
                <CloseTwoToneIcon className="swipeButtons left" />
            </IconButton>
            <IconButton>
                <StarIcon className="swipeButtons__star" />
            </IconButton>
            <IconButton>
                <FavoriteIcon className="swipeButtons right" />
            </IconButton>
            <IconButton>
                <FlashOnTwoToneIcon className="swipeButtons lightning" />
            </IconButton>
        </div>
    );
};
export default SwipeButtons;
```

```
.swipeButtons {
    position: fixed;
    bottom: 10vh;
    display: flex;
    width: 100%;
    justify-content: space-evenly;
}

.swipeButtons .MuiIconButton-root {
    background-color: white;
    box-shadow: 0px 10px 53px 0px rgba(0, 0, 0, 0.3) !important;
}

.swipeButtons__repeat {
    padding: 1vw !important;
```



```
color: #f5b748 !important;
}

.swipeButtons_left {
    padding: 1vw !important;
    color: #ec5e6f !important;
}

.swipeButtons__star {
    padding: 1vw !important;
    color: #62b4f9 !important;
}

.swipeButtons__right {
    padding: 1vw !important;
    color: #76e2b3 !important;
}

.swipeButtons__lightning {
    padding: 1vw !important;
    color: #915dd1 !important;
}
```

```
import axios from 'axios'

const baseURL = "http://localhost:4000/dating/cards";

const instance = axios.create({
    baseURL: baseURL
})

export default instance;
```

Backend

Card model

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

const cardSchema = mongoose.Schema({
    name: String,
    imgUrl: String
})

module.exports = mongoose.model('Card', cardSchema)
```

Server

```
const mongoose = require('mongoose');
const Card = require('./CardsModel.js');
require('dotenv').config();
const cors = require('cors');
```

```
const express = require('express');
const app = express()
const port = process.env.PORT
const connection url =
'mongodb+srv://20521472:nguyenvantruongkhoa20521472@cluster0.cz6lnjt.mongodb.net/
?retryWrites=true&w=majority'
app.use(express.json())
app.use(cors())
try {
   mongoose.connect(connection_url);
    console.log('database successfully connected');
} catch (error) {
    throw error;
app.get("/", (req, res) => res.status(200).send("Hello TheWebDev"))
app.post("/dating/cards", (req, res) => {
    const dbCards = req.body
    console.log(dbCards);
    Card.create(dbCards, (err, data) => {
        if (err) {
            res.status(500).send(err)
        } else {
            res.status(201).send(data)
    })
})
app.get("/dating/cards", (req, res) => {
    Card.find((err, data) => {
        if (err) {
            res.status(500).send(err)
        } else {
            res.status(201).send(data)
    })
})
app.listen(port, () => console.log(`Listening on localhost:
http://localhost:${port}`))
```