Raihan Eka Pramudya

3122600011

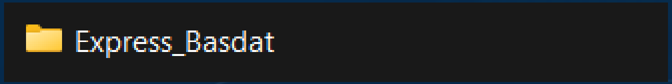
POST TEST Praktikum Basis Data Lanjut
membuat API

Source Code (GitHub):

Click Here

INSTALASI

- **Buat folder baru:**

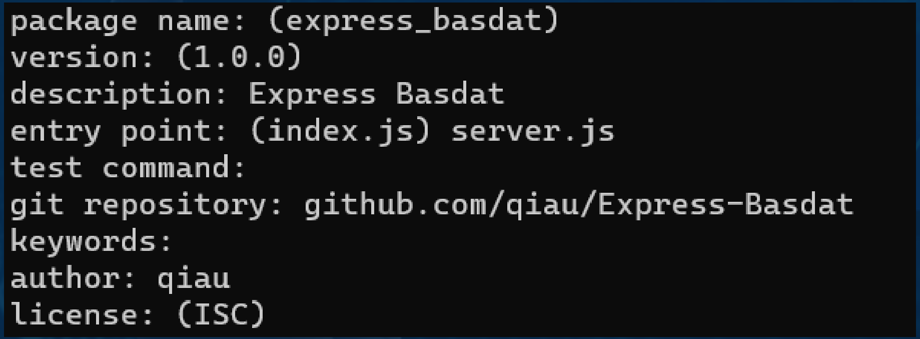


Express_Basdat

- **Buka terminal dan inisialisasi dengan perintah berikut:**

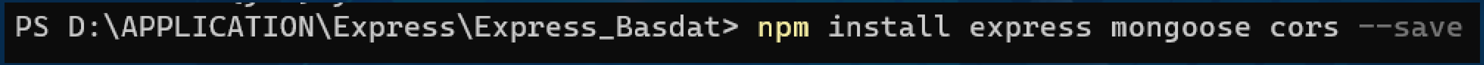
```
npm init
```

- **Enter dan isi seperti perintah berikut:**



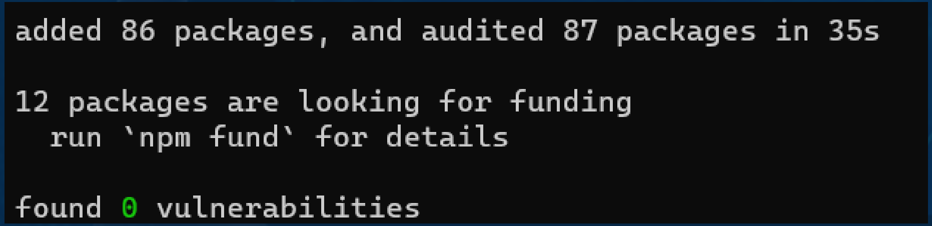
```
package name: (express_basdat)
version: (1.0.0)
description: Express Basdat
entry point: (index.js) server.js
test command:
git repository: github.com/qiau/Express-Basdat
keywords:
author: qiau
license: (ISC)
```

- **Lanjutkan instalasi dengan perintah berikut:**



```
PS D:\APPLICATION\Express\Express_Basdat> npm install express mongoose cors --save
```

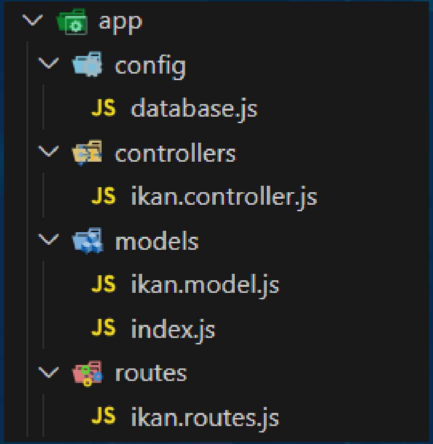
- **Jika muncul seperti gambar di bawah maka installasi berhasil:**



```
added 86 packages, and audited 87 packages in 35s

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

found 0 vulnerabilities
```

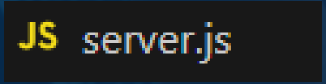
KONFIGURASI

- Buka project pada code editor, lalu buat folder bernama app beserta isinya sebagai berikut:



```
app
  config
    database.js
  controllers
    ikan.controller.js
  models
    ikan.model.js
    index.js
  routes
    ikan.routes.js
```

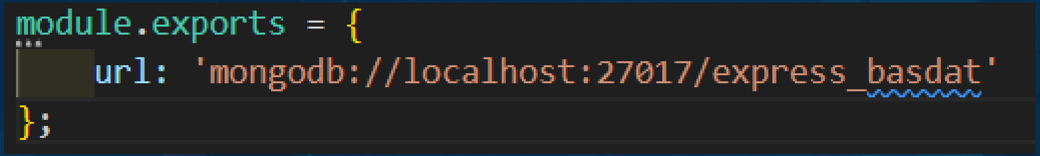
- Buat file baru bernama server.js:



```
server.js
```

1. File **database.js**

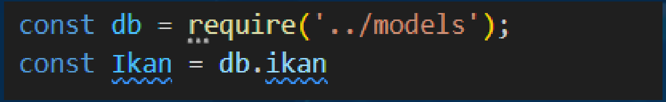
- Source Code



```
module.exports = {
    url: 'mongodb://localhost:27017/express_basdat'
};
```

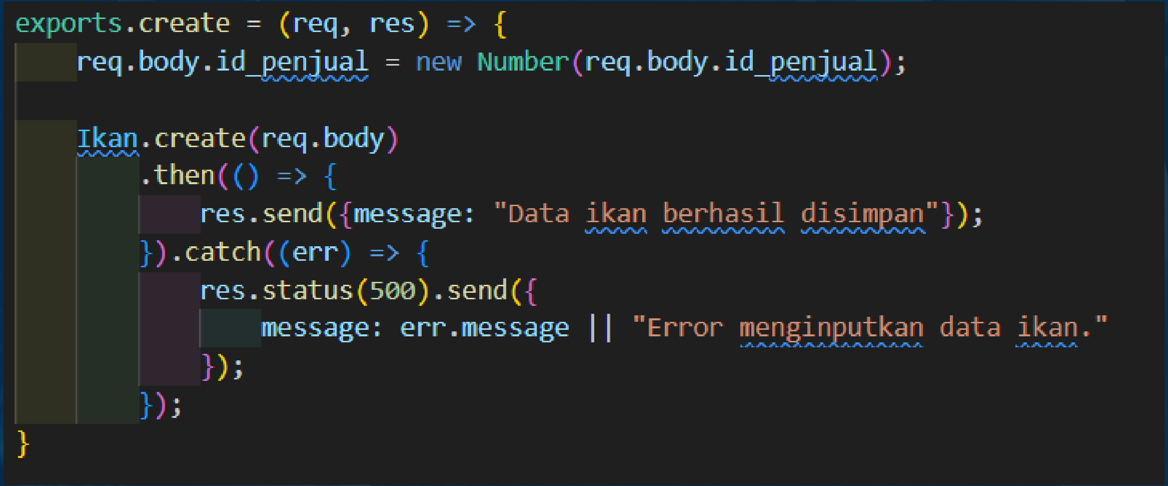
2. File ikan.controller.js

- Source Code



```
const db = require('../models');
const Ikan = db.ikan
```

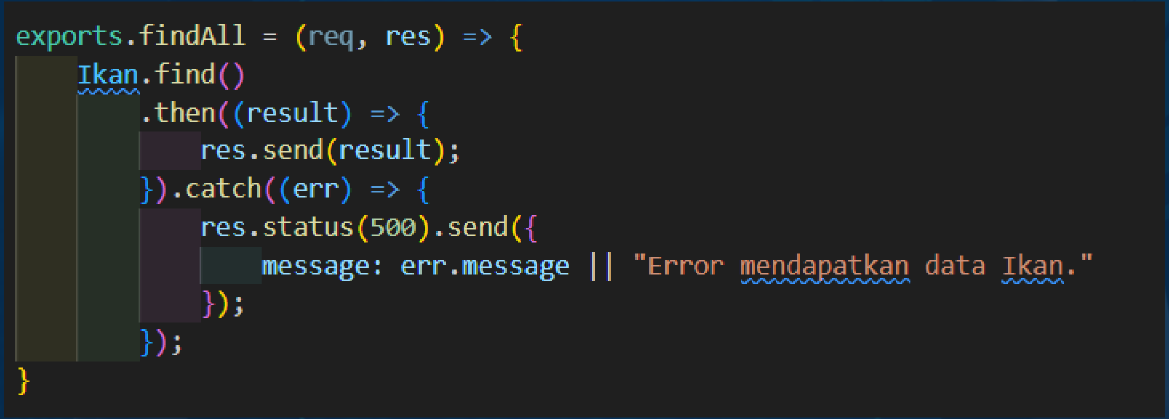
a. create



```
exports.create = (req, res) => {
    req.body.id_penjual = new Number(req.body.id_penjual);

    Ikan.create(req.body)
        .then(() => {
            res.send({message: "Data ikan berhasil disimpan"});
        }).catch((err) => {
            res.status(500).send({
                message: err.message || "Error menginputkan data ikan."
            });
        });
}
```

2. File ikan.controller.js

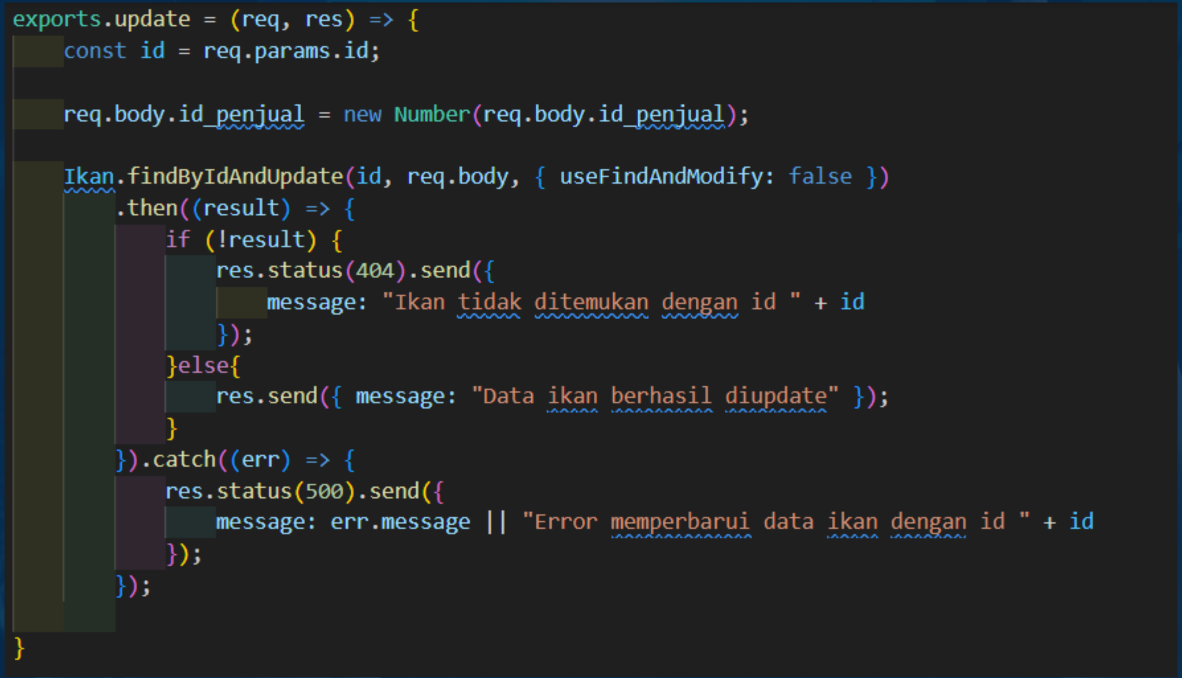
b. findAll



```
exports.findAll = (req, res) => {
    Ikan.find()
        .then((result) => {
            res.send(result);
        }).catch((err) => {
            res.status(500).send({
                message: err.message || "Error mendapatkan data Ikan."
            });
        });
}
```

2. File ikan.controller.js

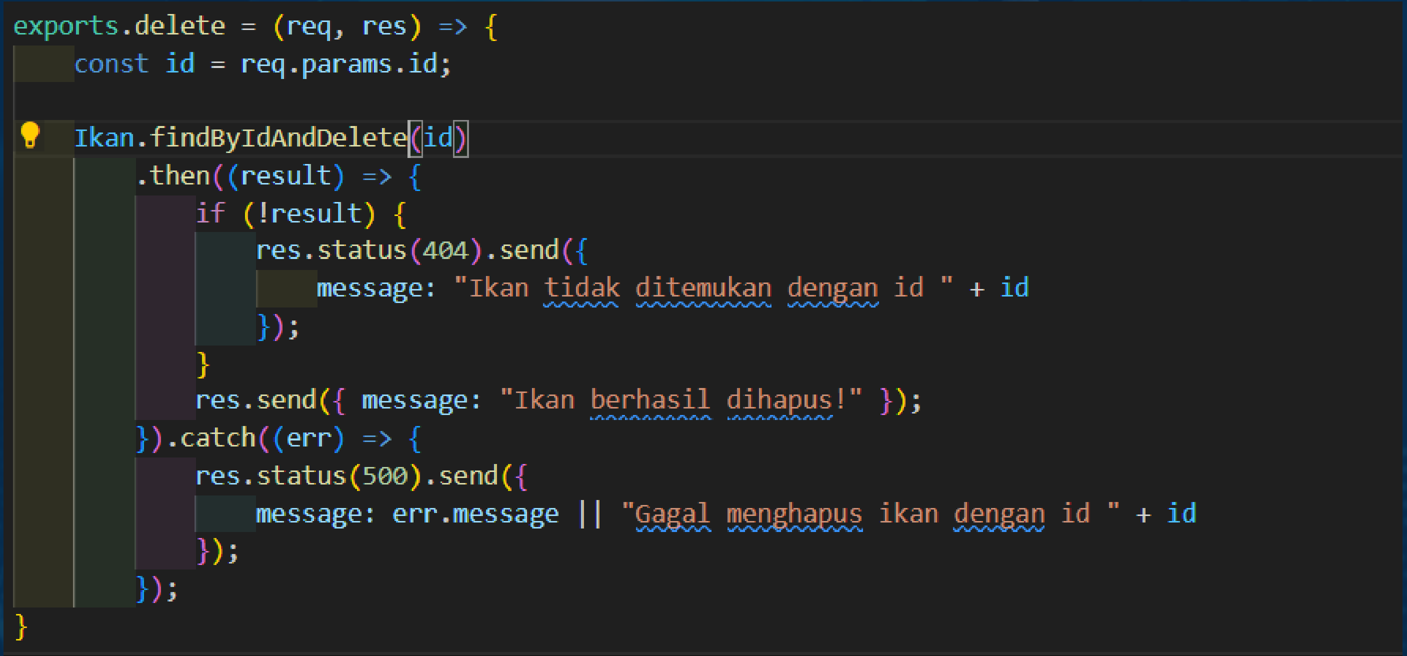
c. update



```
exports.update = (req, res) => {
    const id = req.params.id;

    req.body.id_penjual = new Number(req.body.id_penjual);

    Ikan.findByIdAndUpdate(id, req.body, { useFindAndModify: false })
        .then((result) => {
            if (!result) {
                res.status(404).send({
                    message: "Ikan tidak ditemukan dengan id " + id
                });
            }else{
                res.send({ message: "Data ikan berhasil diupdate" });
            }
        }).catch((err) => {
            res.status(500).send({
                message: err.message || "Error memperbarui data ikan dengan id " + id
            });
        });

}
```

2. File ikan.controller.js

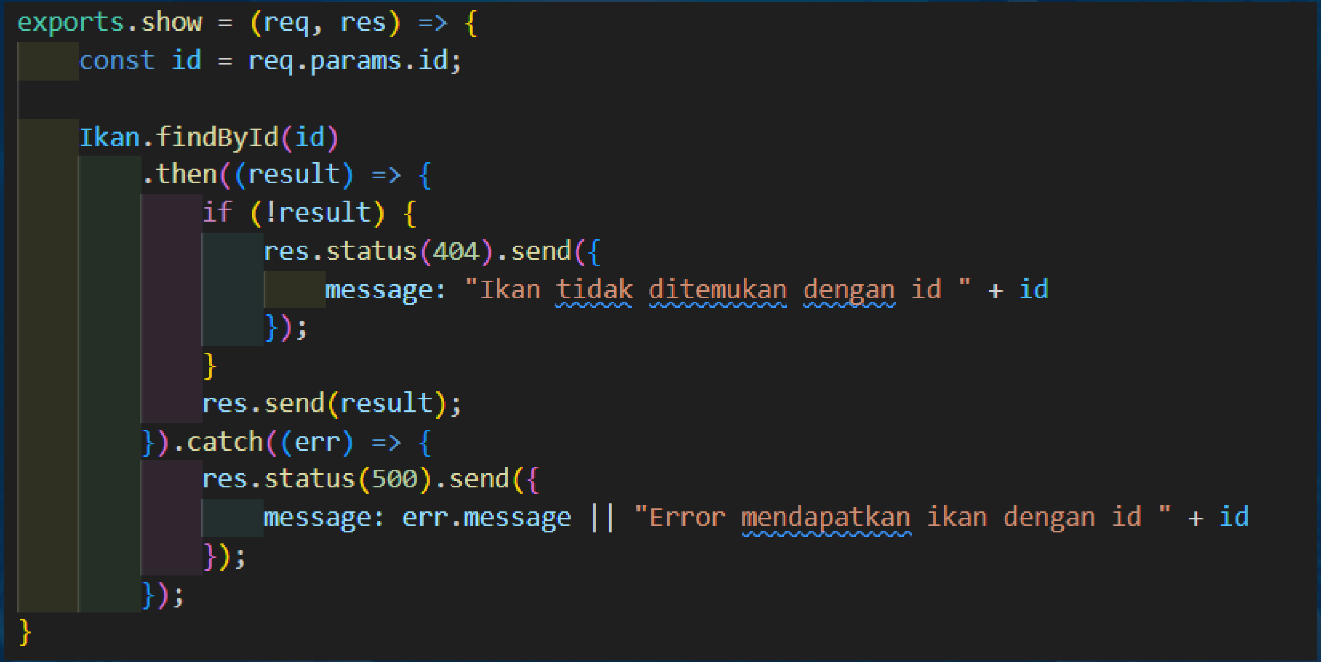
d. delete



```
exports.delete = (req, res) => {
    const id = req.params.id;

    Ikan.findByIdAndDelete(id)
        .then((result) => {
            if (!result) {
                res.status(404).send({
                    message: "Ikan tidak ditemukan dengan id " + id
                });
            }
            res.send({ message: "Ikan berhasil dihapus!" });
        }).catch((err) => {
            res.status(500).send({
                message: err.message || "Gagal menghapus ikan dengan id " + id
            });
        });
}
```

2. File ikan.controller.js

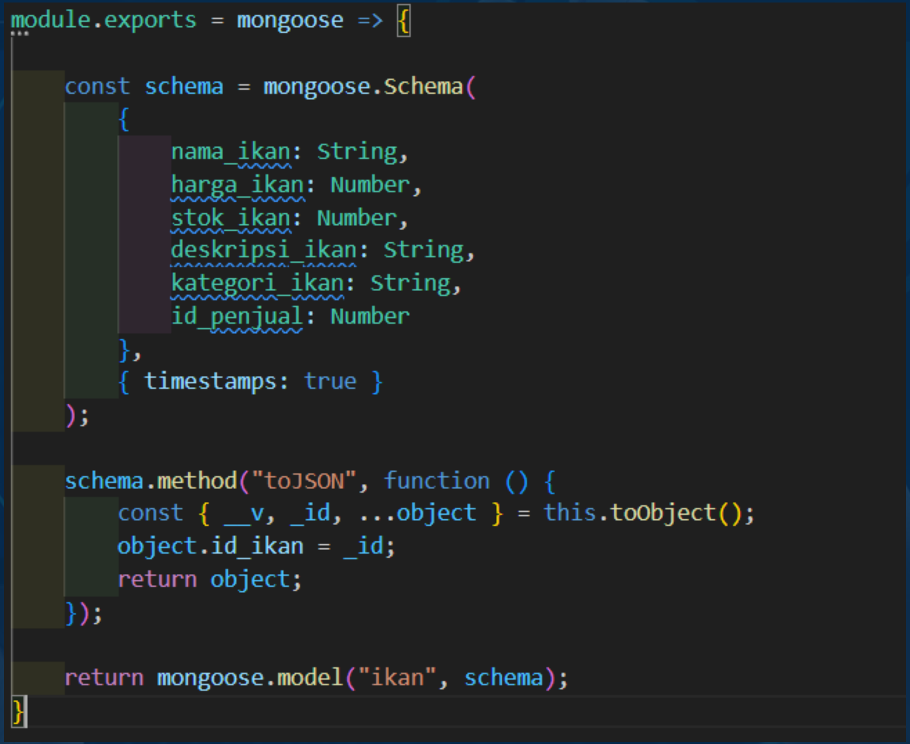
e. show



```
exports.show = (req, res) => {
    const id = req.params.id;

    Ikan.findById(id)
        .then((result) => {
            if (!result) {
                res.status(404).send({
                    message: "Ikan tidak ditemukan dengan id " + id
                });
            }
            res.send(result);
        }).catch((err) => {
            res.status(500).send({
                message: err.message || "Error mendapatkan ikan dengan id " + id
            });
        });
}
```

3. File ikan.model.js

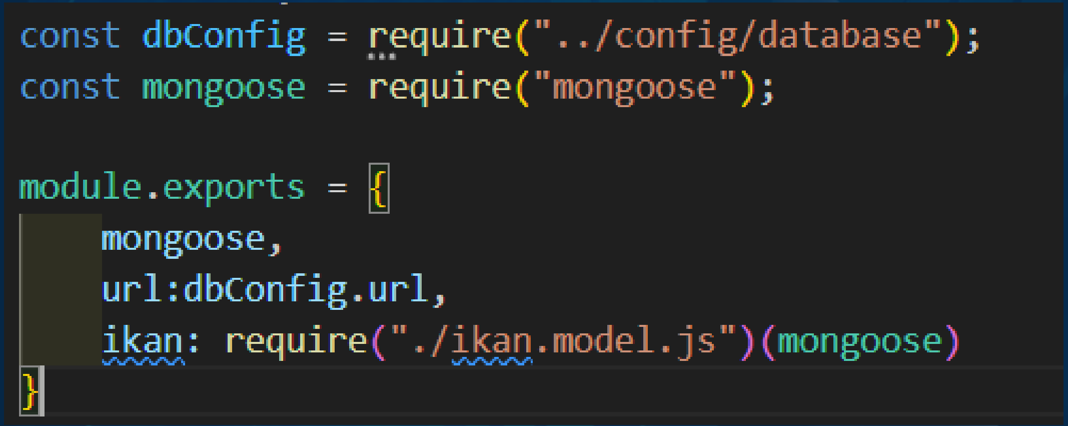
- Source Code



```
module.exports = mongoose => {

  const schema = mongoose.Schema(
    {
      nama_ikan: String,
      harga_ikan: Number,
      stok_ikan: Number,
      deskripsi_ikan: String,
      kategori_ikan: String,
      id_penjual: Number
    },
    { timestamps: true }
  );

  schema.method("toJSON", function () {
    const { __v, _id, ...object } = this.toObject();
    object.id_ikan = _id;
    return object;
  });

  return mongoose.model("ikan", schema);
}
```

4. File index.js

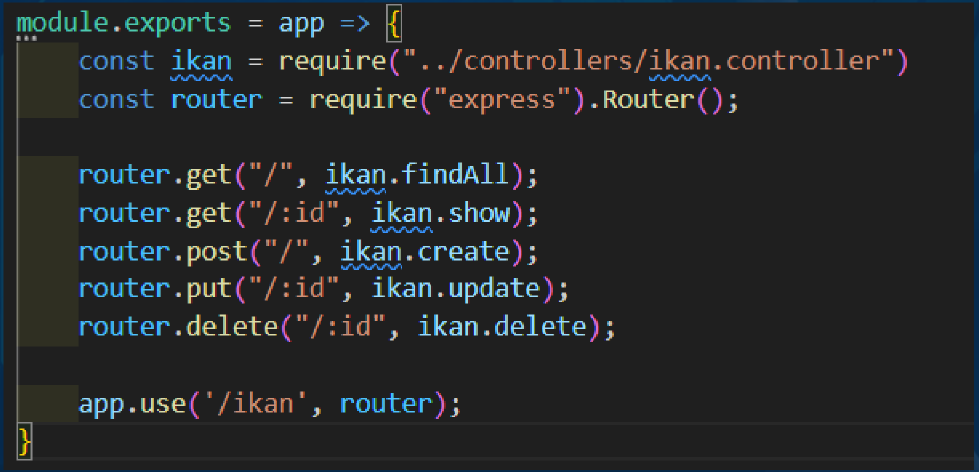
- Source Code



```
const dbConfig = require("../config/database");
const mongoose = require("mongoose");

module.exports = {
	mongoose,
	url:dbConfig.url,
	ikan: require("./ikan.model.js")(mongoose)
}
```

5. File ikan.routes.js

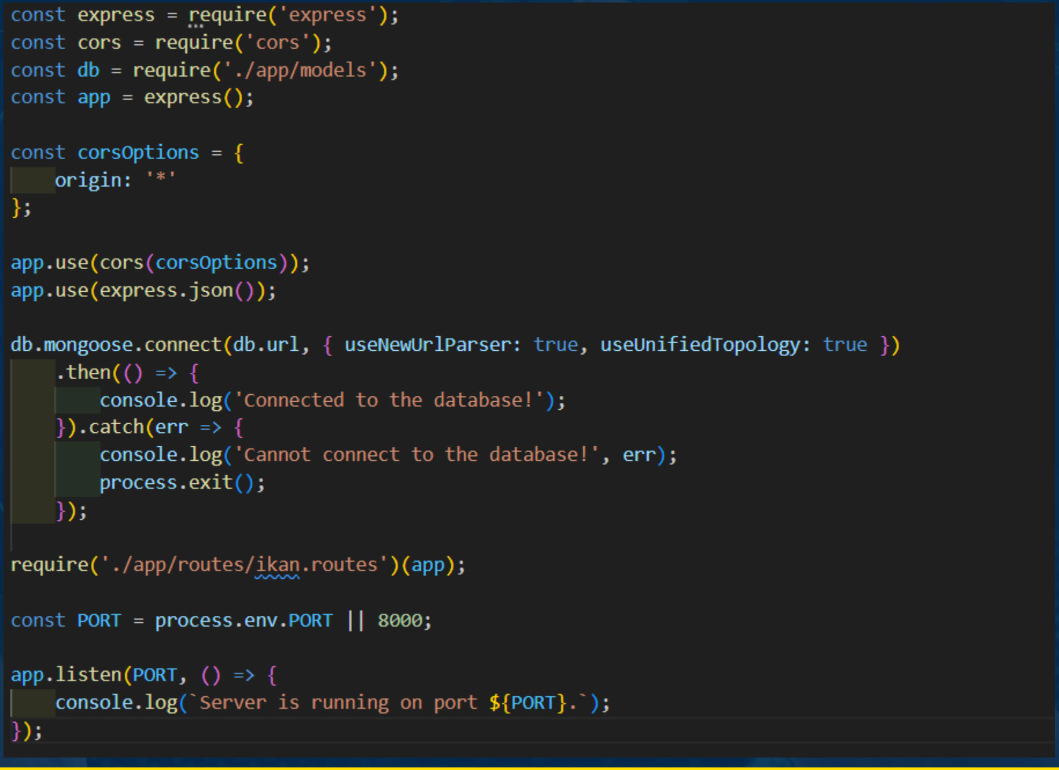
- Source Code



```
module.exports = app => {
    const ikan = require("../controllers/ikan.controller")
    const router = require("express").Router();

    router.get("/", ikan.findAll);
    router.get("/:id", ikan.show);
    router.post("/", ikan.create);
    router.put("/:id", ikan.update);
    router.delete("/:id", ikan.delete);

    app.use('/ikan', router);
}
```

6. File server.js

- Source Code

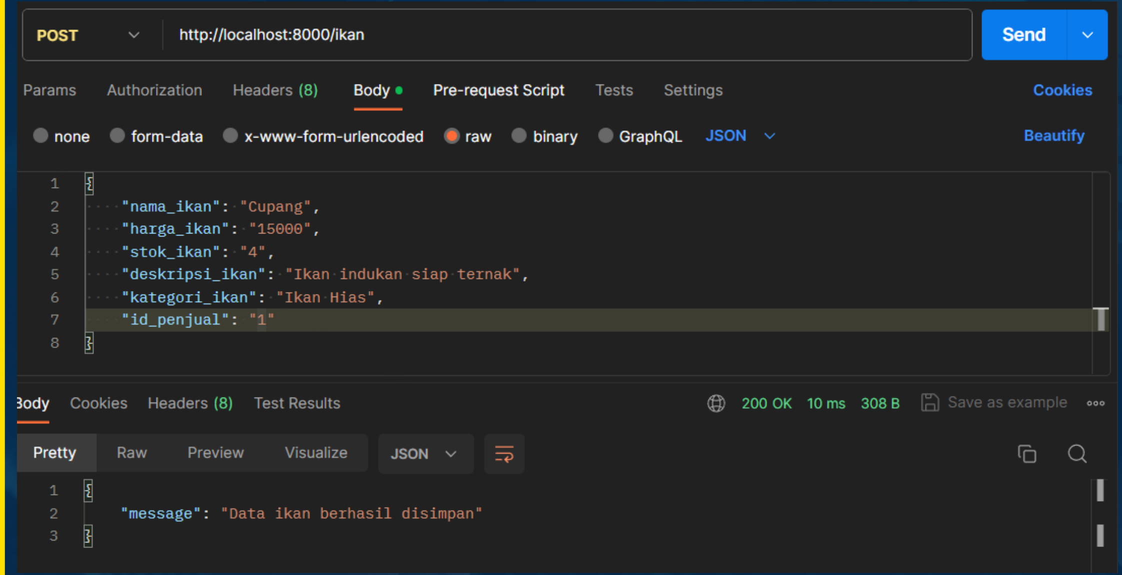


```
const express = require('express');
const cors = require('cors');
const db = require('./app/models');
const app = express();

const corsOptions = {
    origin: '*'
};

app.use(cors(corsOptions));
app.use(express.json());

db.mongoose.connect(db.url, { useNewUrlParser: true, useUnifiedTopology: true })
    .then(() => {
        console.log('Connected to the database!');
    }).catch(err => {
        console.log('Cannot connect to the database!', err);
        process.exit();
    });

require('./app/routes/ikan.routes')(app);

const PORT = process.env.PORT || 8000;

app.listen(PORT, () => {
    console.log(`Server is running on port ${PORT}.`);
});
```

TESTING

1. Create Data

- Postman



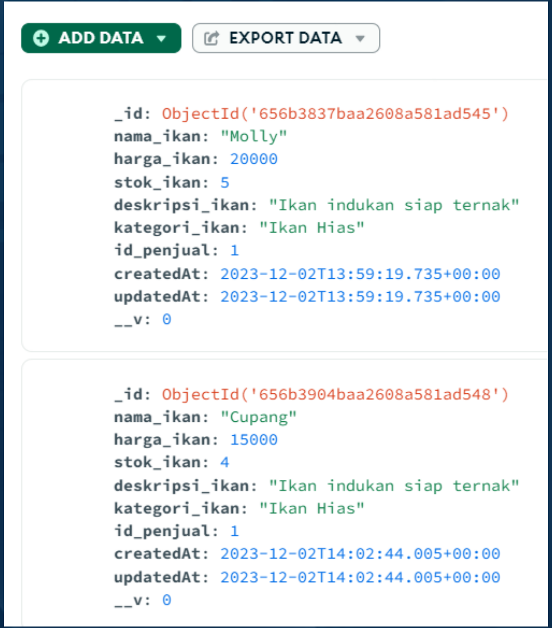
http://localhost:8000/ikan

```
{
    "nama_ikan": "Cupang",
    "harga_ikan": "15000",
    "stok_ikan": "4",
    "deskripsi_ikan": "Ikan indukan siap ternak",
    "kategori_ikan": "Ikan Hias",
    "id_penjual": "1"
}
```

200 OK 10 ms 308 B

```
{
    "message": "Data ikan berhasil disimpan"
}
```

- MongoDB

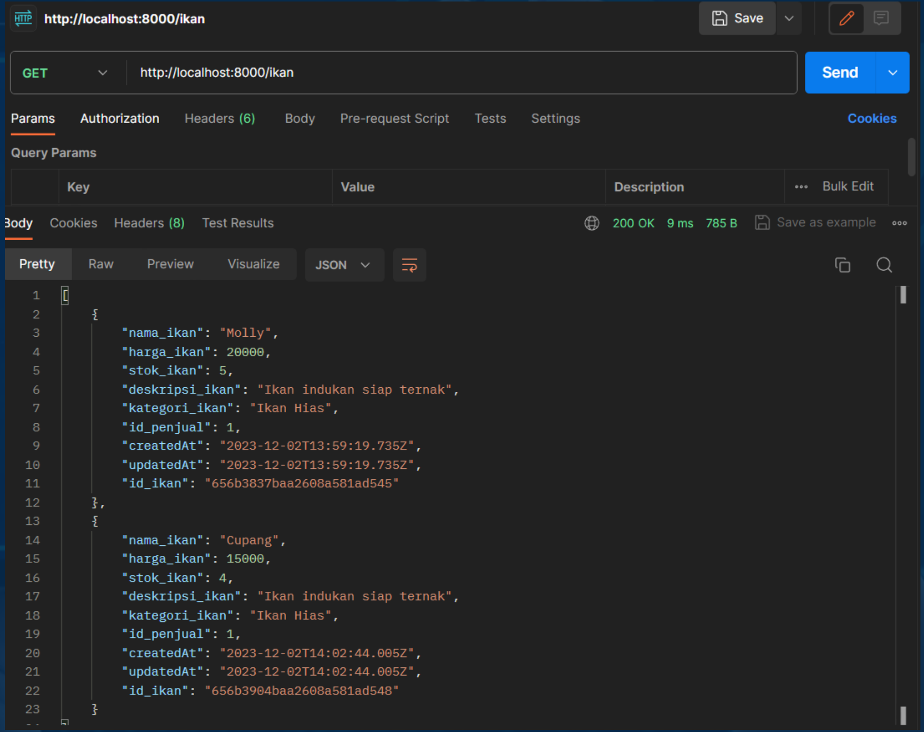


```
_id: ObjectId('656b3837baa2608a581ad545')
nama_ikan: "Molly"
harga_ikan: 20000
stok_ikan: 5
deskripsi_ikan: "Ikan indukan siap ternak"
kategori_ikan: "Ikan Hias"
id_penjual: 1
createdAt: 2023-12-02T13:59:19.735+00:00
updatedAt: 2023-12-02T13:59:19.735+00:00
__v: 0
```

```
_id: ObjectId('656b3904baa2608a581ad548')
nama_ikan: "Cupang"
harga_ikan: 15000
stok_ikan: 4
deskripsi_ikan: "Ikan indukan siap ternak"
kategori_ikan: "Ikan Hias"
id_penjual: 1
createdAt: 2023-12-02T14:02:44.005+00:00
updatedAt: 2023-12-02T14:02:44.005+00:00
__v: 0
```

2. findAll Data

- Postman



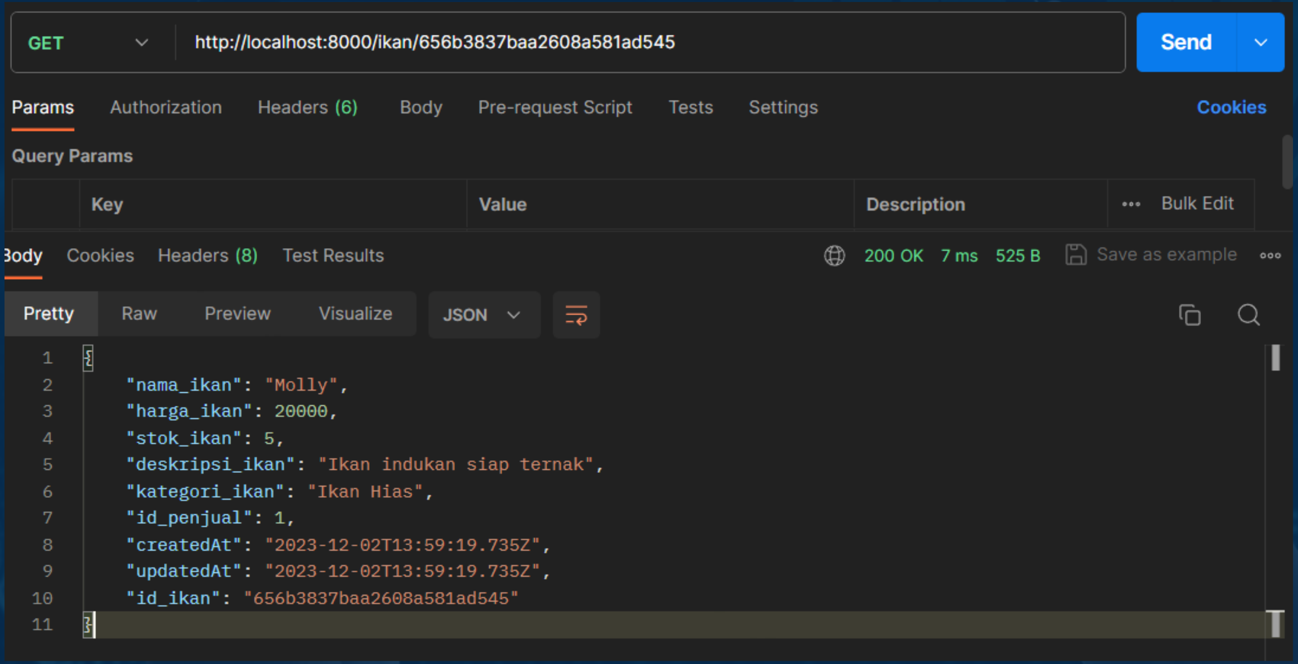
GET http://localhost:8000/ikan

200 OK 9 ms 785 B

```
[
    {
        "nama_ikan": "Molly",
        "harga_ikan": 20000,
        "stok_ikan": 5,
        "deskripsi_ikan": "Ikan indukan siap ternak",
        "kategori_ikan": "Ikan Hias",
        "id_penjual": 1,
        "createdAt": "2023-12-02T13:59:19.735Z",
        "updatedAt": "2023-12-02T13:59:19.735Z",
        "id_ikan": "656b3837baa2608a581ad545"
    },
    {
        "nama_ikan": "Cupang",
        "harga_ikan": 15000,
        "stok_ikan": 4,
        "deskripsi_ikan": "Ikan indukan siap ternak",
        "kategori_ikan": "Ikan Hias",
        "id_penjual": 1,
        "createdAt": "2023-12-02T14:02:44.005Z",
        "updatedAt": "2023-12-02T14:02:44.005Z",
        "id_ikan": "656b3904baa2608a581ad548"
    }
```

3. Show Data by ID

- Postman



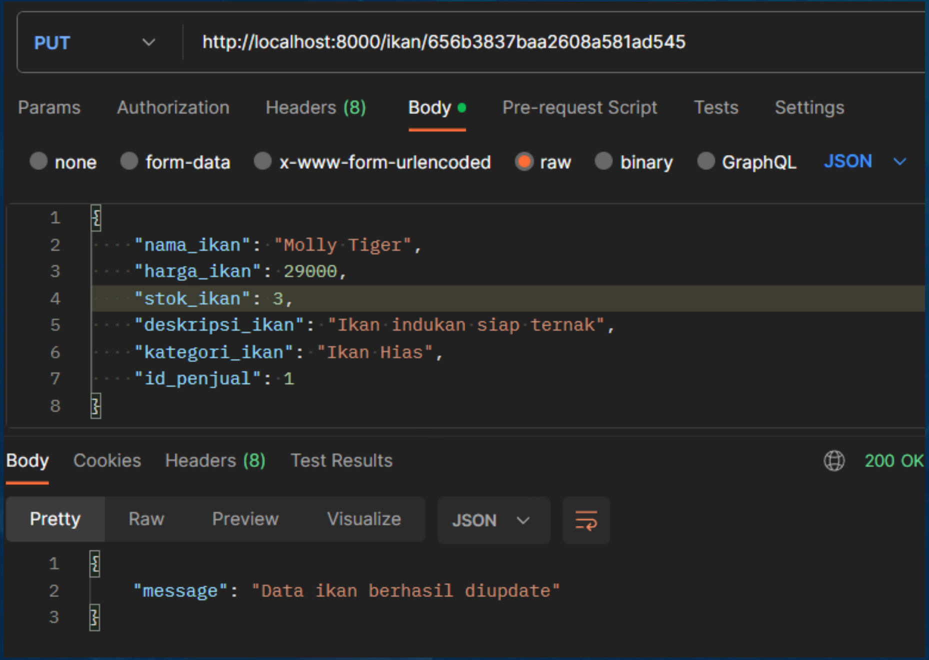
```
http://localhost:8000/ikan/656b3837baa2608a581ad545
```

200 OK 7 ms 525 B

```
{
    "nama_ikan": "Molly",
    "harga_ikan": 20000,
    "stok_ikan": 5,
    "deskripsi_ikan": "Ikan indukan siap ternak",
    "kategori_ikan": "Ikan Hias",
    "id_penjual": 1,
    "createdAt": "2023-12-02T13:59:19.735Z",
    "updatedAt": "2023-12-02T13:59:19.735Z",
    "id_ikan": "656b3837baa2608a581ad545"
}
```

4. Update Data

- Postman



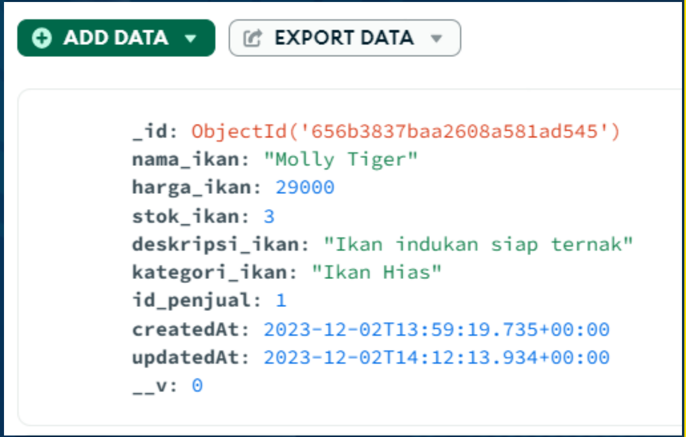
```
PUT http://localhost:8000/ikan/656b3837baa2608a581ad545
```

```
{
    "nama_ikan": "Molly Tiger",
    "harga_ikan": 29000,
    "stok_ikan": 3,
    "deskripsi_ikan": "Ikan indukan siap ternak",
    "kategori_ikan": "Ikan Hias",
    "id_penjual": 1
}
```

200 OK

```
{
    "message": "Data ikan berhasil diupdate"
}
```

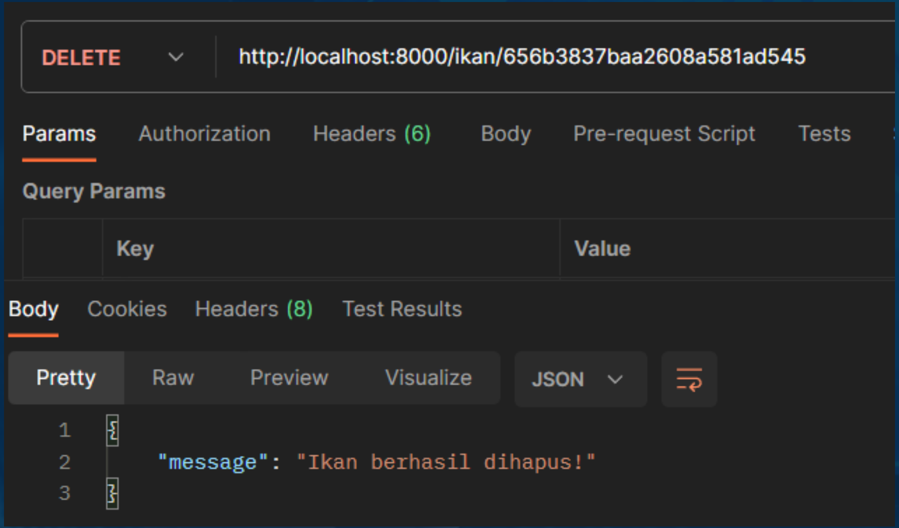
- MongoDB



```
_id: ObjectId('656b3837baa2608a581ad545')
nama_ikan: "Molly Tiger"
harga_ikan: 29000
stok_ikan: 3
deskripsi_ikan: "Ikan indukan siap ternak"
kategori_ikan: "Ikan Hias"
id_penjual: 1
createdAt: 2023-12-02T13:59:19.735+00:00
updatedAt: 2023-12-02T14:12:13.934+00:00
__v: 0
```

5. Delete Data

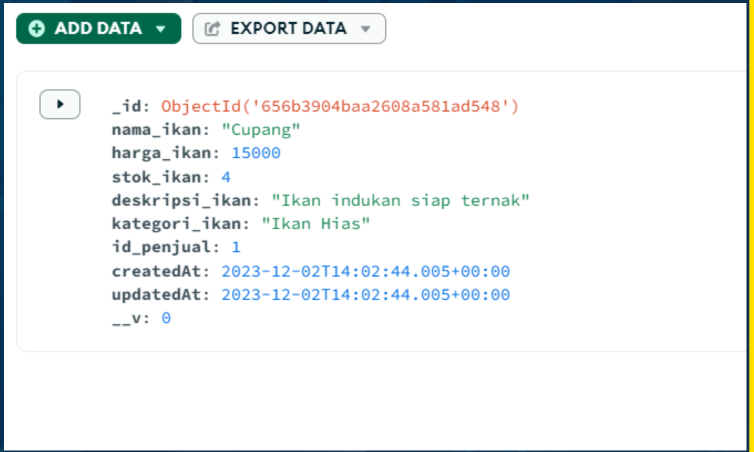
- Postman



```
http://localhost:8000/ikan/656b3837baa2608a581ad545
```

```
{
    "message": "Ikan berhasil dihapus!"
}
```

- MongoDB



```
_id: ObjectId('656b3904baa2608a581ad548')
nama_ikan: "Cupang"
harga_ikan: 15000
stok_ikan: 4
deskripsi_ikan: "Ikan indukan siap ternak"
kategori_ikan: "Ikan Hias"
id_penjual: 1
createdAt: 2023-12-02T14:02:44.005+00:00
updatedAt: 2023-12-02T14:02:44.005+00:00
__v: 0
```

Thanks!

Dosen Pembimbing:
Tessy Badriyah, S.Kom., M.T., Ph.D.