Criando API's com Node.JS
balta.io (André Baltieri)

https://www.youtube.com/watch?v=wDWdqlYxfcw&list=PLHlHvK2lnJndvvycjBqQAbgEDqXxKLoqn

Resumo do curso feito por Roberto Pinheiro

Github - Código fonte:

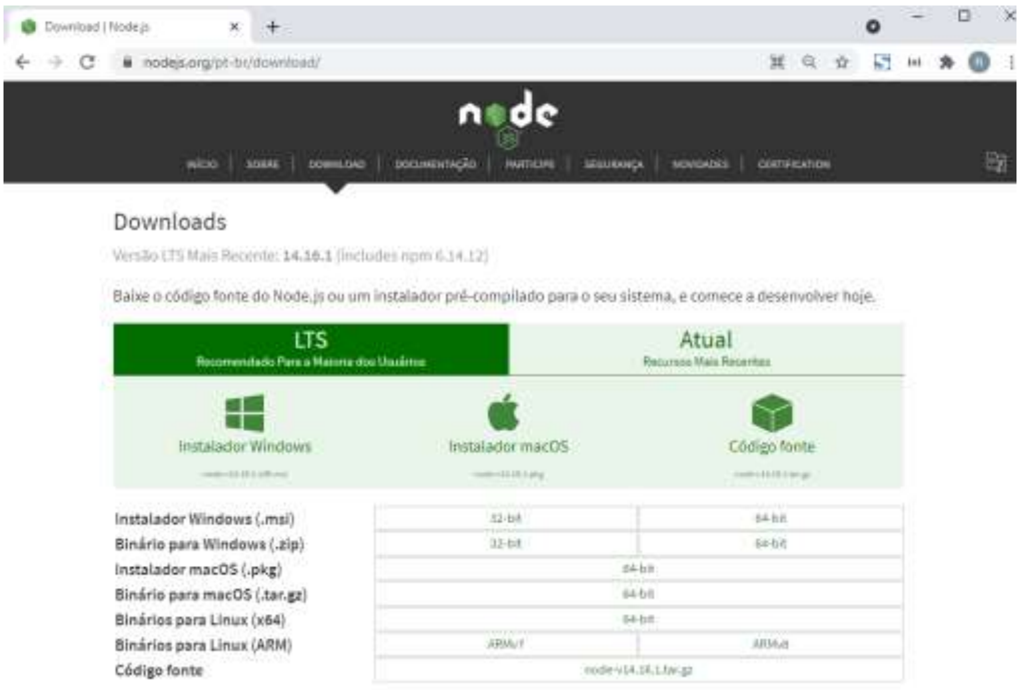
https://github.com/balta-io/1972

Aula 01 - Instalação Node, NPM e VS Code

- Dentro de C:\ crie uma pasta chamada balta e dentro dela crie uma subpasta chamada nodejs. Dentro dela crie uma subpasta chamada node-str. Essa será a pasta do nosso projeto inicial.

- Baixe e instale o Node:

https://nodejs.org/pt-br/download/



Downloads

Versão LTS Mais Recente: 14.16.1 (includes npm 6.14.12)

Baixe o código fonte do Node.js ou um instalador pré-compilado para o seu sistema, e comece a desenvolver hoje.

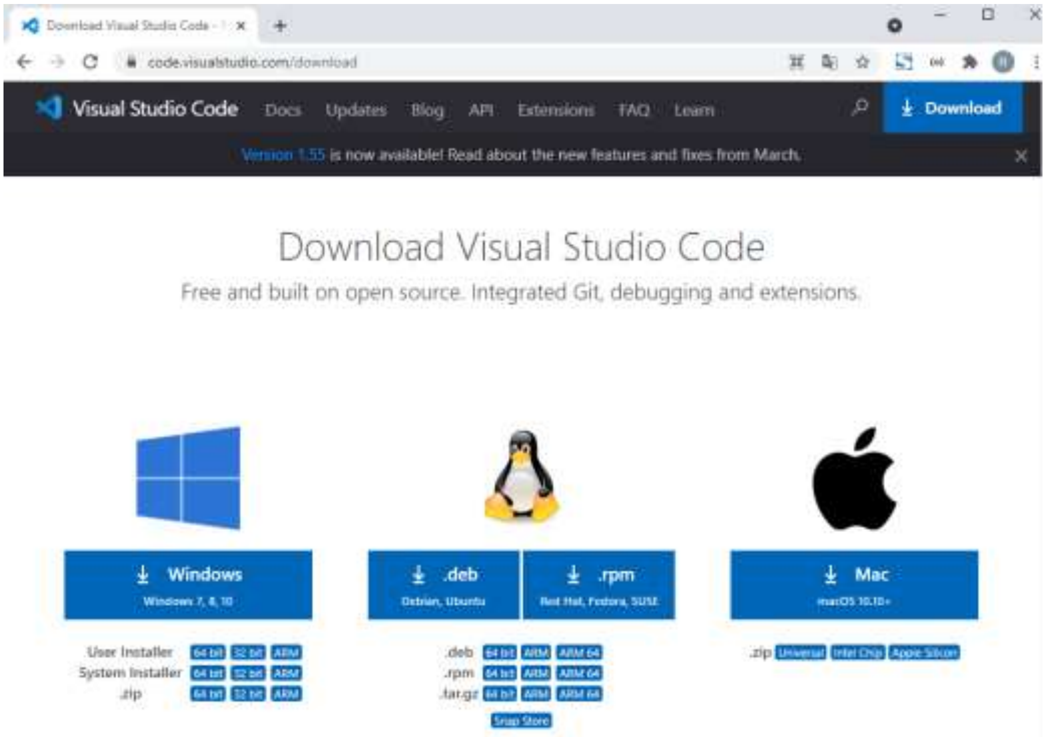
LTS Recomendado Para a Maioria dos Usuários	Atual Recursos Mais Recentes	
Instalador Windows	Instalador macOS	Código fonte

Instalador Windows (.msi)	32-bit	64-bit
Binário para Windows (.zip)	32-bit	64-bit
Instalador macOS (.pkg)	64-bit	
Binário para macOS (.tar.gz)	64-bit	
Binários para Linux (x64)	64-bit	
Binários para Linux (ARM)	ARMv7	ARMv8
Código fonte	node-v14.16.1.tar.gz	

- Baixe a versão LTS

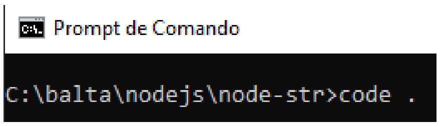
- Baixe e instale o Visual Studio Code

https://code.visualstudio.com/download

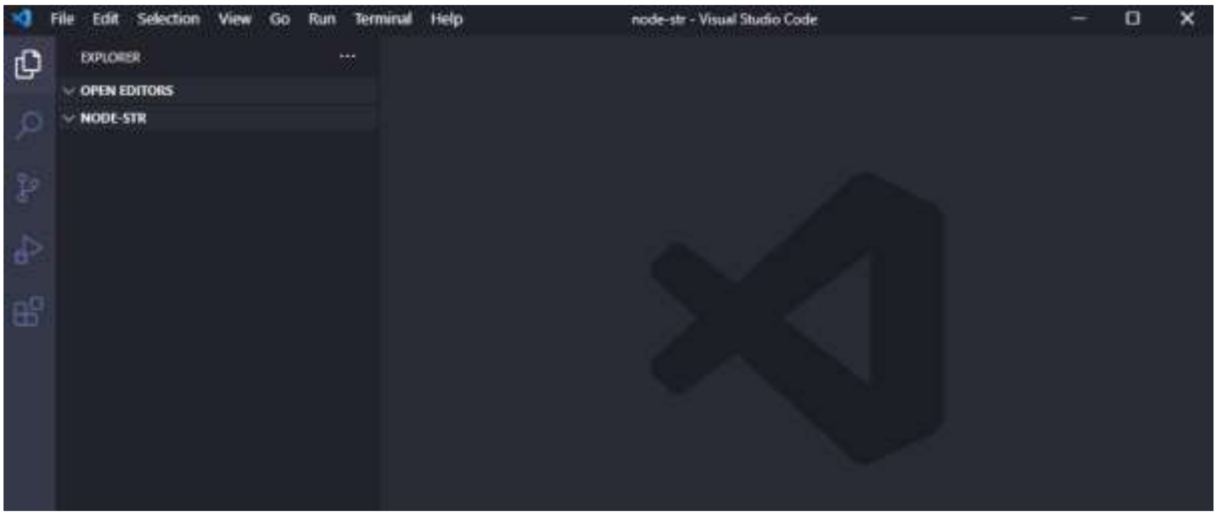


- Na pasta do projeto, entre com:

code .

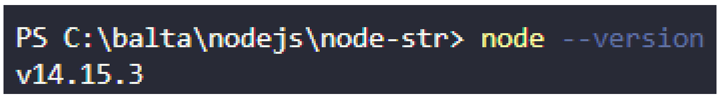

Prompt de Comando

```
C:\balta\nodejs\node-str>code .
```



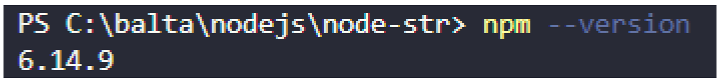
- Abra um terminal Powershell e entre com os seguintes comandos:

node --version



```
PS C:\balta\nodejs\node-str> node --version
v14.15.3
```

npm --version



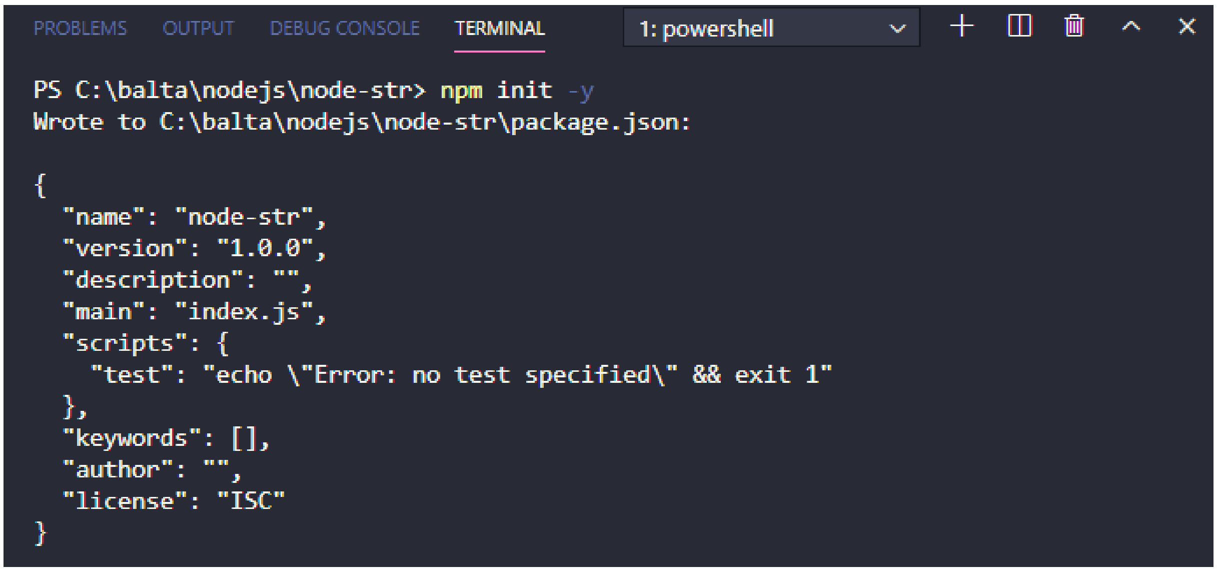
```
PS C:\balta\nodejs\node-str> npm --version
6.14.9
```

Aula 02 - npm init e instalação dos pacotes

Inicializando uma aplicação do Node

- No terminal, na pasta do projeto, entre com o comando:

npm init -y



```
PS C:\balta\nodejs\node-str> npm init -y
Wrote to C:\balta\nodejs\node-str\package.json:

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

- É criado um arquivo chamado package.json

package.json

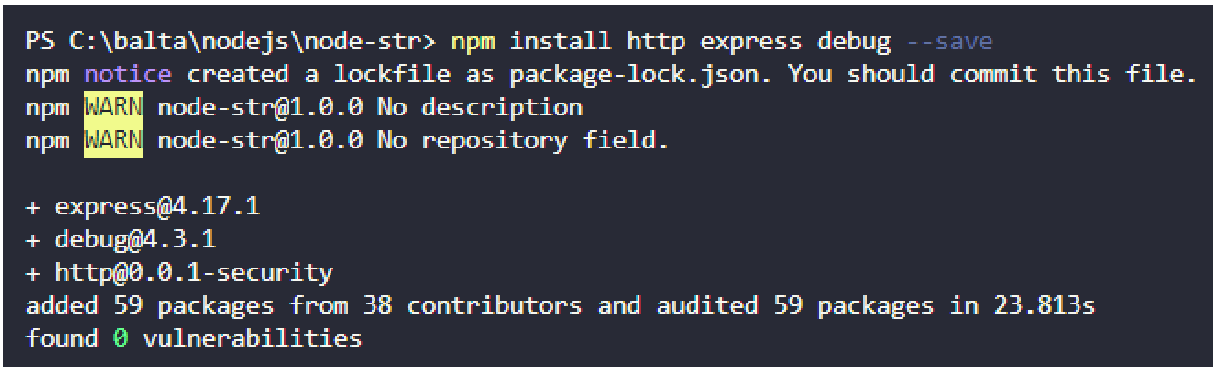
```
{
 "name": "node-str",
 "version": "1.0.0",
 "description": "",
 "main": "index.js",
 "scripts": {
   "test": "echo \"Error: no test specified\" && exit 1"
 },
 "keywords": [],
 "author": "",
 "license": "ISC"
}
```

Instalando pacotes básicos

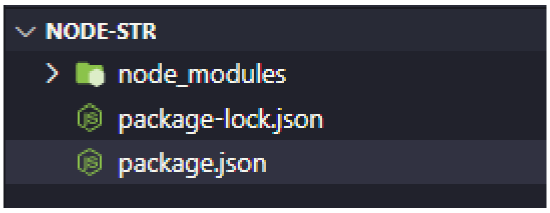
O comando a seguir irá instalar os pacotes:

- http
- express
- debug

npm install http express debug --save



```
PS C:\balta\nodejs\node-str> npm install http express debug --save
npm notice created a lockfile as package-lock.json. You should commit this file.
npm WARN node-str@1.0.0 No description
npm WARN node-str@1.0.0 No repository field.

+ express@4.17.1
+ debug@4.3.1
+ http@0.0.1-security
added 59 packages from 38 contributors and audited 59 packages in 23.813s
found 0 vulnerabilities
```

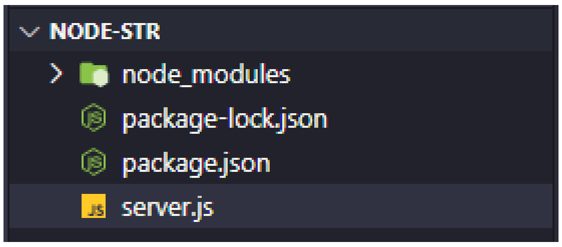


```
NODE-STR
  > node_modules
    package-lock.json
    package.json
```

package.json

```
{
 "name": "node-str",
 "version": "1.0.0",
 "description": "",
 "main": "index.js",
 "scripts": {
   "test": "echo \"Error: no test specified\" && exit 1"
 },
 "keywords": [],
 "author": "",
 "license": "ISC",
 "dependencies": {
   "debug": "^4.3.1",
   "express": "^4.17.1",
   "http": "0.0.1-security"
 }
}
```

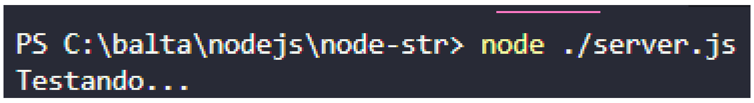
- Crie um arquivo chamado server.js



server.js

'use strict'

console.log('Testando...');



```
PS C:\balta\nodejs\node-str> node ./server.js
Testando...
```

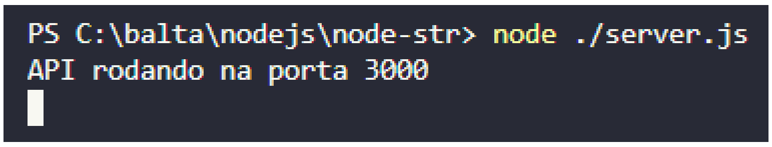
Aula 03 - Criando um servidor web

server.js

```
'use strict'

const http = require('http');
const debug = require('debug')('nodestr: server');
const express = require('express');

const app = express();
const port = 3000;
app.set('port', port);

const server = http.createServer(app);
const router = express.Router();

const route = router.get('/', (req, res, next) => {
    res.status(200).send({
        title: "Node Store API",
        version: "0.0.1"
    });
});

app.use('/', route);

server.listen(port);
console.log('API rodando na porta ' + port);
```

- Rode o servidor:

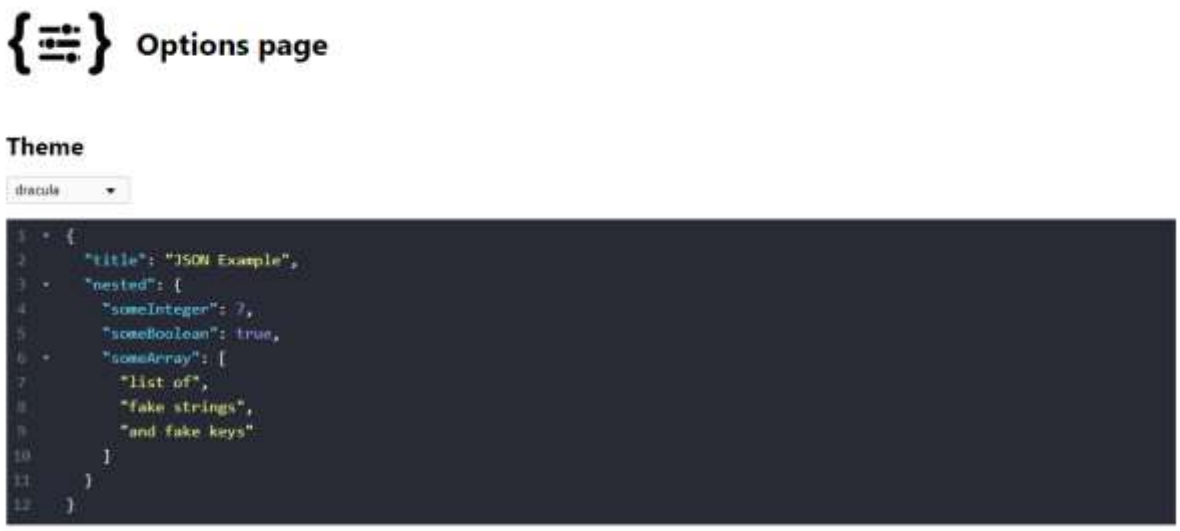
```
node ./server.js
```



```
PS C:\balta\nodejs\node-str> node ./server.js
API rodando na porta 3000
```

- Instale a extensão JSON Viewer para Google Chrome.

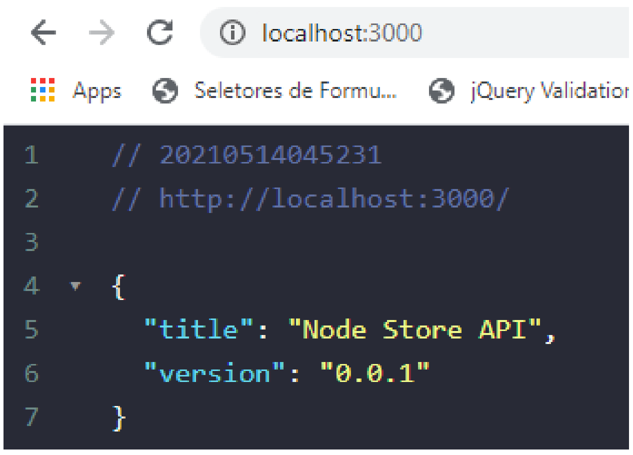
- Selecione o tema Dracula:



```
{
  "title": "JSON Example",
  "nested": {
    "someInteger": 7,
    "someBoolean": true,
    "someArray": [
      "list of",
      "fake strings",
      "and fake keys"
    ]
  }
}
```

- No browser:

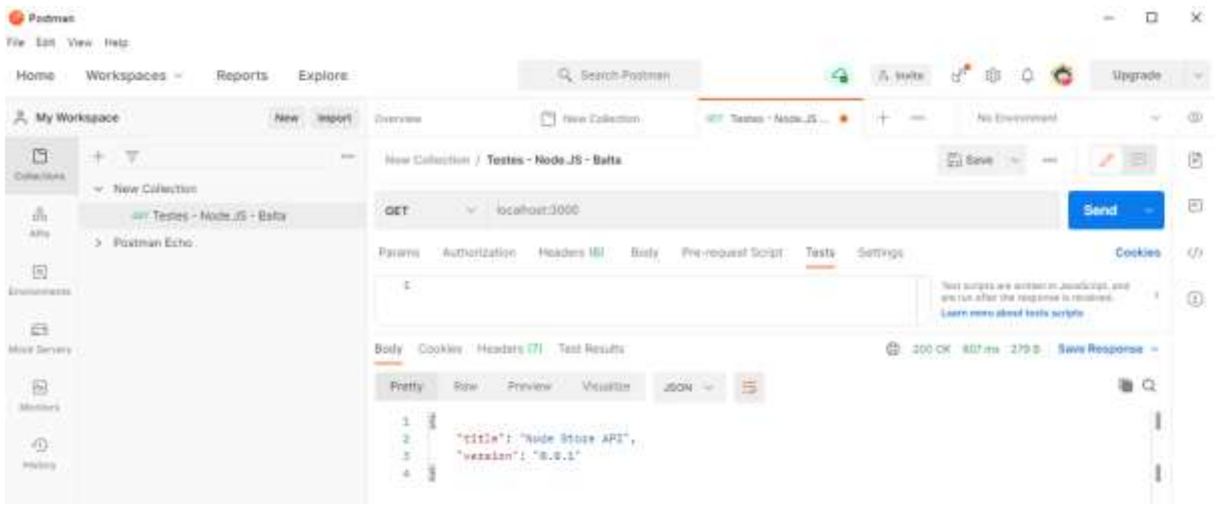
http://localhost:3000/



```
// 20210514045231
// http://localhost:3000/

{
  "title": "Node Store API",
  "version": "0.0.1"
}
```

- Baixe e instale o Postman. Ele será utilizado para simular requisições.

Usando o Postman:


New Collection / Testes - Node.JS - Balta

GET localhost:3000

200 OK 407 ms 279 B

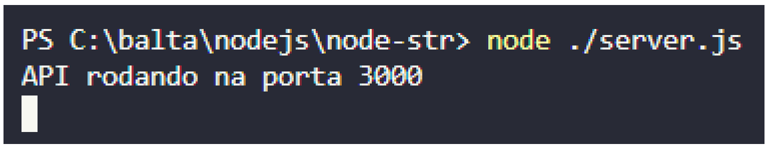
```
{
    "title": "Node Store API",
    "version": "0.0.1"
}
```

Aula 04 - Normalizando a porta

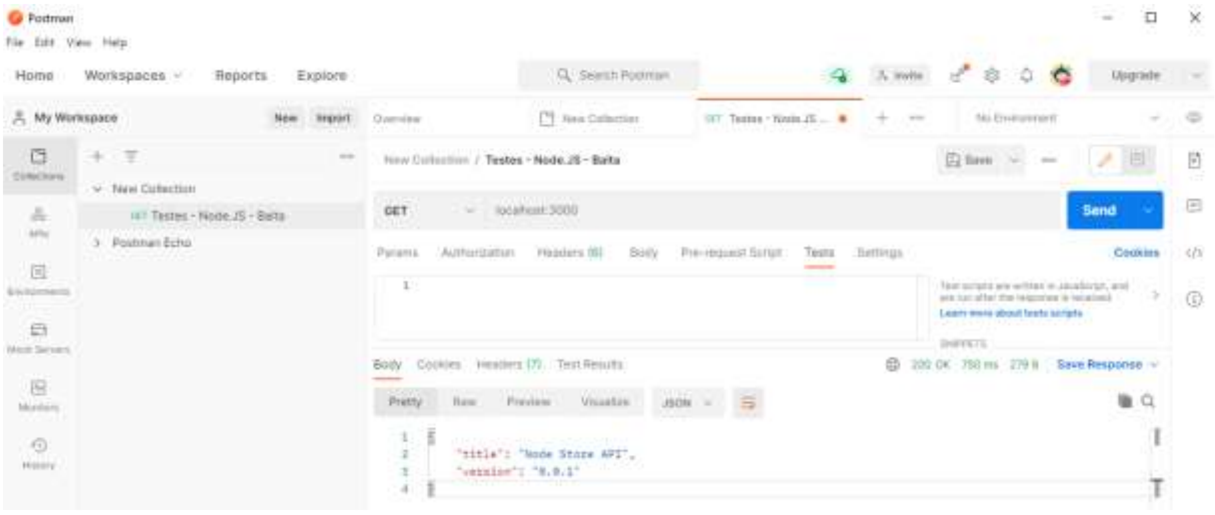
server.js

```
'use strict'

const http = require('http');
const debug = require('debug')('nodestr: server');
const express = require('express');

const app = express();
const port = normalizePort(process.env.PORT) || '3000';
app.set('port', port);

const server = http.createServer(app);
const router = express.Router();

const route = router.get('/', (req, res, next) => {
    res.status(200).send({
        title: "Node Store API",
        version: "0.0.1"
    });
});

app.use('/', route);

server.listen(port);
console.log('API rodando na porta ' + port);

function normalizePort(val){
    const port = parseInt(val, 10);

    if(isNaN(port)){
        return val;
    }

    if(port >= 0){
        return port;
    }

    return false;
}
```

node ./server.js



```
PS C:\balta\nodejs\node-str> node ./server.js
API rodando na porta 3000
```



```
GET localhost:3000
```

Test scripts are written in JavaScript, and are run after the response is received.

200 OK 750 ms 279 B

```
{
    "title": "Node Store API",
    "version": "0.0.1"
}
```

Aula 05 - Gerenciando erros do servidor

server.js

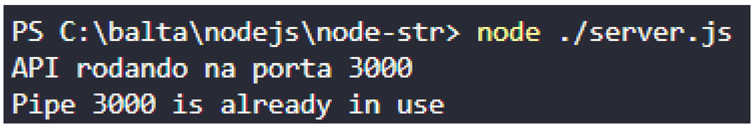
```
'use strict'

const http = require('http');
const debug = require('debug')('nodestr: server');
const express = require('express');

const app = express();
const port = normalizePort(process.env.PORT) || '3000';
app.set('port', port);

const server = http.createServer(app);
const router = express.Router();

const route = router.get('/', (req, res, next) => {
   res.status(200).send({
      title: "Node Store API",
      version: "0.0.1"
   });
});

app.use('/', route);

server.listen(port);
server.on('error', onError);
console.log('API rodando na porta ' + port);

function normalizePort(val){
   const port = parseInt(val, 10);

   if(isNaN(port)){
      return val;
   }

   if(port >= 0){
      return port;
   }

   return false;
}

function onError(error) {
   if (error.syscall !== 'listen') {
     throw error;
   }
```

```
  const bind = typeof port === 'string'
    ? 'Pipe ' + port
    : 'Port ' + port;

  switch (error.code) {
    case 'EACCES':
      console.error(bind + ' requires elevated privileges');
      process.exit(1);
      break;
    case 'EADDRINUSE':
      console.error(bind + ' is already in use');
      process.exit(1);
      break;
    default:
      throw error;
  }
}
```

Criando um erro

- No Visual Studio Code, abra e execute o servidor em dois terminais:

```
node ./server.js
```



```
PS C:\balta\nodejs\node-str> node ./server.js
API rodando na porta 3000
Pipe 3000 is already in use
```

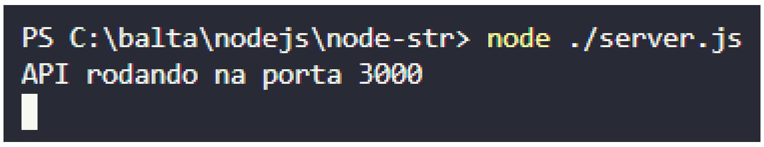
Aula 06 - Iniciando o Debug

server.js

```
'use strict'

const http = require('http');
const debug = require('debug')('nodestr: server');
const express = require('express');

const app = express();
const port = normalizePort(process.env.PORT) || '3000';
app.set('port', port);

const server = http.createServer(app);
const router = express.Router();

const route = router.get('/', (req, res, next) => {
   res.status(200).send({
      title: "Node Store API",
      version: "0.0.1"
   });
});

app.use('/', route);

server.listen(port);
server.on('error', onError);
server.on('listening', onListening);
console.log('API rodando na porta ' + port);

function normalizePort(val){
   const port = parseInt(val, 10);

   if(isNaN(port)){
      return val;
   }

   if(port >= 0){
      return port;
   }

   return false;
}
```

```
function onError(error) {
  if (error.syscall !== 'listen') {
    throw error;
  }

  const bind = typeof port === 'string'
    ? 'Pipe ' + port
    : 'Port ' + port;

  switch (error.code) {
    case 'EACCES':
      console.error(bind + ' requires elevated privileges');
      process.exit(1);
      break;
    case 'EADDRINUSE':
      console.error(bind + ' is already in use');
      process.exit(1);
      break;
    default:
      throw error;
  }
 }

 function onListening() {
  const addr = server.address();
  const bind = typeof addr === 'string'
    ? 'pipe ' + addr
    : 'port ' + addr.port;
  debug('Listening on ' + bind);
 }
```

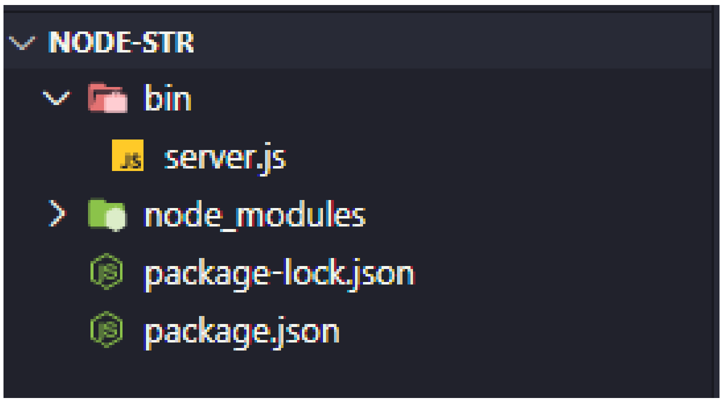
```
node ./server.js
```



```
PS C:\balta\nodejs\node-str> node ./server.js
API rodando na porta 3000
```

Aula 07 - Separando o servidor

- No diretório raiz da aplicação, crie uma pasta chamada bin. E mova o arquivo server.js para dentro dela.

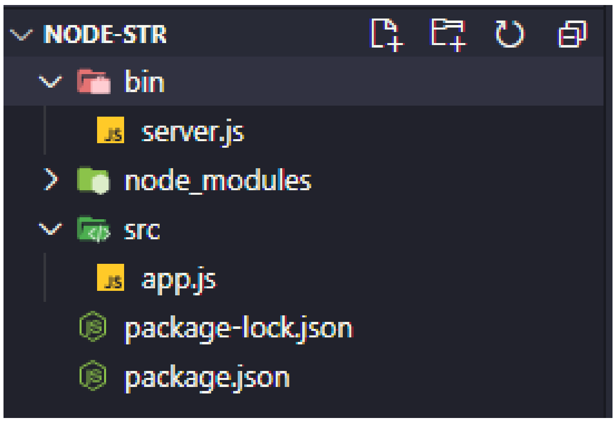


- No arquivo bin/server.js altere a linha da const app e remova o trecho de código especificado:

bin/server.js

```
const app = require('../src/app');
const http = require('http');
const debug = require('debug')('balta:server');

const express = require('express');

~~const app = express();~~

const port = normalizePort(process.env.PORT || '3000');
app.set('port', port);

const server = http.createServer(app);

~~const router = express.Router();~~

~~const route = router.get('/', (req, res, next) => {~~
~~    res.status(200).send({~~
~~        title: "Node Store API",~~
~~        version: "0.0.1"~~
~~    });~~
~~});~~

~~app.use('/', route);~~

server.listen(port);
server.on('error', onError);
server.on('listening', onListening);
console.log('API rodando na porta ' + port);

function normalizePort(val) {
  const port = parseInt(val, 10);

  if (isNaN(port)) {
    return val;
  }

  if (port >= 0) {
    return port;
  }

  return false;
}

function onError(error) {
  if (error.syscall !== 'listen') {
    throw error;
  }

  const bind = typeof port === 'string'
    ? 'Pipe ' + port
    : 'Port ' + port;

  switch (error.code) {
    case 'EACCES':
      console.error(bind + ' requires elevated privileges');
      process.exit(1);
      break;
    case 'EADDRINUSE':
      console.error(bind + ' is already in use');
      process.exit(1);
      break;
    default:
      throw error;
  }
}

function onListening() {
  const addr = server.address();
  const bind = typeof addr === 'string'
    ? 'pipe ' + addr
    : 'port ' + addr.port;
  debug('Listening on ' + bind);
}
```

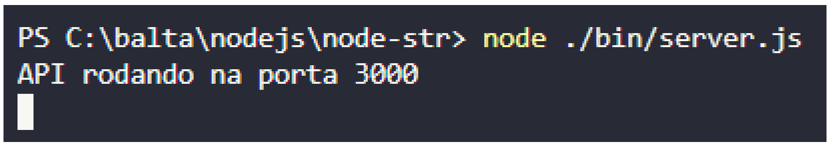
- No diretório raiz da aplicação, crie uma nova pasta chamada src e dentro dela insira um arquivo chamado app.js:



src/app.js

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

const app = express();
const router = express.Router();

const route = router.get('/', (req, res, next) => {
    res.status(200).send({
        title: "Node Store API",
        version: "0.0.1"
    });
});

app.use('/', route);

module.exports = app;
```

node ./bin/server.js



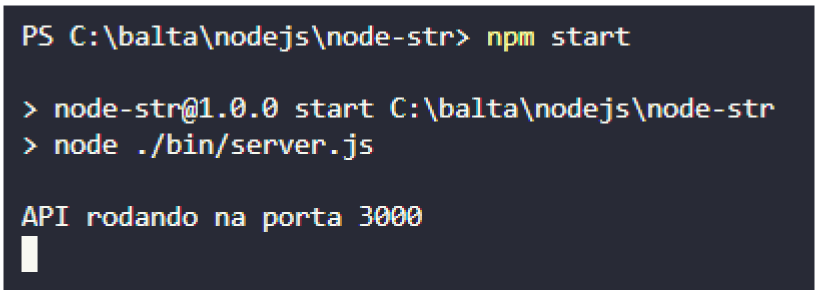
```
PS C:\balta\nodejs\node-str> node ./bin/server.js
API rodando na porta 3000
```

Aula 08 - Configurando o npm start

package.json

```
{
  "name": "node-str",
  "version": "1.0.0",
  "description": "",
  "main": "index.js",
  "scripts": {
    "test": "echo \"Error: no test specified\" && exit 1",
    "start": "node ./bin/server.js"
  },
  "keywords": [],
  "author": "",
  "license": "ISC",
  "dependencies": {
    "debug": "^4.1.1",
    "express": "^4.17.1",
    "http": "0.0.0"
  }
}
```

npm start

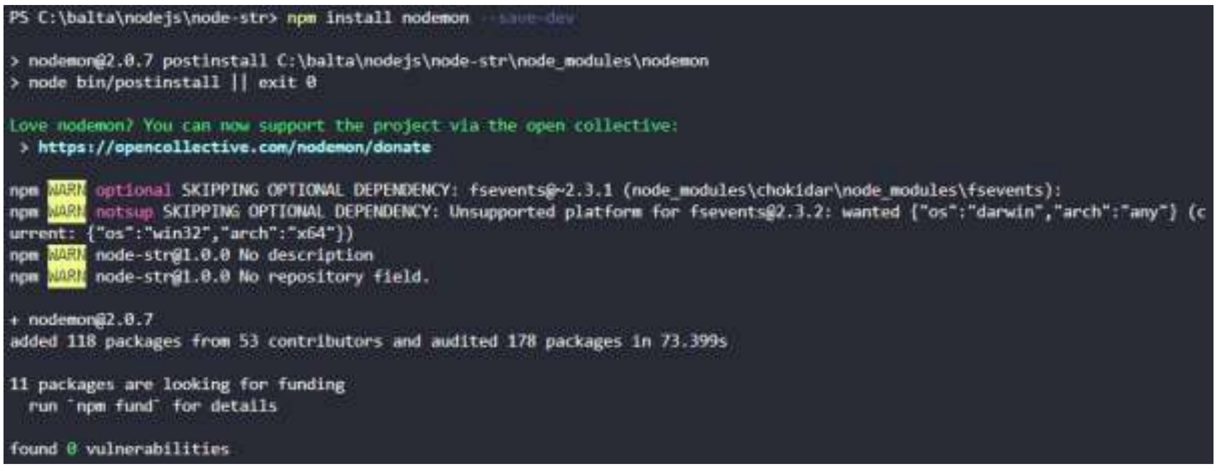


```
PS C:\balta\nodejs\node-str> npm start

> node-str@1.0.0 start C:\balta\nodejs\node-str
> node ./bin/server.js

API rodando na porta 3000
```

Aula 09 - Nodemon

Instalando o pacote nodemon

```
npm install nodemon --save-dev
```

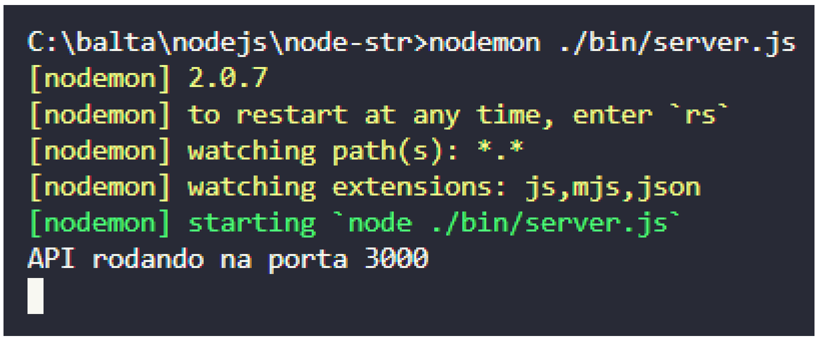


```
PS C:\balta\nodejs\node-str> npm install nodemon --save-dev

> nodemon@2.0.7 postinstall C:\balta\nodejs\node-str\node_modules\nodemon
> node bin/postinstall || exit 0

Love nodemon? You can now support the project via the open collective:
 > https://opencollective.com/nodemon/donate

npm WARN optional SKIPPING OPTIONAL DEPENDENCY: fsevents@~2.3.1 (node_modules\chokidar\node_modules\fsevents):
npm WARN notsup SKIPPING OPTIONAL DEPENDENCY: Unsupported platform for fsevents@2.3.2: wanted {"os":"darwin","arch":"any"} (c
urrent: {"os":"win32","arch":"x64"})
npm WARN node-str@1.0.0 No description
npm WARN node-str@1.0.0 No repository field.

+ nodemon@2.0.7
added 118 packages from 53 contributors and audited 178 packages in 73.399s

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

found 0 vulnerabilities
```

package.json

```
{
  "name": "node-str",
  "version": "1.0.0",
  "description": "",
  "main": "index.js",
  "scripts": {
    "test": "echo \"Error: no test specified\" && exit 1",
    "start": "node ./bin/server.js"
  },
  "keywords": [],
  "author": "",
  "license": "ISC",
  "dependencies": {
    "debug": "^4.3.1",
    "express": "^4.17.1",
    "http": "0.0.1-security"
  },
  "devDependencies": {
    "nodemon": "^2.0.7"
  }
}
```

nodemon ./bin/server.js

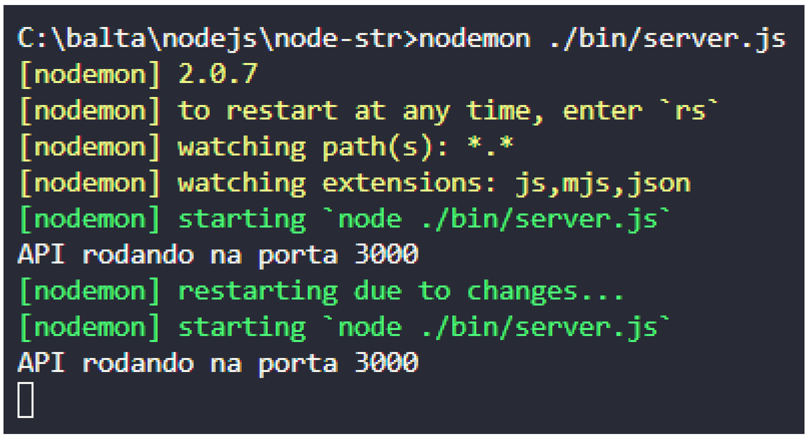


```
C:\balta\nodejs\node-str>nodemon ./bin/server.js
[nodemon] 2.0.7
[nodemon] to restart at any time, enter `rs`
[nodemon] watching path(s): *.*
[nodemon] watching extensions: js,mjs,json
[nodemon] starting `node ./bin/server.js`
API rodando na porta 3000
```

- Fazendo uma alteração no arquivo src/app.js, ao salvá-lo:

src/app.js

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

const app = express();
const router = express.Router();

const route = router.get('/', (req, res, next) => {
   res.status(200).send({
      title: "Node Store API",
      version: "0.0.2"
   });
});

app.use('/', route);

module.exports = app;
```

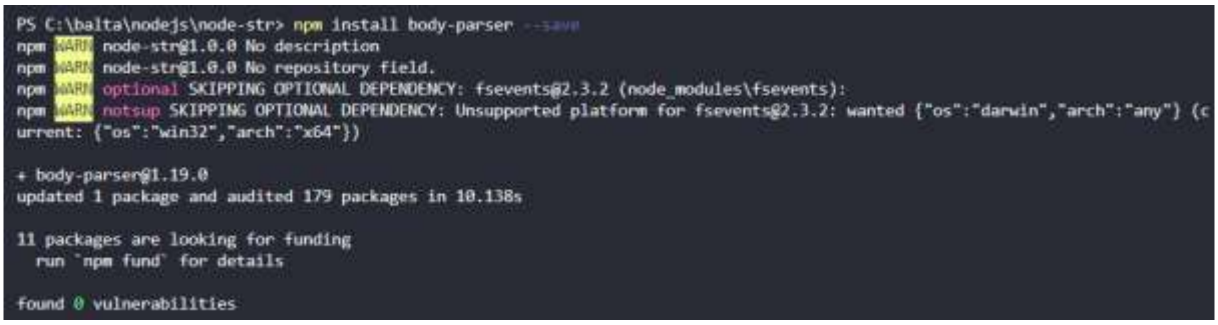


```
C:\balta\nodejs\node-str>nodemon ./bin/server.js
[nodemon] 2.0.7
[nodemon] to restart at any time, enter `rs`
[nodemon] watching path(s): *.*
[nodemon] watching extensions: js,mjs,json
[nodemon] starting `node ./bin/server.js`
API rodando na porta 3000
[nodemon] restarting due to changes...
[nodemon] starting `node ./bin/server.js`
API rodando na porta 3000
```

Aula 10 - CRUD Rest

Instalando o pacote body-parser

```
npm install body-parser --save
```



```
PS C:\balta\nodejs\node-str> npm install body-parser --save
npm WARN node-str@1.0.0 No description
npm WARN node-str@1.0.0 No repository field.
npm WARN optional SKIPPING OPTIONAL DEPENDENCY: fsevents@2.3.2 (node_modules\fsevents):
npm WARN notsup SKIPPING OPTIONAL DEPENDENCY: Unsupported platform for fsevents@2.3.2: wanted {"os":"darwin","arch":"any"} (c
urrent: {"os":"win32","arch":"x64"})

+ body-parser@1.19.0
updated 1 package and audited 179 packages in 10.138s

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

found 0 vulnerabilities
```

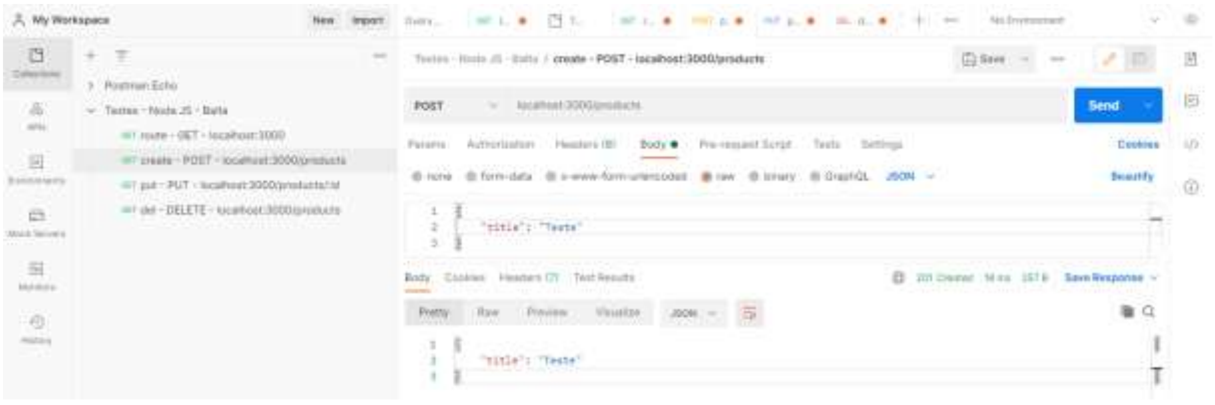
src/app.js

```
const express = require('express');
const bodyParser = require('body-parser');

const app = express();
const router = express.Router();

app.use(bodyParser.json());
app.use(bodyParser.urlencoded({
    extended: false
}));

const route = router.get('/', (req, res, next) => {
    res.status(200).send({
        title: "Node Store API",
        version: "0.0.2"
    });
});

const create = router.post('/', (req, res, next) => {
    res.status(201).send(req.body);
});

app.use('/', route);
app.use('/products', create);

module.exports = app;
```

src/app.js

```
const express = require('express');
const bodyParser = require('body-parser');

const app = express();
const router = express.Router();

app.use(bodyParser.json());
app.use(bodyParser.urlencoded({
  extended: false
}));

const route = router.get('/', (req, res, next) => {
  res.status(200).send({
    title: "Node Store API",
    version: "0.0.1"
  });
});

const create = router.post('/', (req, res, next) => {
  res.status(201).send(req.body);
});

const put = router.put('/:id', (req, res, next) => {
  const id = req.params.id;
  res.status(200).send({
    id: id,
    item: req.body
  });
});

const del = router.delete('/', (req, res, next) => {
  res.status(200).send(req.body);
});

app.use('/', route);
app.use('/products', create);
app.use('/products', put);
app.use('/products', del);

module.exports = app;
```

create → método POST


Testes - Node JS - Balta / create - POST - localhost:3000/products

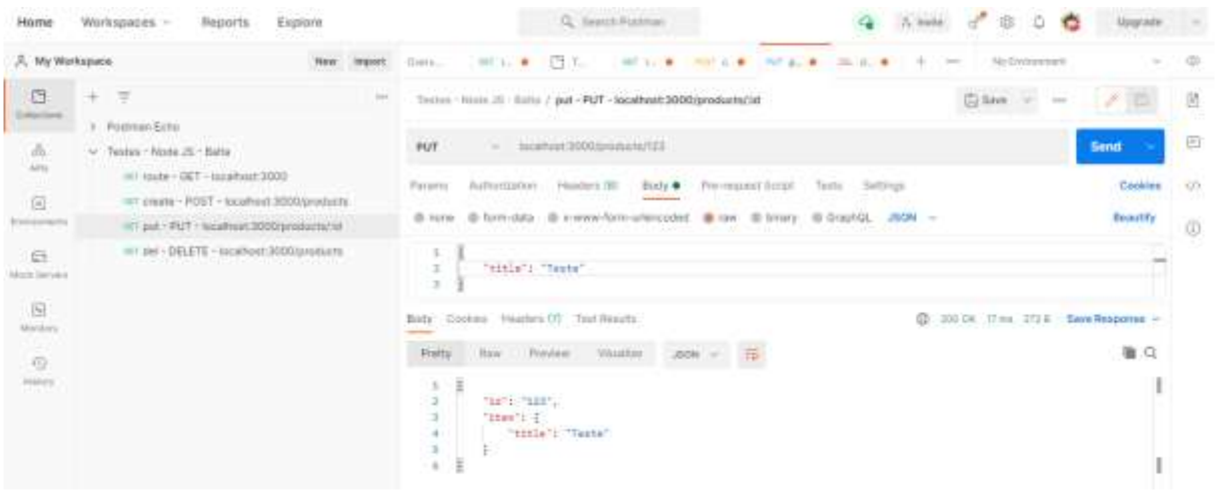
POST localhost:3000/products

```
{
    "title": "Teste"
}
```

201 Created

```
{
    "title": "Teste"
}
```

put → método PUT


Testes - Node JS - Balta / put - PUT - localhost:3000/products/:id

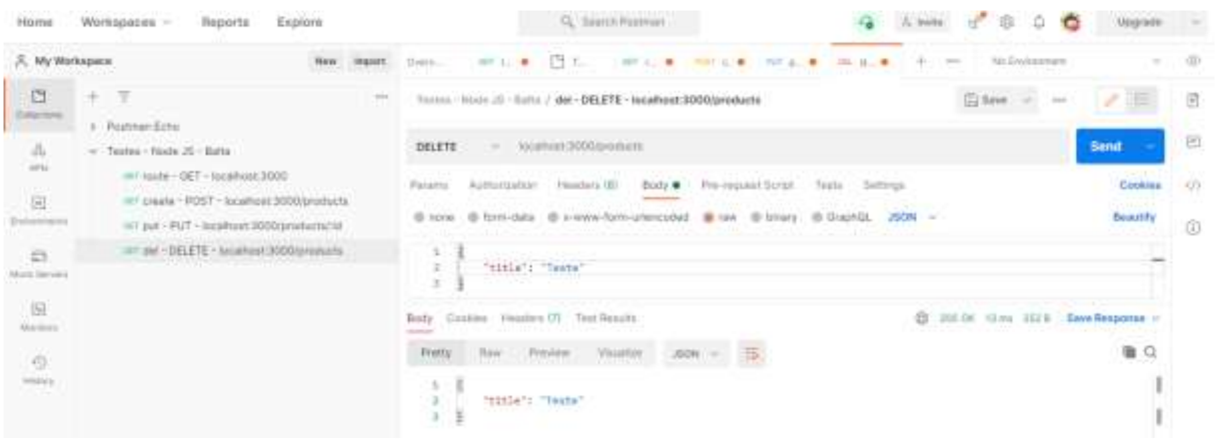
PUT localhost:3000/products/123

```
{
    "title": "Teste"
}
```

200 OK

```
{
    "id": "123",
    "item": {
        "title": "Teste"
    }
}
```

del → método DELETE


Testes - Node JS - Balta / del - DELETE - localhost:3000/products

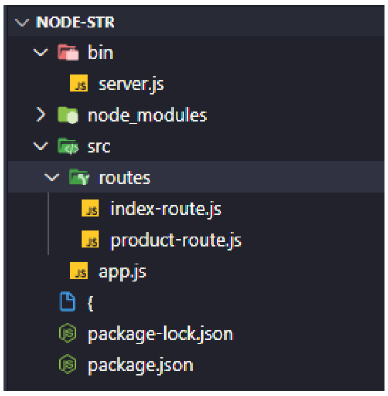
DELETE localhost:3000/products

```
{
    "title": "Teste"
}
```

200 OK

```
{
    "title": "Teste"
}
```

Aula 11 - Rotas



```
NODE-STR
  bin
    server.js
  node_modules
  src
    routes
      index-route.js
      product-route.js
    app.js
  {
  package-lock.json
  package.json
```

src/routes/index-route.js

```
const express = require('express');
const router = express.Router();

router.get('/', (req, res, next) => {
    res.status(200).send({
        title: "Node Store API",
        version: "0.0.2"
    });
});

module.exports = router;
```

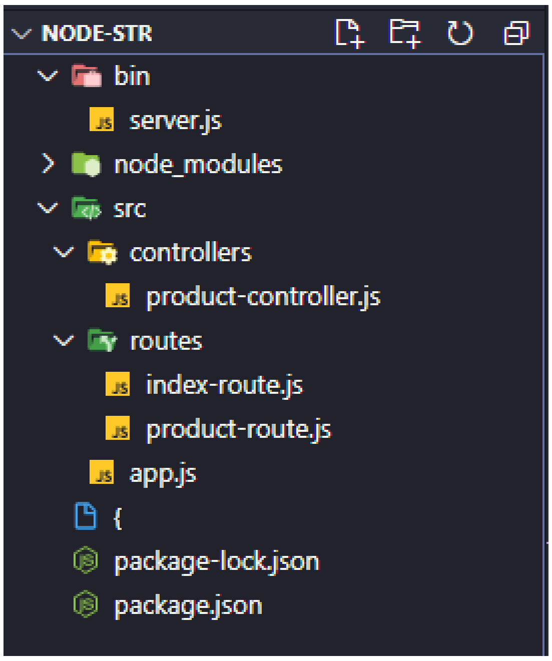
src/routes/product-route.js

```
const express = require('express');
const router = express.Router();

router.post('/', (req, res, next) => {
    res.status(201).send(req.body);
});

router.put('/:id', (req, res, next) => {
    const id = req.params.id;
    res.status(200).send({
        id: id,
        item: req.body
    });
});

router.delete('/', (req, res, next) => {
    res.status(200).send(req.body);
});

module.exports = router;
```

src/app.js

```
const express = require('express');
const bodyParser = require('body-parser');

const app = express();
const router = express.Router();

// Carrega as rotas
const indexRoute = require('./routes/index-route');
const productRoute = require('./routes/product-route');

app.use(bodyParser.json());
app.use(bodyParser.urlencoded({
   extended: false
}));

app.use('/', indexRoute);
app.use('/products', productRoute);

module.exports = app;
```

Aula 12 - Controllers


```
NODE-STR
  bin
    server.js
  node_modules
  src
    controllers
      product-controller.js
    routes
      index-route.js
      product-route.js
    app.js
  {
  package-lock.json
  package.json
```

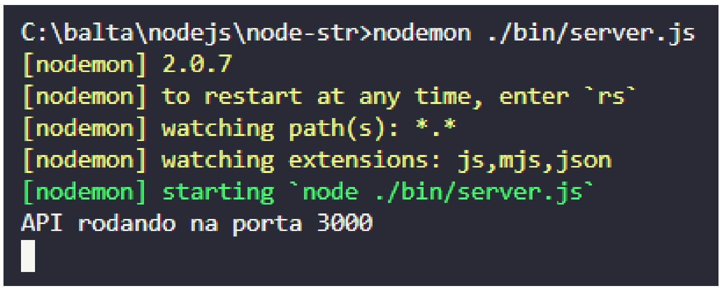
src/controllers/product-controller.js

```
'use strict';

exports.post = (req, res, next) => {
   res.status(201).send(req.body);
};

exports.put = (req, res, next) => {
   const id = req.params.id;
   res.status(200).send({
      id: id,
      item: req.body
   });
};

exports.delete = (req, res, next) => {
   res.status(200).send(req.body);
};
```

src/routes/product-route.js

```
const express = require('express');
const router = express.Router();
const controller = require("../controllers/product-controller");

router.post('/', controller.post);
router.put('/:id', controller.put);
router.delete('/', controller.delete);

module.exports = router;
```

nodemon ./bin/server.js



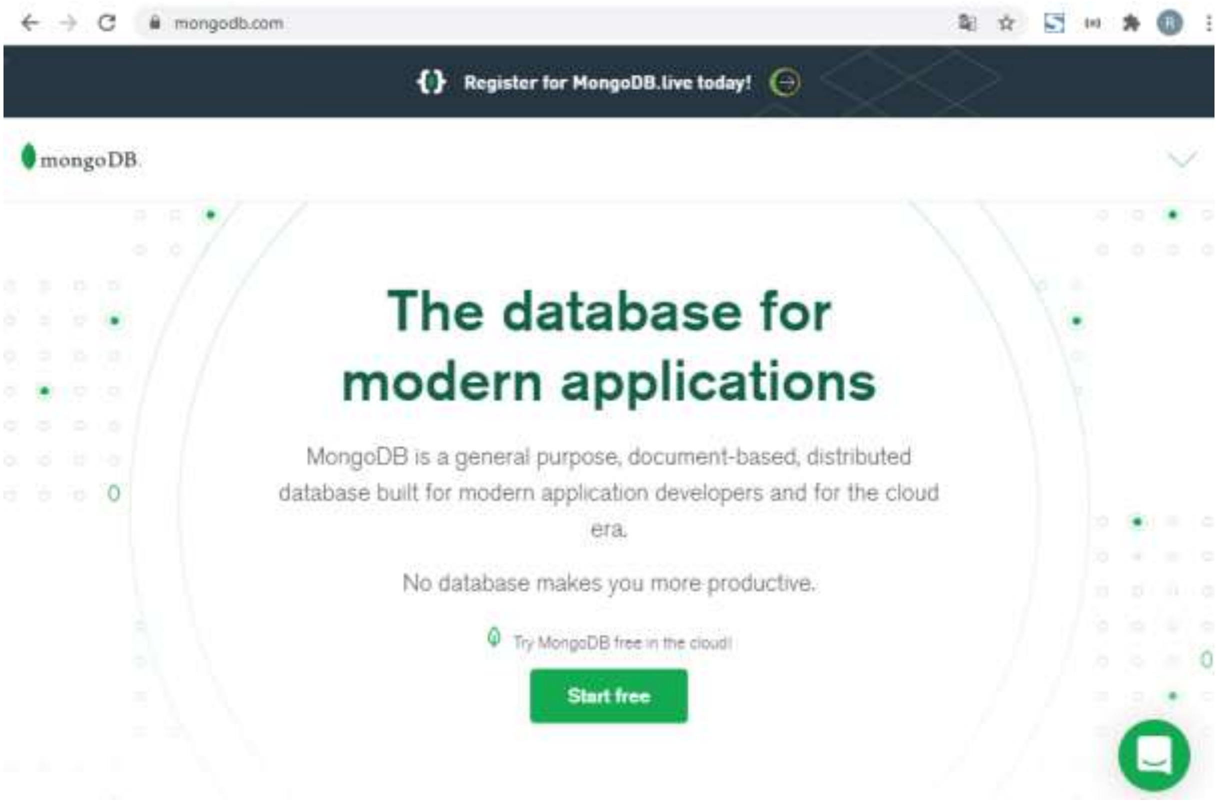
```
C:\balta\nodejs\node-str>nodemon ./bin/server.js
[nodemon] 2.0.7
[nodemon] to restart at any time, enter `rs`
[nodemon] watching path(s): *.*
[nodemon] watching extensions: js,mjs,json
[nodemon] starting `node ./bin/server.js`
API rodando na porta 3000
```

- Faça os testes com o Postman para verificar se tudo continua funcionando normalmente.

Aula 13 - MongoDB Setup

- Baixe e instale o MongoDB.

www.mongodb.com


mongodb.com

Register for MongoDB.live today!

mongoDB

The database for modern applications

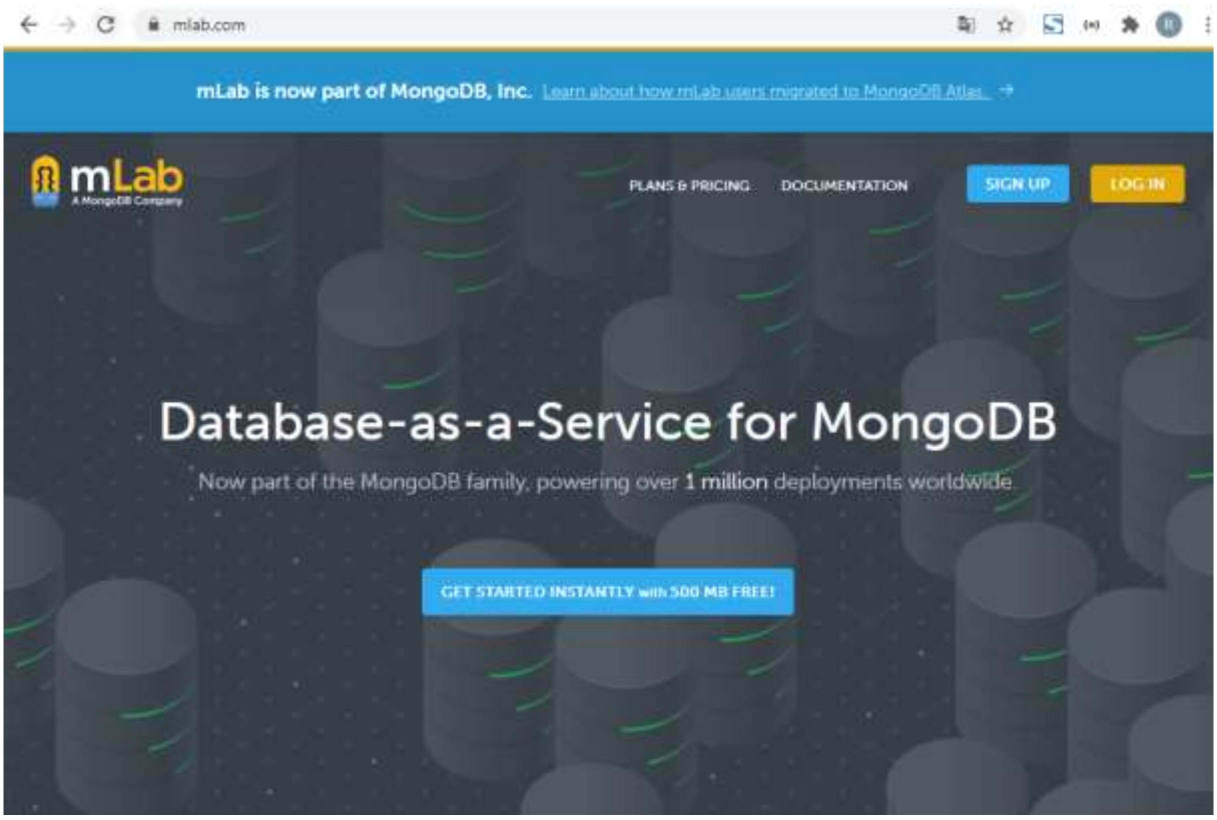
MongoDB is a general purpose, document-based, distributed database built for modern application developers and for the cloud era.

No database makes you more productive.

Try MongoDB free in the cloud!

Start free

- Acesse https://mlab.com e abra uma conta (SIGN UP).


mlab.com

mLab is now part of MongoDB, Inc. Learn about how mLab users migrated to MongoDB Atlas →

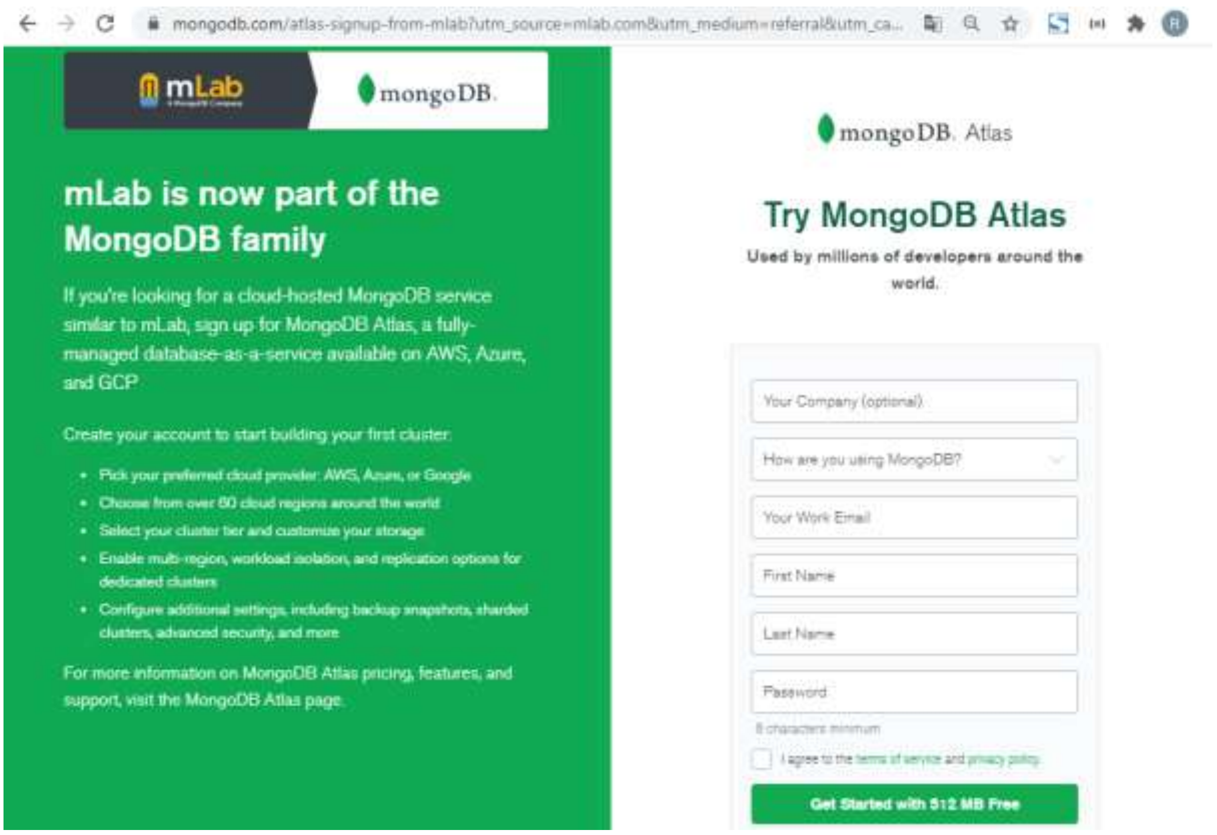
mLab A MongoDB Company

PLANS & PRICING DOCUMENTATION SIGN UP LOG IN

Database-as-a-Service for MongoDB

Now part of the MongoDB family, powering over 1 million deployments worldwide

GET STARTED INSTANTLY with 500 MB FREE!


mongodb.com/atlas-signup-from-mlab?utm_source=mlab.com&utm_medium=referral&utm_ca...

mLab mongoDB.

mLab is now part of the MongoDB family

If you're looking for a cloud-hosted MongoDB service similar to mLab, sign up for MongoDB Atlas, a fully-managed database-as-a-service available on AWS, Azure, and GCP

Create your account to start building your first cluster:

- Pick your preferred cloud provider: AWS, Azure, or Google
- Choose from over 60 cloud regions around the world
- Select your cluster tier and customize your storage
- Enable multi-region, workload isolation, and replication options for dedicated clusters
- Configure additional settings, including backup snapshots, sharded clusters, advanced security, and more

For more information on MongoDB Atlas pricing, features, and support, visit the MongoDB Atlas page.

mongoDB. Atlas

Try MongoDB Atlas

Used by millions of developers around the world.

Your Company (optional)

How are you using MongoDB?

Your Work Email

First Name

Last Name

Password

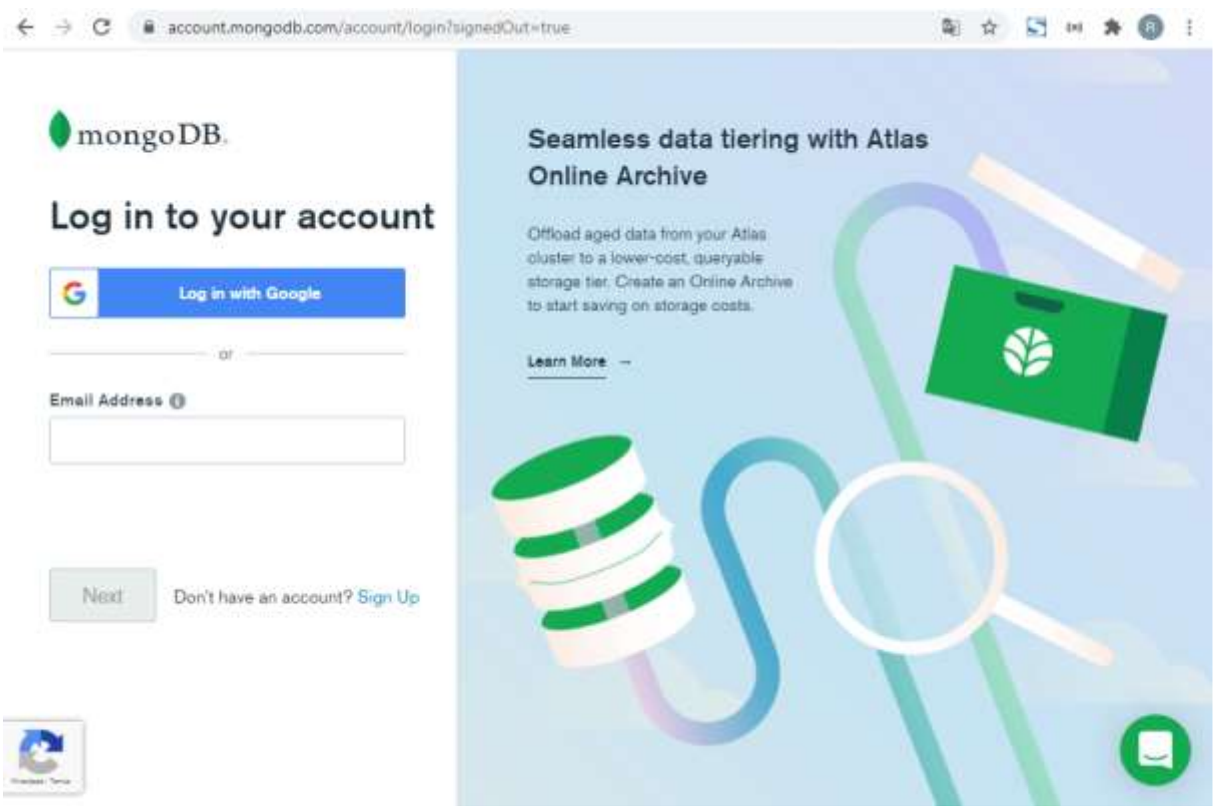
8 characters minimum

I agree to the terms of service and privacy policy

Get Started with 512 MB Free

- Faça o login:

https://account.mongodb.com/account/login


account.mongodb.com/account/login?signedOut=true

mongoDB.

Log in to your account

Log in with Google

or

Email Address

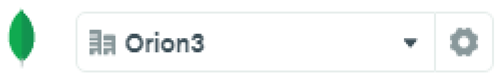
Next Don't have an account? Sign Up

Seamless data tiering with Atlas Online Archive

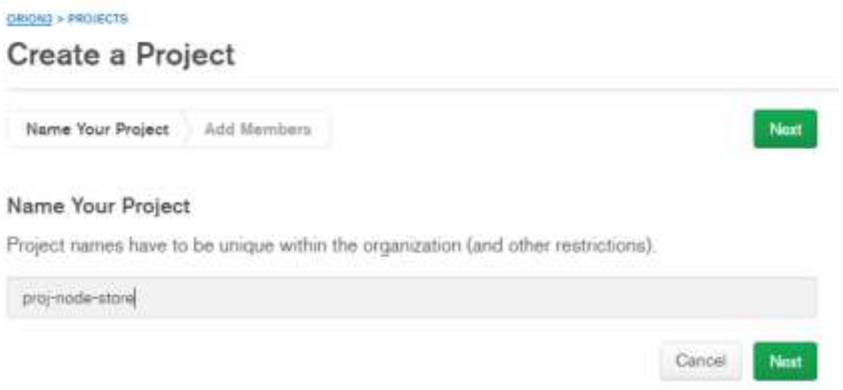
Offload aged data from your Atlas cluster to a lower-cost, queryable storage tier. Create an Online Archive to start saving on storage costs.

Learn More →

- Crie uma organização com nome: Orion3



- Crie um novo projeto chamado: proj-node-store


ORION3 > PROJECTS

Create a Project

Name Your Project | Add Members | Next

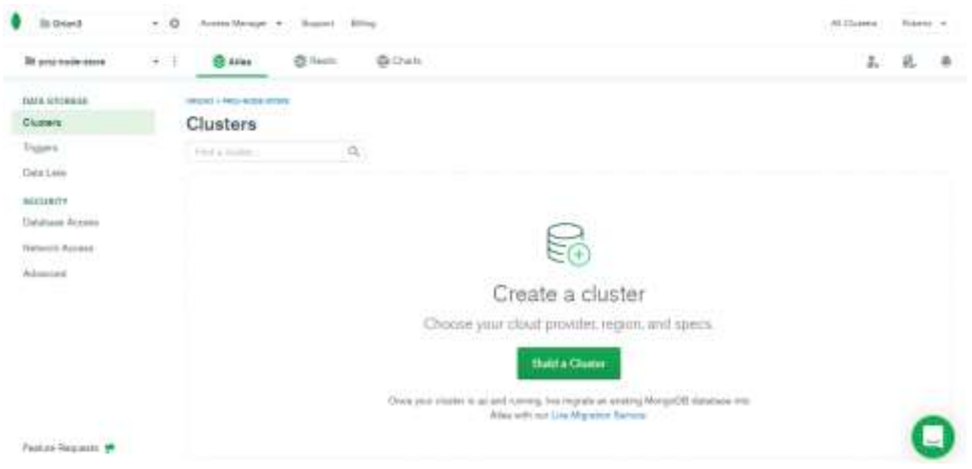
Name Your Project

Project names have to be unique within the organization (and other restrictions).

proj-node-store

Cancel Next

- Crie um cluster para este projeto:

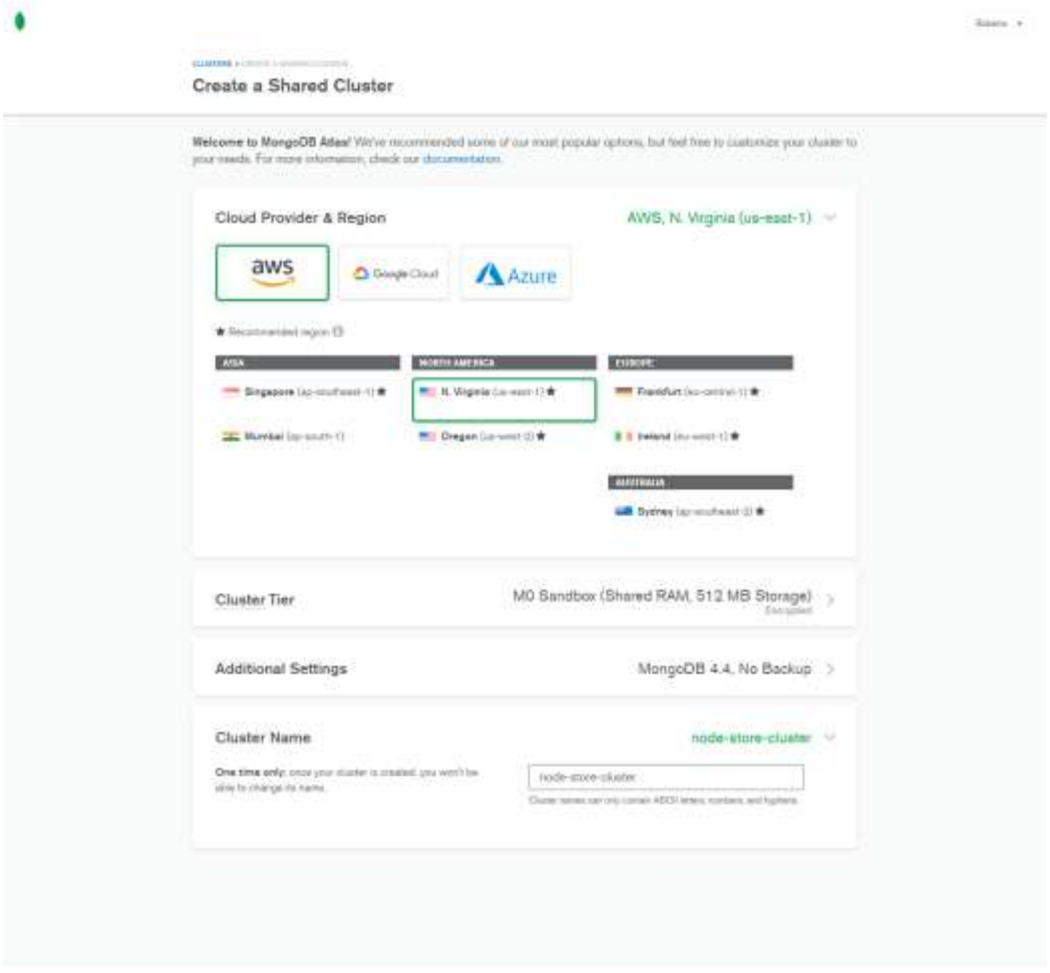


Clusters

Create a cluster

Choose your cloud provider, region, and specs

- Crie um cluster com nome: node-store-cluster



Create a Shared Cluster

Welcome to MongoDB Atlas! We've recommended some of our most popular options, but feel free to customize your cluster to your needs. For more information, check our documentation.

Cloud Provider & Region: AWS, N. Virginia (us-east-1)

Cluster Tier: M0 Sandbox (Shared RAM, 512 MB Storage)

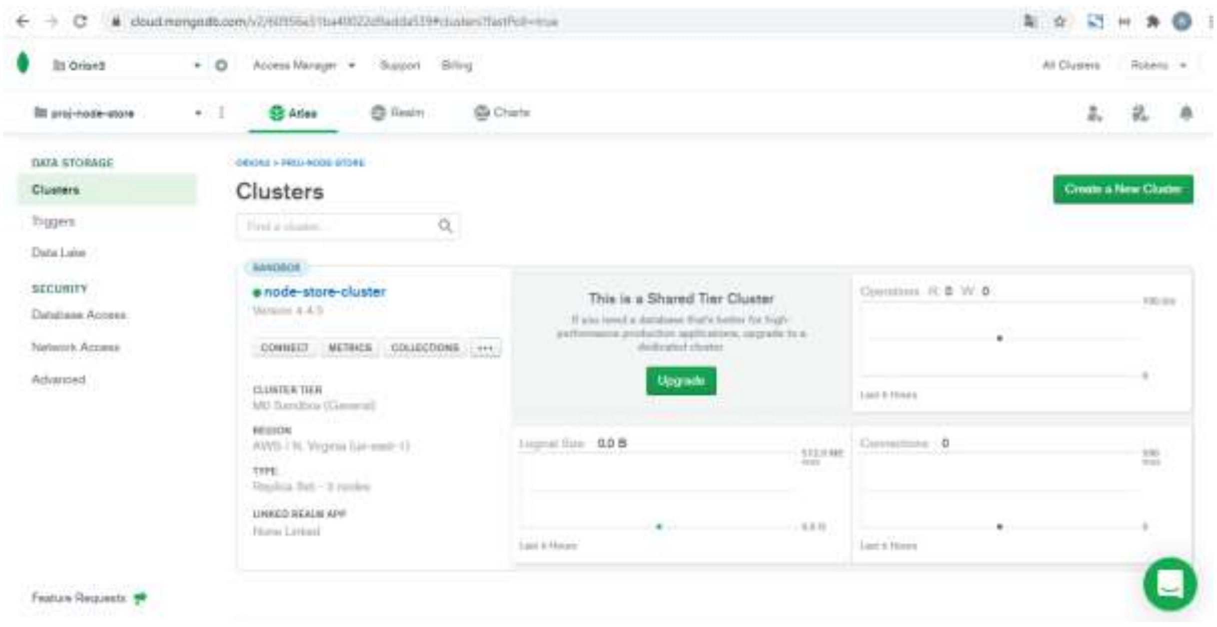
Additional Settings: MongoDB 4.4, No Backup

Cluster Name: node-store-cluster

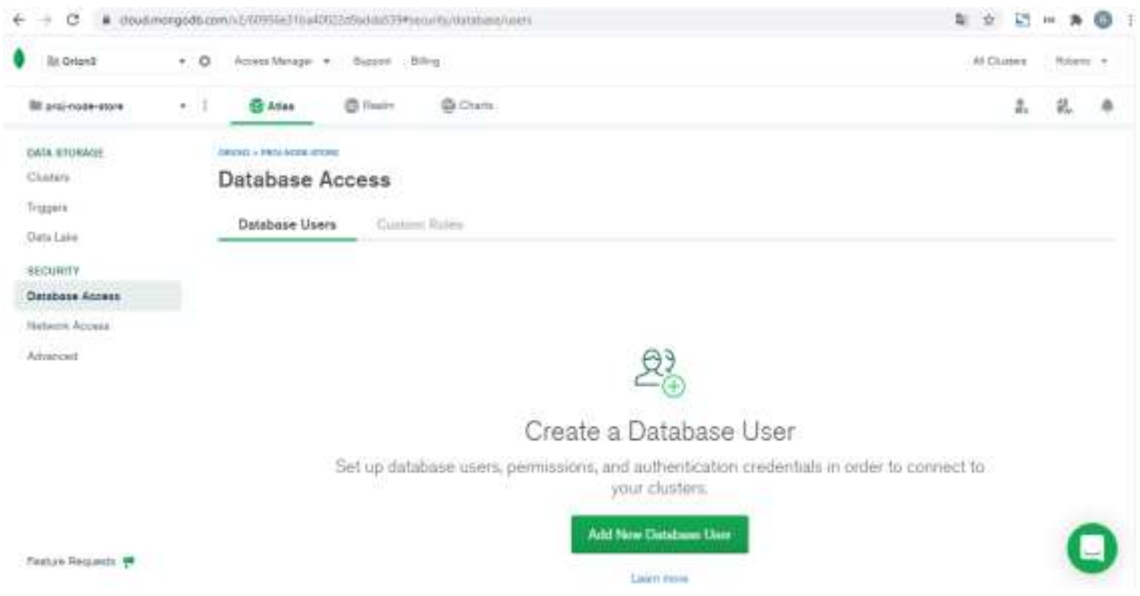
One time only: once your cluster is created, you won't be able to change its name.

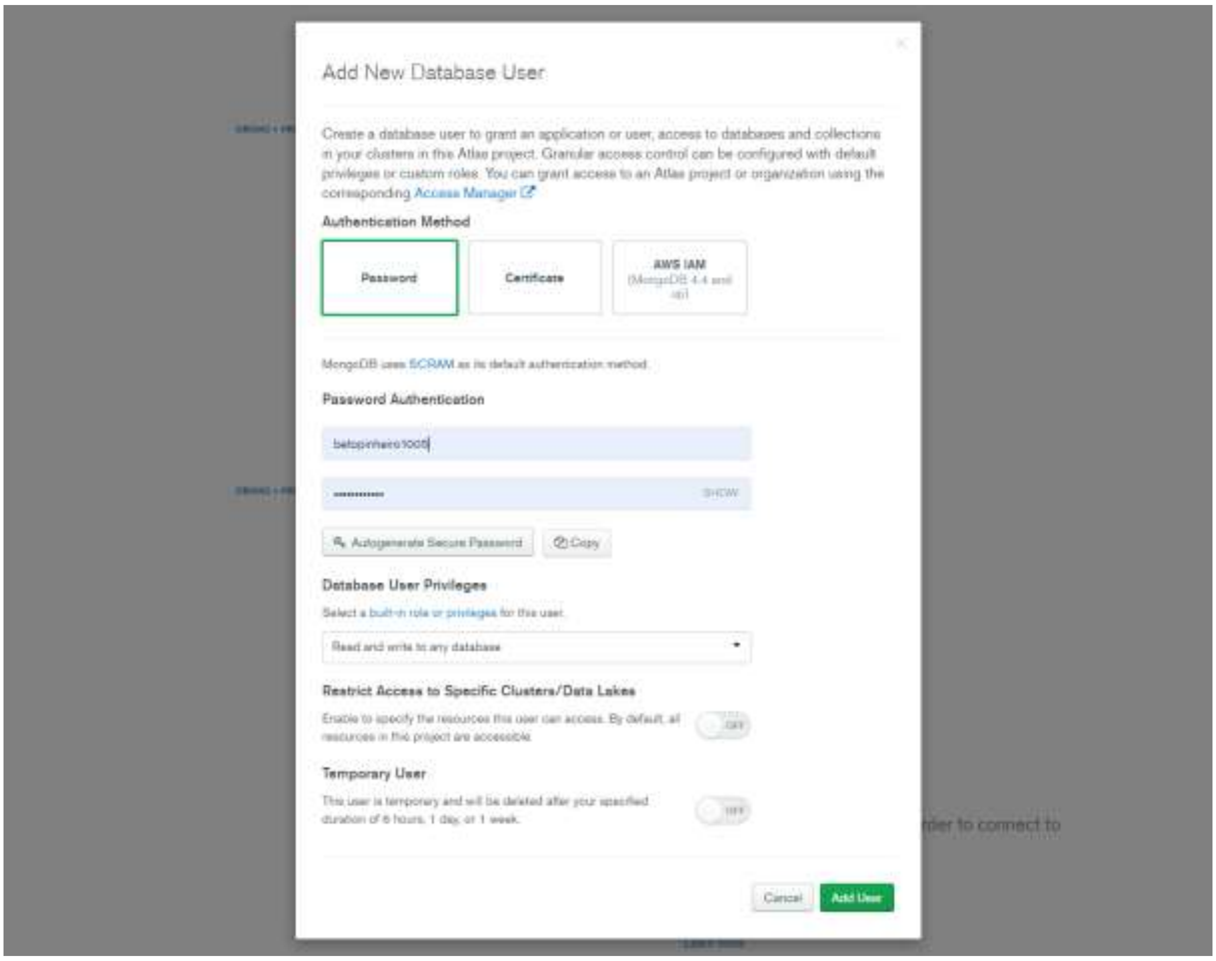
node-store-cluster

- Clique no botão "Create Cluster" e aguarde o cluster ser criado (leva um bom tempo):



- Crie um usuário para acessar o banco de dados.





Add New Database User

Create a database user to grant an application or user, access to databases and collections in your clusters in this Atlas project. Granular access control can be configured with default privileges or custom roles. You can grant access to an Atlas project or organization using the corresponding Access Manager

Authentication Method

MongoDB uses SCRAM as its default authentication method.

Password Authentication

betopinheiro1005

••••••••••••

Database User Privileges

Select a built-in role or privileges for this user.

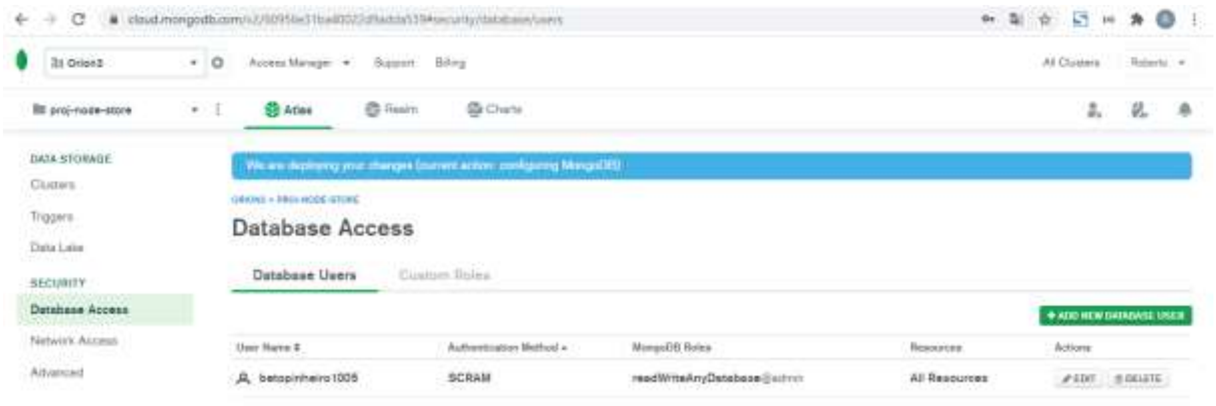
Read and write to any database

Restrict Access to Specific Clusters/Data Lakes

Enable to specify the resources this user can access. By default, all resources in this project are accessible.

Temporary User

This user is temporary and will be deleted after your specified duration of 6 hours, 1 day, or 1 week.



cloud.mongodb.com/v2/5f095[illegible]#security/database/users

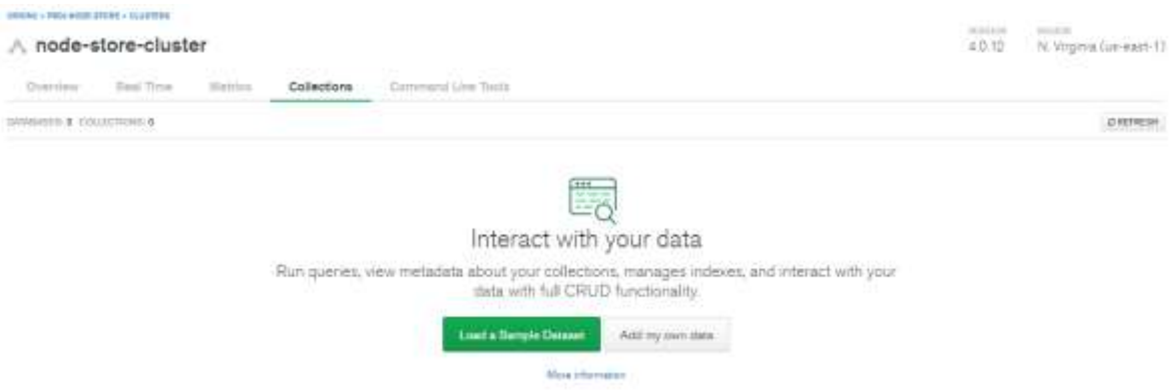
We are deploying your changes (current action: configuring MongoDB)

ORION3 > PROJ-NODE-STORE

Database Access

User Name	Authentication Method	MongoDB Roles	Resources	Actions
betopinheiro1005	SCRAM	readWriteAnyDatabase@admin	All Resources	EDIT DELETE

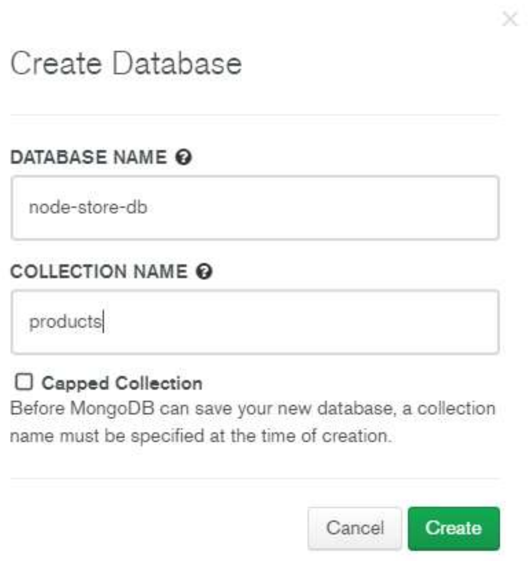
- Em node-store-cluster, clique na aba "Collections"



Interact with your data

Run queries, view metadata about your collections, manages indexes, and interact with your data with full CRUD functionality.

- Crie o database node-store-db com a collection products.


Create Database

DATABASE NAME

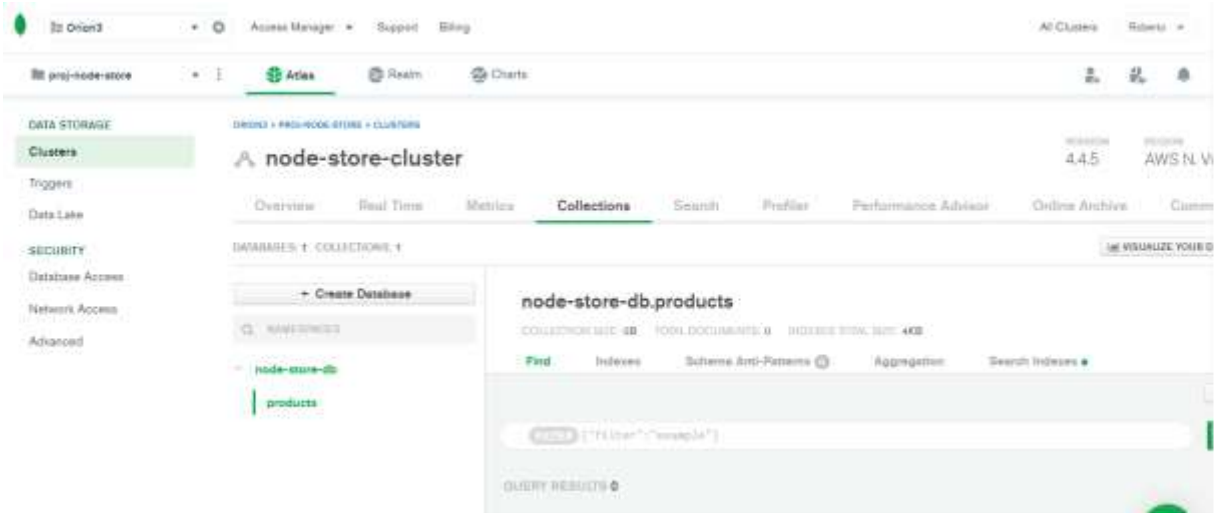
node-store-db

COLLECTION NAME

products

[ ] Capped Collection

Before MongoDB can save your new database, a collection name must be specified at the time of creation.

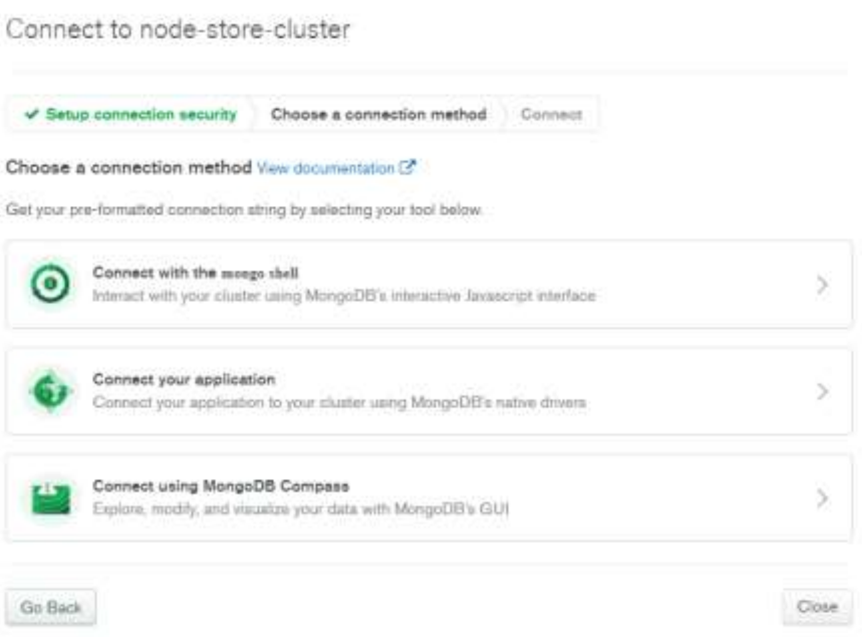


DATABASES: 1 COLLECTIONS: 1

node-store-db.products

QUERY RESULTS 0

- Em node-store-cluster, clique no botão "Connect":


Connect to node-store-cluster

✓ Setup connection security | Choose a connection method | Connect

Choose a connection method View documentation

Get your pre-formatted connection string by selecting your tool below.

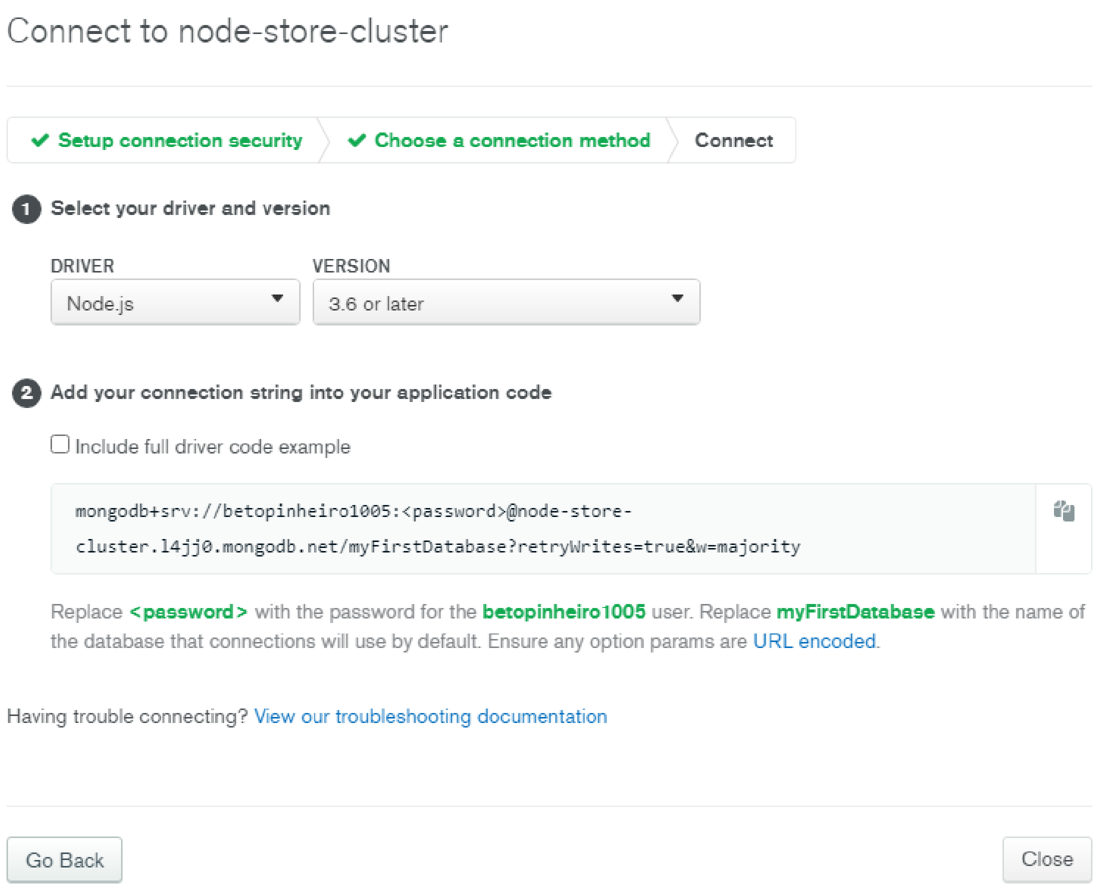
Connect with the mongo shell
Interact with your cluster using MongoDB's interactive Javascript interface

Connect your application
Connect your application to your cluster using MongoDB's native drivers

Connect using MongoDB Compass
Explore, modify, and visualize your data with MongoDB's GUI

Go Back | Close

- Escolha o método de conexão: "Connect Your Application":


Connect to node-store-cluster

✓ Setup connection security | ✓ Choose a connection method | Connect

1 Select your driver and version

DRIVER	VERSION
Node.js	3.6 or later

2 Add your connection string into your application code

☐ Include full driver code example

```
mongodb+srv://betopinheiro1005:<password>@node-store-
cluster.l4jj0.mongodb.net/myFirstDatabase?retryWrites=true&w=majority
```

Replace <password> with the password for the betopinheiro1005 user. Replace myFirstDatabase with the name of the database that connections will use by default. Ensure any option params are URL encoded.

Having trouble connecting? View our troubleshooting documentation

Go Back | Close

- Copie a string de conexão:

mongodb+srv://betopinheiro1005:<password>@node-store-cluster.l4jj0.mongodb.net/myFirstDatabase?retryWrites=true&w=majority

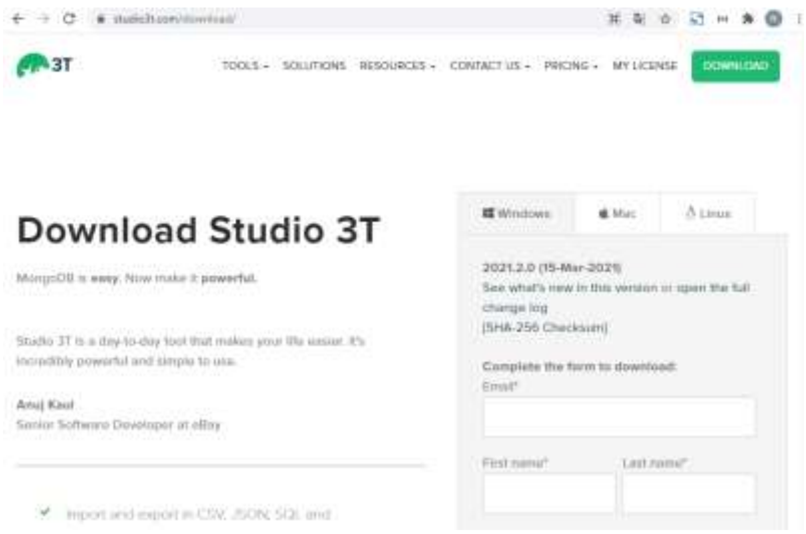
- Substitua myFirstDatabase por node-store-db
- Substitua <password> pela senha do usuário.

mongodb+srv://betopinheiro1005:angstron1005@node-store-cluster.l4jj0.mongodb.net/node-store-db?retryWrites=true&w=majority

---

- Baixe e instale o programa Studio 3T.

https://studio3t.com/download/



Download Studio 3T

MongoDB is **easy**. Now make it **powerful**.

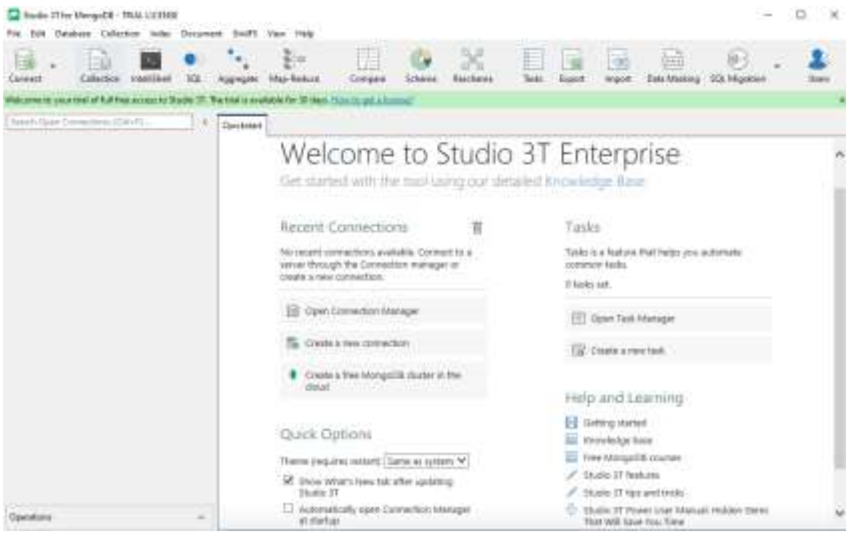
Studio 3T is a day-to-day tool that makes your life easier. It's incredibly powerful and simple to use.

Anuj Kaul
Senior Software Developer at eBay

✓ Import and export in CSV, JSON, SQL and

2021.2.0 (15-Mar-2021)
See what's new in this version or open the full change log
(SHA-256 Checksum)

Complete the form to download:
Email*
First name* Last name*



Welcome to your trial of full free access to Studio 3T. The trial is available for 30 days. How to get a license?

Welcome to Studio 3T Enterprise
Get started with the tool using our detailed Knowledge Base

Recent Connections
No recent connections available. Connect to a server through the Connection manager or create a new connection.
Open Connection Manager
Create a new connection
Create a free MongoDB cluster in the cloud

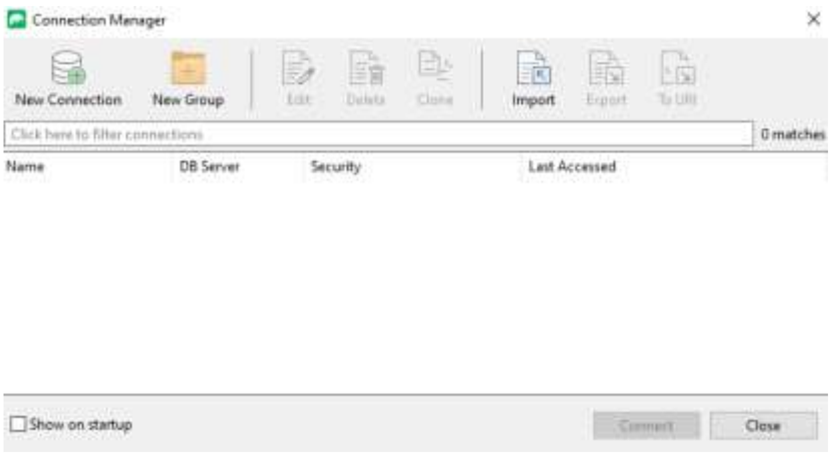
Quick Options
Theme (requires restart): Same as system
☑ Show What's New tab after updating Studio 3T
☐ Automatically open Connection Manager at startup

Tasks
Tasks is a feature that helps you automate common tasks.
0 tasks set.
Open Task Manager
Create a new task

Help and Learning
Getting started
Knowledge base
Free MongoDB courses
Studio 3T features
Studio 3T tips and tricks
Studio 3T Power User Manual: Hidden Gems That Will Save You Time

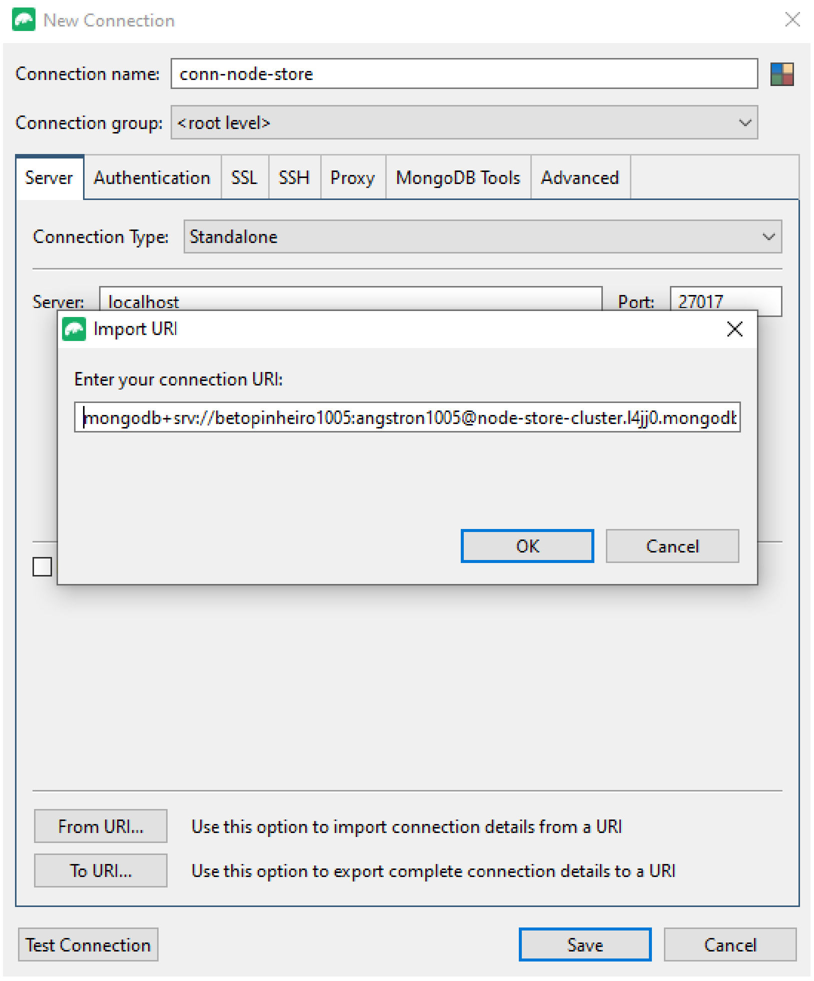
- Clique no botão Connect.

- Clique em New Connection.



- Dê o nome para a conexão: conn-node-store.

- Clique no botão From URI e cole a string de conexão.


New Connection

Connection name: conn-node-store

Connection group: <root level>

Connection Type: Standalone

Server: localhost Port: 27017

Import URI

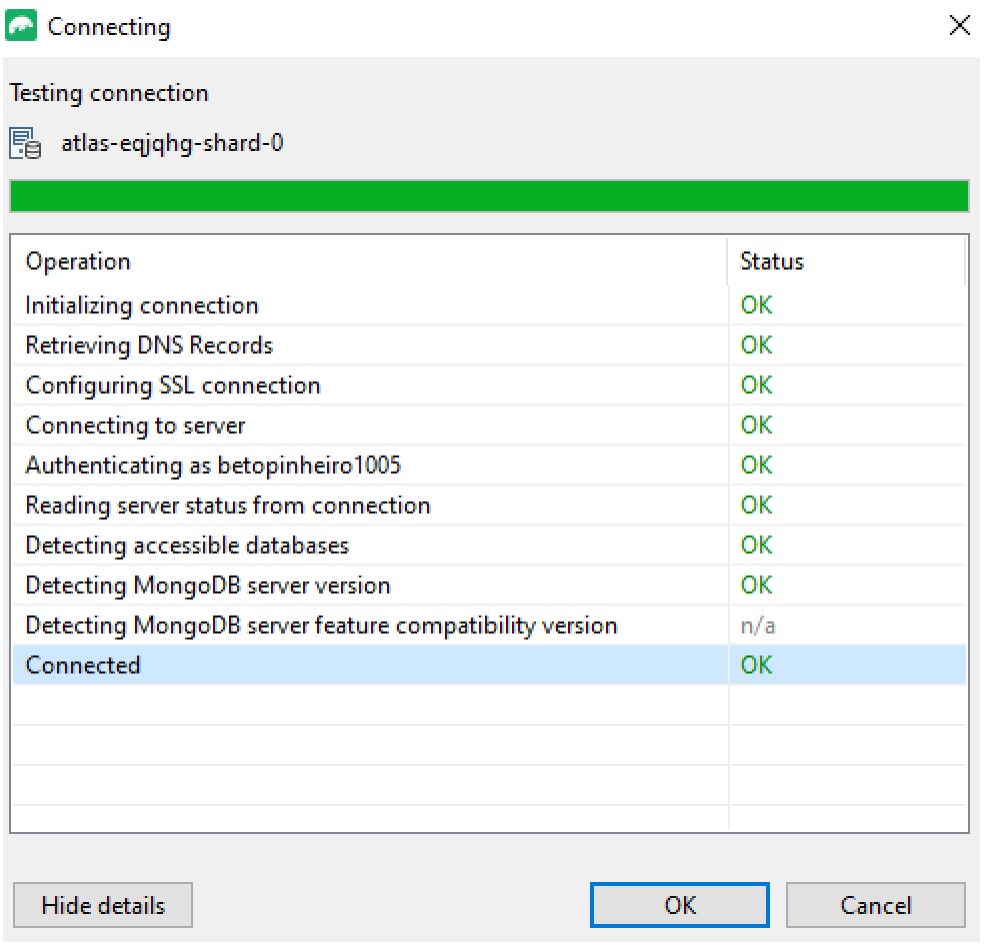
Enter your connection URI:

mongodb+srv://betopinheiro1005:angstron1005@node-store-cluster.l4jj0.mongodb

Use this option to import connection details from a URI

Use this option to export complete connection details to a URI

- Faça o teste de conexão:


Connecting

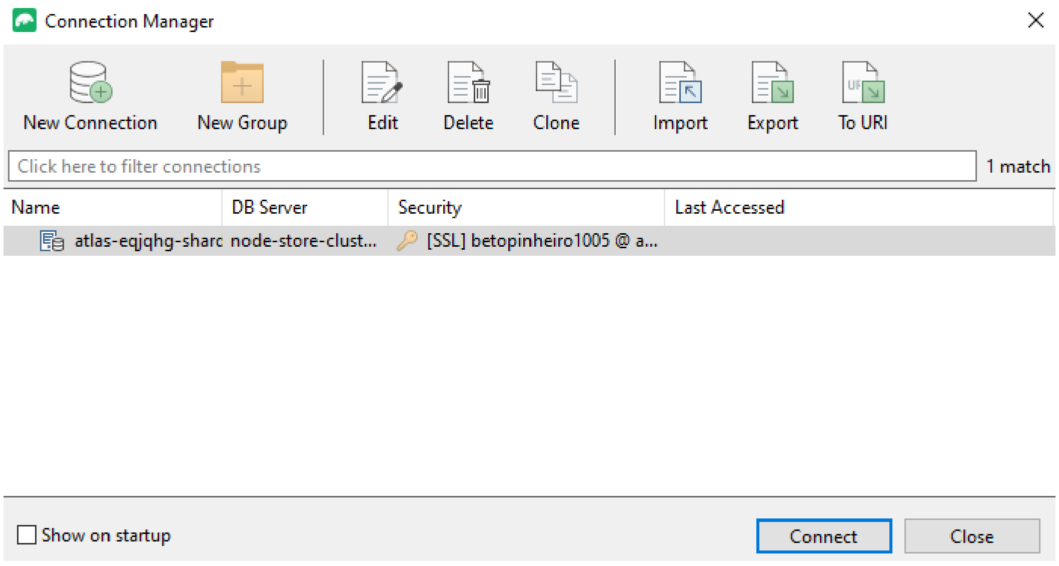
Testing connection

atlas-eqjqhg-shard-0

Operation	Status
Initializing connection	OK
Retrieving DNS Records	OK
Configuring SSL connection	OK
Connecting to server	OK
Authenticating as betopinheiro1005	OK
Reading server status from connection	OK
Detecting accessible databases	OK
Detecting MongoDB server version	OK
Detecting MongoDB server feature compatibility version	n/a
Connected	OK

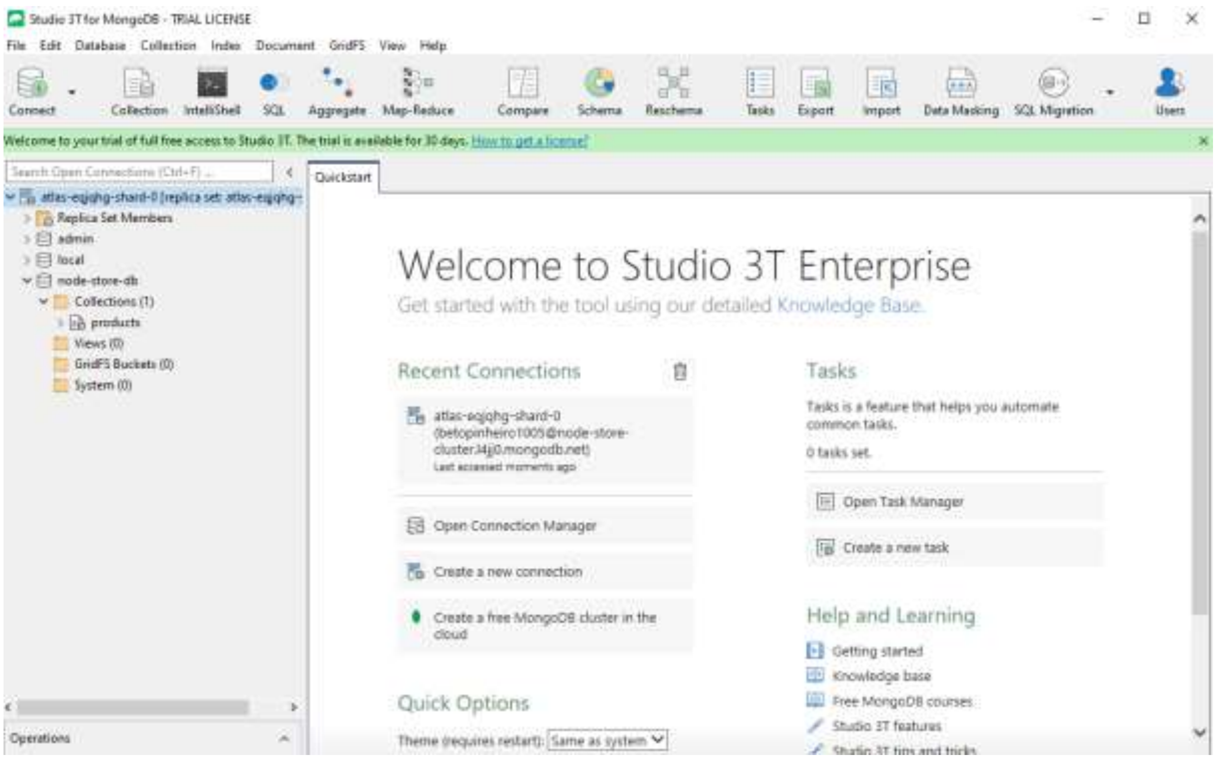
- Se estiver tudo ok, clique no botão "Save" para salvar a configuração.

- Clique no botão "Connect"


Connection Manager

1 match

Name	DB Server	Security	Last Accessed
atlas-eqjqhg-sharc	node-store-clust...	[SSL] betopinheiro1005 @ a...	


Studio 3T for MongoDB - TRIAL LICENSE

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- atlas-eqjqhg-shard-0 [replica set: atlas-eqjqhg-
  - Replica Set Members
  - admin
  - local
  - node-store-db
    - Collections (1)
      - products
    - Views (0)
    - GridFS Buckets (0)
    - System (0)

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Recent Connections

atlas-eqjqhg-shard-0 (betopinheiro1005@node-store-cluster.34jj0.mongodb.net)
Last accessed moments ago

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Create a new connection

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Quick Options

Theme (requires restart): Same as system

Tasks

Tasks is a feature that helps you automate common tasks.

0 tasks set.

Open Task Manager

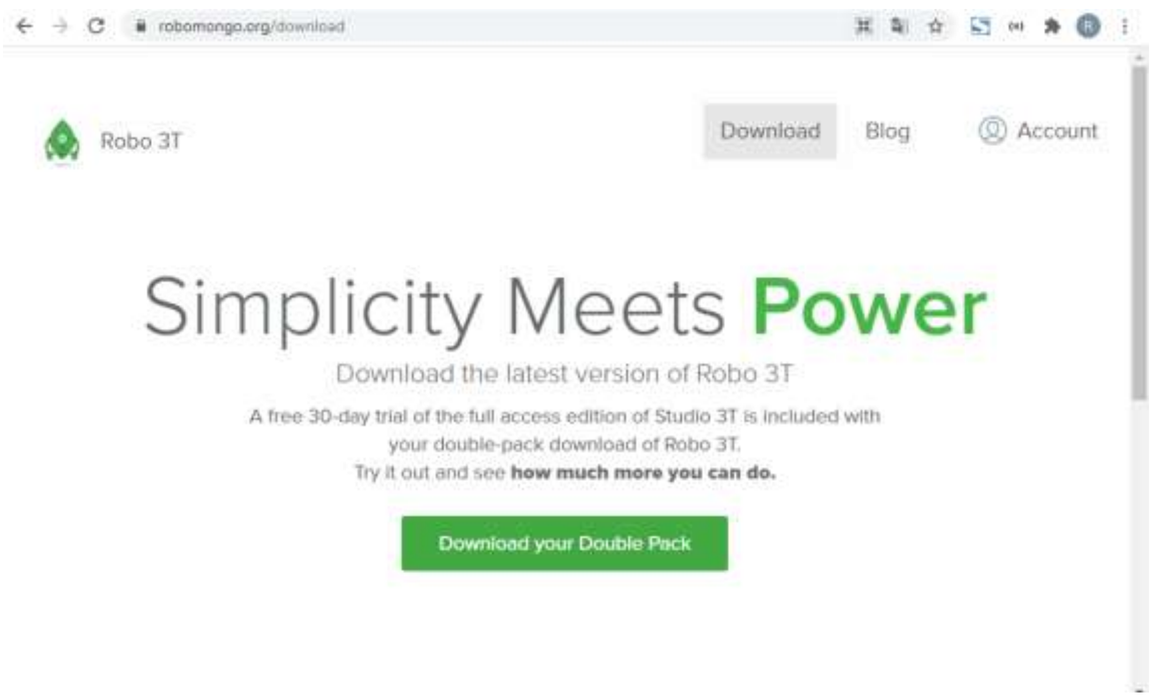
Create a new task

Help and Learning

Getting started
Knowledge base
Free MongoDB courses
Studio 3T features
Studio 3T tips and tricks

- Outro possível serviço

https://robomongo.org/download


robomongo.org/download

Simplicity Meets **Power**

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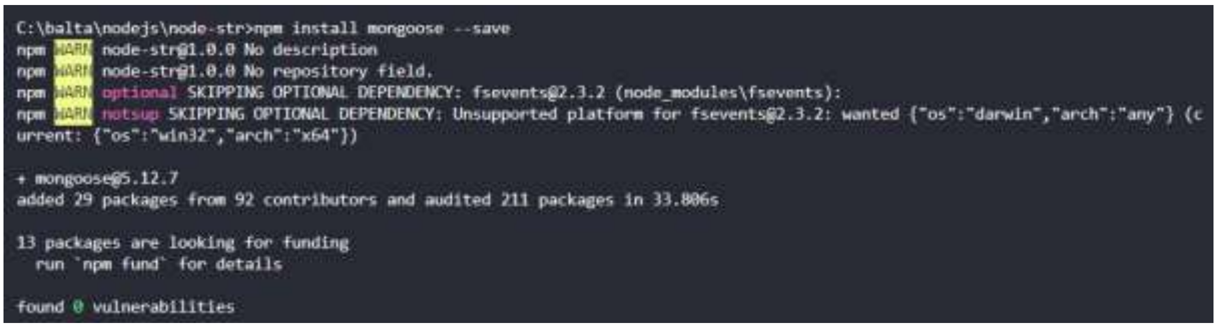
Aula 14 - Mongoose

Instalação do Mongoose

- Para fazer a conexão com o banco de dados vamos utilizar um pacote chamado Mongoose. Para instalá-lo use o comando:

```
npm install mongoose --save
```



```
C:\balta\nodejs\node-str>npm install mongoose --save
npm WARN node-str@1.0.0 No description
npm WARN node-str@1.0.0 No repository field.
npm WARN optional SKIPPING OPTIONAL DEPENDENCY: fsevents@2.3.2 (node_modules\fsevents):
npm WARN notsup SKIPPING OPTIONAL DEPENDENCY: Unsupported platform for fsevents@2.3.2: wanted {"os":"darwin","arch":"any"} (c
urrent: {"os":"win32","arch":"x64"})

+ mongoose@5.12.7
added 29 packages from 92 contributors and audited 211 packages in 33.806s

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

found 0 vulnerabilities
```

package.json

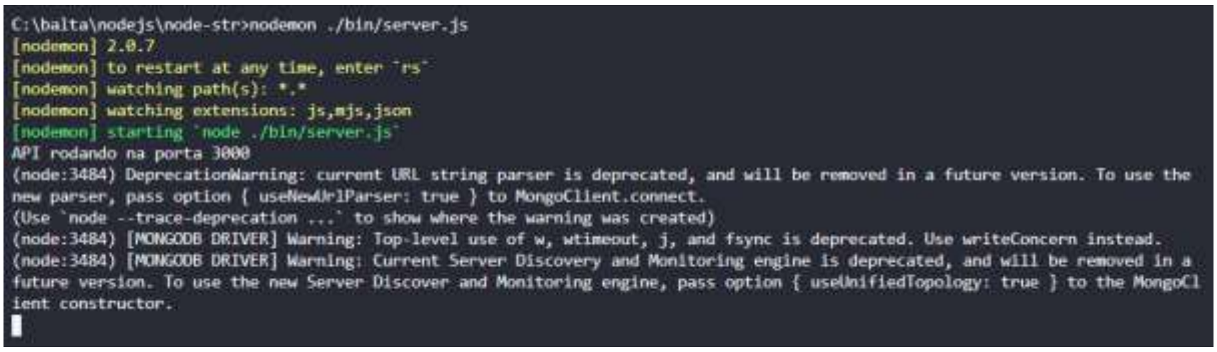
```
{
  "name": "node-str",
  "version": "1.0.0",
  "description": "",
  "main": "index.js",
  "scripts": {
    "test": "echo \"Error: no test specified\" && exit 1",
    "start": "node ./bin/server.js"
  },
  "keywords": [],
  "author": "",
  "license": "ISC",
  "dependencies": {
    "body-parser": "^1.19.0",
    "debug": "^4.3.1",
    "express": "^4.17.1",
    "http": "0.0.1-security",
    "mongoose": "^5.12.7"
  },
  "devDependencies": {
    "nodemon": "^2.0.7"
  }
}
```

src/app.js

```
const express = require('express');
const bodyParser = require('body-parser');
const mongoose = require('mongoose');

const app = express();
const router = express.Router();

// Conecta ao banco
mongoose.connect("mongodb+srv://betopinheiro1005:angstron1005@node-store-cluster.l4jj0.mongodb.net/node-store-db?retryWrites=true&w=majority");

// Carrega as rotas
const indexRoute = require('./routes/index-route');
const productRoute = require('./routes/product-route');

app.use(bodyParser.json());
app.use(bodyParser.urlencoded({
   extended: false
}));

app.use('/', indexRoute);
app.use('/products', productRoute);

module.exports = app;
```

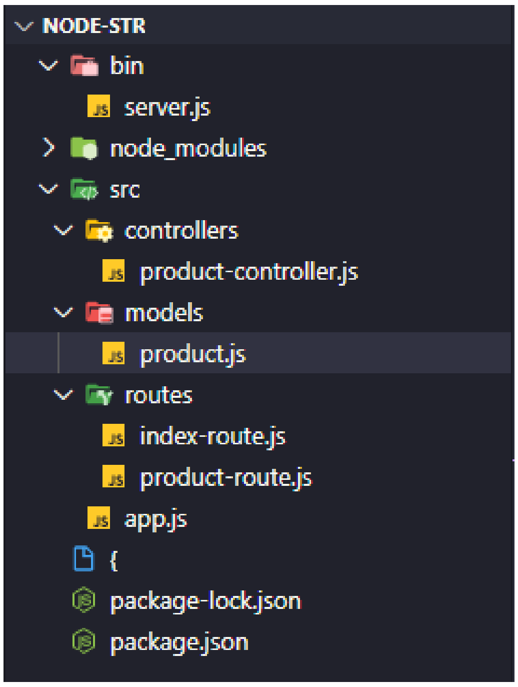
- Se estiver tudo ok, o servidor irá rodar normalmente:

```
nodemon ./bin/server.js
```



```
C:\balta\nodejs\node-str>nodemon ./bin/server.js
[nodemon] 2.0.7
[nodemon] to restart at any time, enter `rs`
[nodemon] watching path(s): *.*
[nodemon] watching extensions: js,mjs,json
[nodemon] starting `node ./bin/server.js`
API rodando na porta 3000
(node:3484) DeprecationWarning: current URL string parser is deprecated, and will be removed in a future version. To use the
new parser, pass option { useNewUrlParser: true } to MongoClient.connect.
(Use `node --trace-deprecation ...` to show where the warning was created)
(node:3484) [MONGODB DRIVER] Warning: Top-level use of w, wtimeout, j, and fsync is deprecated. Use writeConcern instead.
(node:3484) [MONGODB DRIVER] Warning: Current Server Discovery and Monitoring engine is deprecated, and will be removed in a
future version. To use the new Server Discover and Monitoring engine, pass option { useUnifiedTopology: true } to the MongoCl
ient constructor.
```

Aula 15 - Models


```
NODE-STR
  bin
    server.js
  node_modules
  src
    controllers
      product-controller.js
    models
      product.js
    routes
      index-route.js
      product-route.js
    app.js
  {
  package-lock.json
  package.json
```

src/models/product.js

```
'use strict';

const mongoose = require('mongoose');
const Schema = mongoose.Schema;

const schema = new Schema({
   title: {
      type: String,
      required: true,
      trim: true
   },
   slug: {
      type: String,
      required: [true, 'O slug é obrigatório'],
      trim: true,
      index: true,
      unique: true
   },
   description: {
      type: String,
      required: true
   },
   price: {
      type: Number,
      required: true
   },
    active: {
        type: Boolean,
        required: true,
        default: true
    },
    tags: [{
        type: String,
        required: true
    }]
});

module.exports = mongoose.model('Product', schema);
```

Aula 16 - Criando um produto

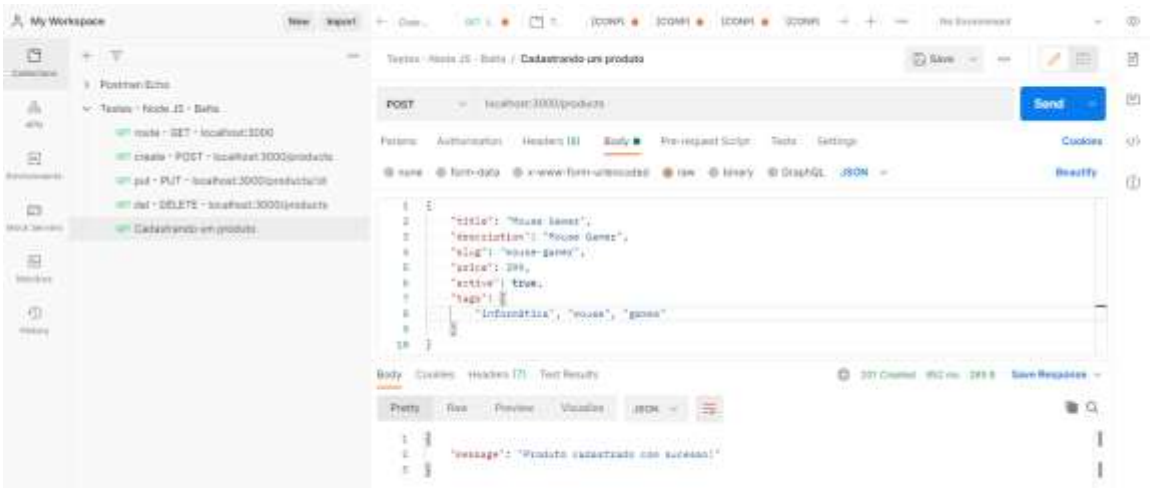
src\controllers\product-controller.js

```
'use strict';

const mongoose = require('mongoose');
const Product = mongoose.model('Product');

exports.post = (req, res, next) => {
  var product = new Product(req.body);
  product.save().then(x => {
    res.status(201).send({ message: "Produto cadastrado com sucesso!" });
  }).catch(e => {
    res.status(400).send({ message: "Falha ao cadastrar o produto!", data: e });
  });
};

exports.put = (req, res, next) => {
  const id = req.params.id;
  res.status(200).send({
    id: id,
    item: req.body
  });
};

exports.delete = (req, res, next) => {
  res.status(200).send(req.body);
};
```

src\app.js

```
const express = require('express');
const bodyParser = require('body-parser');
const mongoose = require('mongoose');

const app = express();
const router = express.Router();

// Conecta ao banco
mongoose.connect("mongodb+srv://betopinheiro1005:angstron1005@node-str-
f9kvu.mongodb.net/test?retryWrites=true&w=majority");

// Carrega os models
const Product = require('./models/product');

// Carrega as rotas
const indexRoute = require('./routes/index-route');
const productRoute = require('./routes/product-route');

app.use(bodyParser.json());
app.use(bodyParser.urlencoded({
   extended: false
}));

app.use('/', indexRoute);
app.use('/products', productRoute);

module.exports = app;
```

Usando o Postman para cadastrar um produto



Testes · Node JS · Beto / Cadastrando um produto

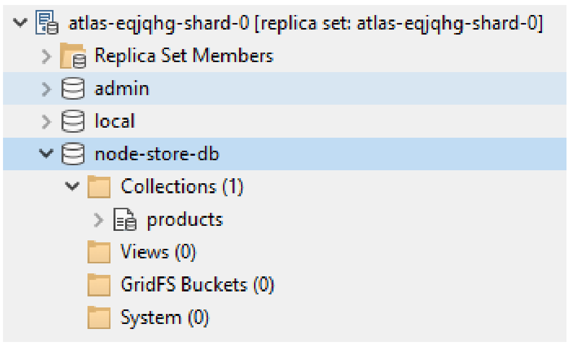
POST localhost:3000/products

```
{
    "title": "Mouse Gamer",
    "description": "Mouse Gamer",
    "slug": "mouse-gamer",
    "price": 299,
    "active": true,
    "tags": [
        "informática", "mouse", "games"
    ]
}
```

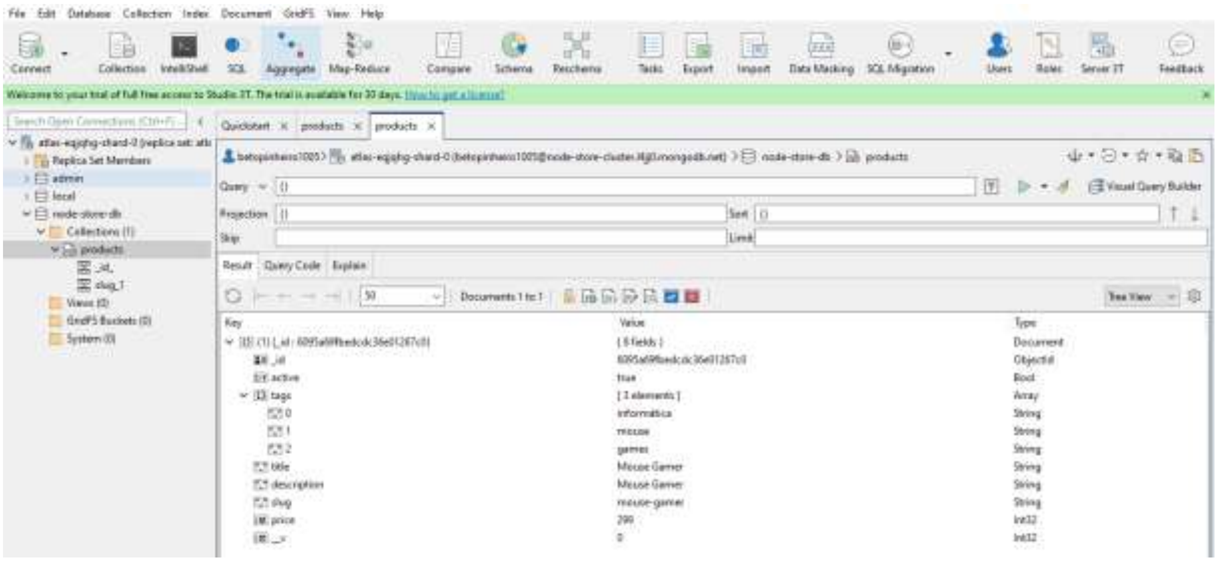
201 Created

```
{
    "message": "Produto cadastrado com sucesso!"
}
```

No Studio 3T:



- atlas-eqjqhg-shard-0 [replica set: atlas-eqjqhg-shard-0]
  - Replica Set Members
  - admin
  - local
  - node-store-db
    - Collections (1)
      - products
    - Views (0)
    - GridFS Buckets (0)
    - System (0)



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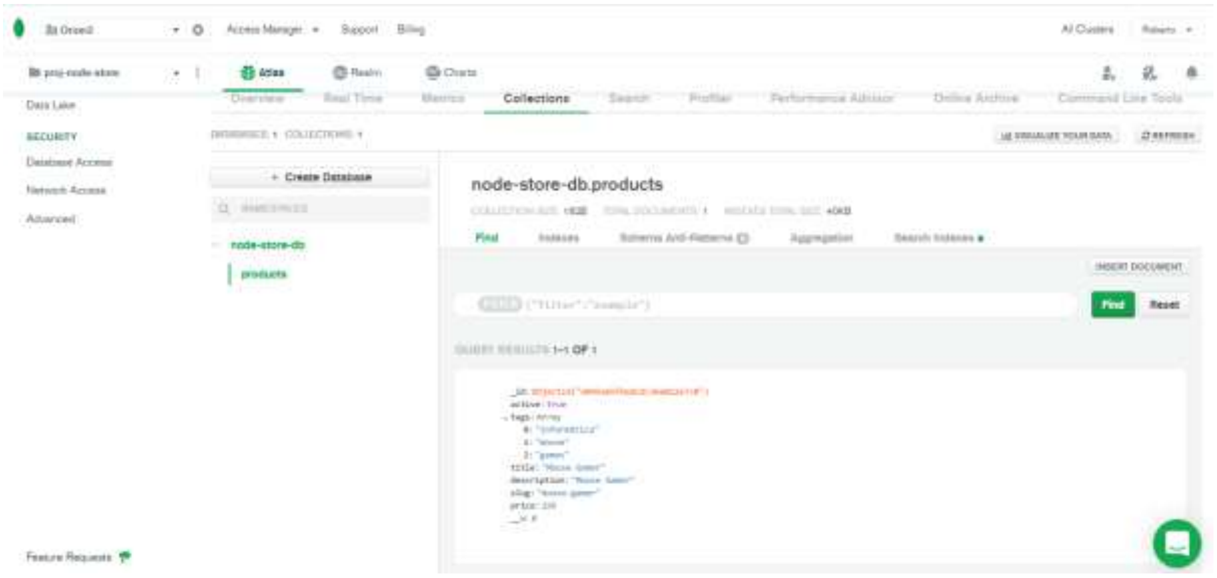
betopinheiro1005 > atlas-eqjqhg-shard-0 (betopinheiro1005@node-store-cluster.If@l.mongodb.net) > node-store-db > products

Query {} Projection {} Sort {}

Documents 1 to 1

Key	Value	Type
(1) {_id : 6095a69fbedcdc36e01267c0}	{ 8 fields }	Document
_id	6095a69fbedcdc36e01267c0	ObjectId
active	true	Bool
tags	[3 elements]	Array
0	informatica	String
1	mouse	String
2	games	String
title	Mouse Gamer	String
description	Mouse Gamer	String
slug	mouse-gamer	String
price	299	Int32
__v	0	Int32

No mlab:



node-store-db.products

QUERY RESULTS 1-1 OF 1

```
_id: ObjectId("[illegible]")
active: true
tags: Array
    0: "informatica"
    1: "mouse"
    2: "gamer"
title: "Mouse Gamer"
description: "Mouse Gamer"
slug: "mouse-gamer"
price: 100
__v: 0
```

Aula 17 - Listando os produtos

src/controllers/product-controller.js

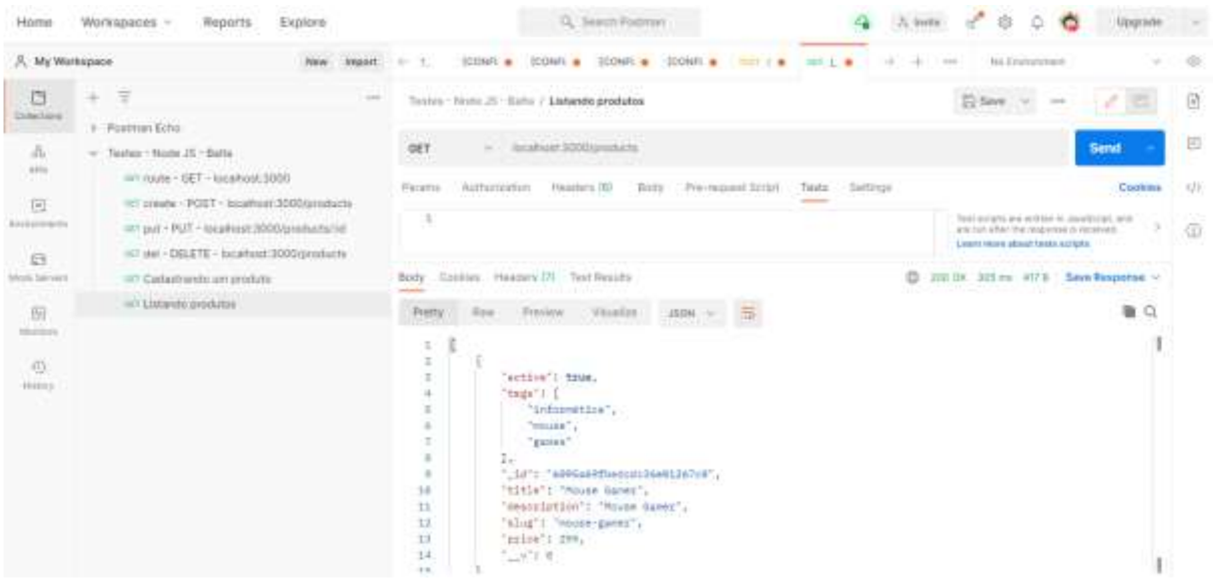
```
'use strict';

const mongoose = require('mongoose');
const Product = mongoose.model('Product');

exports.get = (req, res, next) => {
   Product.find({}).then(data => {
      res.status(200).send(data);
   }).catch(e => {
      res.status(400).send(e);
   });;
};

exports.post = (req, res, next) => {
   var product = new Product(req.body);
   product.save().then(x => {
      res.status(201).send({message: 'Produto cadastrado com sucesso!'});
   }).catch(e => {
      res.status(400).send({message: 'Falha ao cadastrar o produto!', data: e });
   });
};

exports.put = (req, res, next) => {
   const id = req.params.id;
   res.status(200).send({
      id: id,
      item: req.body
   });
};

exports.delete = (req, res, next) => {
   res.status(200).send(req.body);
};
```

src/routes/product-route.js

```
const express = require('express');
const router = express.Router();
const controller = require("../controllers/product-controller");

router.get('/', controller.get);
router.post('/', controller.post);
router.put('/:id', controller.put);
router.delete('/', controller.delete);

module.exports = router;
```

Testando no Postman

GET - localhost:3000/products



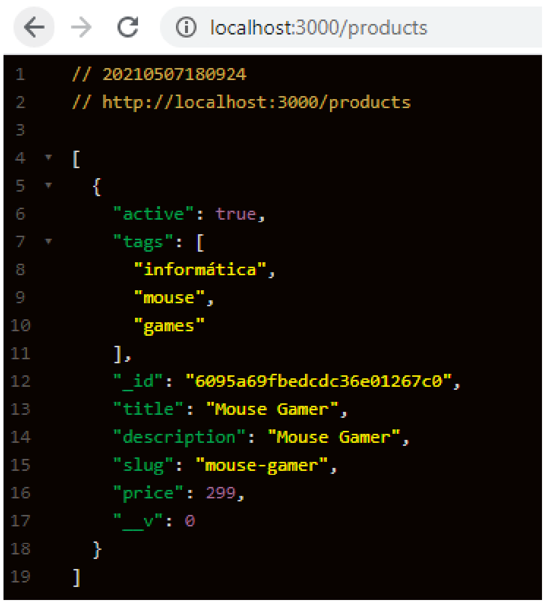
Testes - Node JS - Balta / Listando produtos

GET localhost:3000/products

```
[
    {
        "active": true,
        "tags": [
            "informatica",
            "mouse",
            "games"
        ],
        "_id": "[illegible]",
        "title": "Mouse Gamer",
        "description": "Mouse Gamer",
        "slug": "mouse-gamer",
        "price": 299,
        "__v": 0
    }
```

No navegador

http://localhost:3000/products


localhost:3000/products

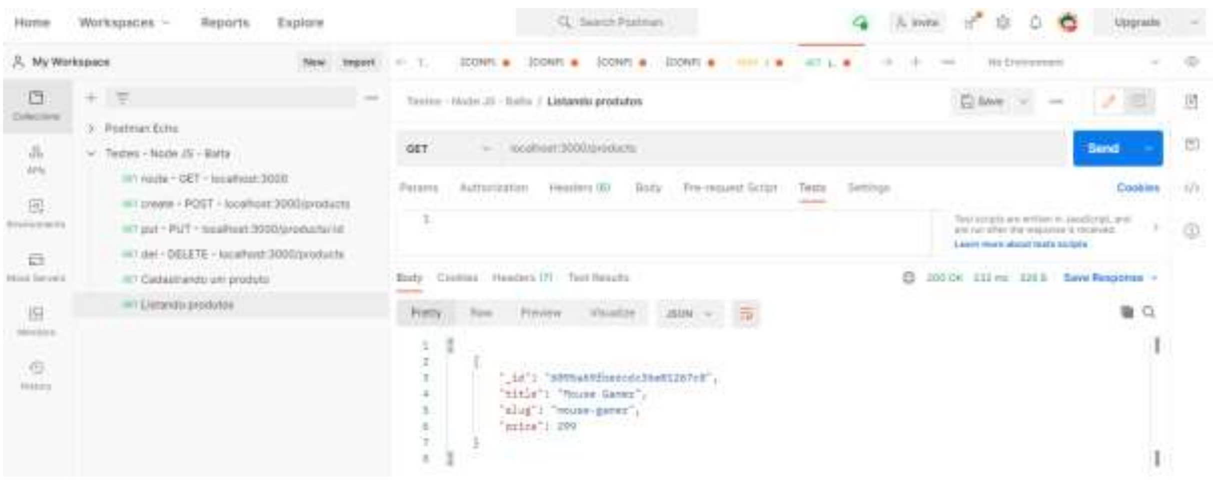
```
// 20210507180924
// http://localhost:3000/products

[
  {
    "active": true,
    "tags": [
      "informática",
      "mouse",
      "games"
    ],
    "_id": "6095a69fbedcdc36e01267c0",
    "title": "Mouse Gamer",
    "description": "Mouse Gamer",
    "slug": "mouse-gamer",
    "price": 299,
    "__v": 0
  }
]
```

Exibindo apenas alguns campos

src/controllers/product-controller.js

```
'use strict';

const mongoose = require('mongoose');
const Product = mongoose.model('Product');

exports.get = (req, res, next) => {
   Product.find({ active: true }, 'title price slug').then(data => {
      res.status(200).send(data);
   }).catch(e => {
      res.status(400).send(e);
   });;
};

exports.post = (req, res, next) => {
   var product = new Product(req.body);
   product.save().then(x => {
      res.status(201).send({message: 'Produto cadastrado com sucesso!'});
   }).catch(e => {
      res.status(400).send({message: 'Falha ao cadastrar o produto!', data: e });
   });
};

exports.put = (req, res, next) => {
    const id = req.params.id;
    res.status(200).send({
        id: id,
        item: req.body
    });
};

exports.delete = (req, res, next) => {
    res.status(200).send(req.body);
};
```

- No Postman:

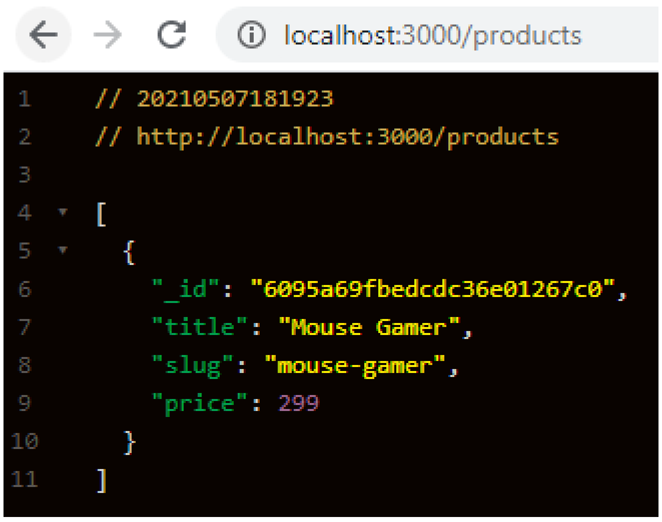


Testes - Node JS - Balta / Listando produtos

GET localhost:3000/products

```
[
    {
        "_id": "6095a69fbedcdc36e01267c0",
        "title": "Mouse Gamer",
        "slug": "mouse-gamer",
        "price": 299
    }
]
```

- No browser:



localhost:3000/products

```
// 20210507181923
// http://localhost:3000/products

[
  {
    "_id": "6095a69fbedcdc36e01267c0",
    "title": "Mouse Gamer",
    "slug": "mouse-gamer",
    "price": 299
  }
]
```

Aula 18 - Listando um produto pelo slug

src/controllers/product-controller.js

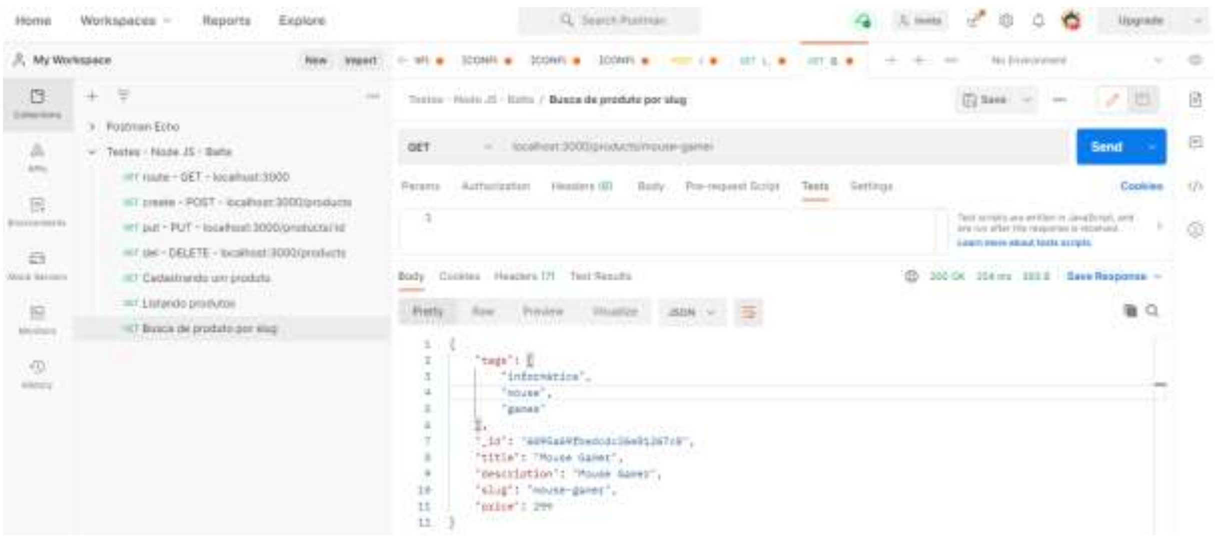
```
'use strict';

const mongoose = require('mongoose');
const Product = mongoose.model('Product');

exports.get = (req, res, next) => {
    Product.find({ active: true }, 'title price slug').then(data => {
        res.status(200).send(data);
    }).catch(e => {
        res.status(400).send(e);
    });;
};

exports.getBySlug = (req, res, next) => {
    Product.findOne({ slug: req.params.slug, active: true }, 'title description price slug tags').then(data => {
        res.status(200).send(data);
    }).catch(e => {
        res.status(400).send(e);
    });;
};

exports.post = (req, res, next) => {
    var product = new Product(req.body);
    product.save().then(x => {
        res.status(201).send({message: 'Produto cadastrado com sucesso!'});
    }).catch(e => {
        res.status(400).send({message: 'Falha ao cadastrar o produto!', data: e });
    });
};

exports.put = (req, res, next) => {
    const id = req.params.id;
    res.status(200).send({
        id: id,
        item: req.body
    });
};

exports.delete = (req, res, next) => {
    res.status(200).send(req.body);
};
```

src/routes/product-route.js

```
const express = require('express');
const router = express.Router();
const controller = require("../controllers/product-controller");

router.get('/', controller.get);
router.get('/:slug', controller.getBySlug);
router.post('/', controller.post);
router.put('/:id', controller.put);
router.delete('/', controller.delete);

module.exports = router;
```

Testando no Postman

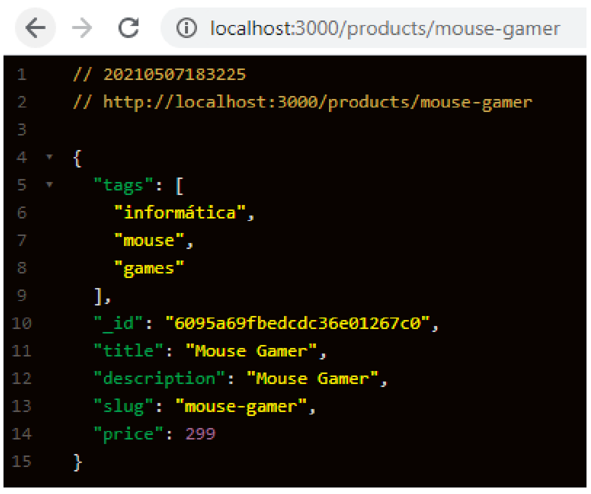
GET - localhost:3000/products/mouse-gamer



```
GET    localhost:3000/products/mouse-gamer
```

```
{
    "tags": [
        "informática",
        "mouse",
        "games"
    ],
    "_id": "6095a69fbedcdc36e01267c0",
    "title": "Mouse Gamer",
    "description": "Mouse Gamer",
    "slug": "mouse-gamer",
    "price": 299
}
```

No navegador



localhost:3000/products/mouse-gamer

```
// 20210507183225
// http://localhost:3000/products/mouse-gamer

{
  "tags": [
    "informática",
    "mouse",
    "games"
  ],
  "_id": "6095a69fbedcdc36e01267c0",
  "title": "Mouse Gamer",
  "description": "Mouse Gamer",
  "slug": "mouse-gamer",
  "price": 299
}
```

Aula 19 - Listando um produto pelo id

src/controllers/product-controller.js

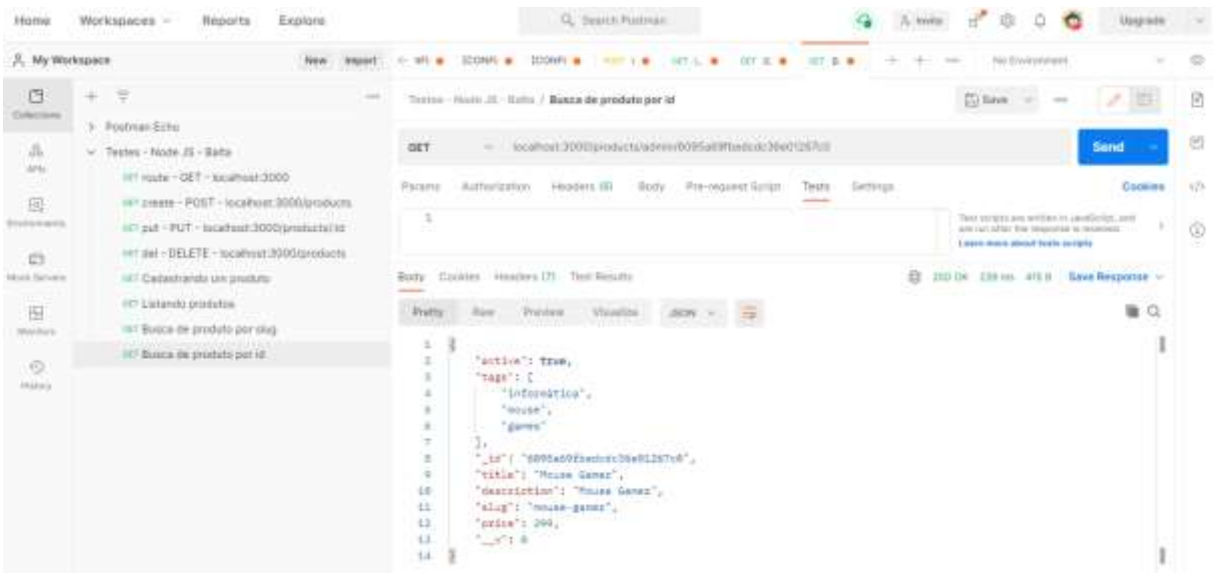
```
'use strict';

const mongoose = require('mongoose');
const Product = mongoose.model('Product');

exports.get = (req, res, next) => {
    Product.find({ active: true }, 'title price slug').then(data => {
        res.status(200).send(data);
    }).catch(e => {
        res.status(400).send(e);
    });;
};

exports.getBySlug = (req, res, next) => {
    Product.findOne({ slug: req.params.slug, active: true }, 'title description price slug tags').then(data => {
        res.status(200).send(data);
    }).catch(e => {
        res.status(400).send(e);
    });;
};

exports.getById = (req, res, next) => {
    Product.findById({_id: req.params.id}).then(data => {
        res.status(200).send(data);
    }).catch(e => {
        res.status(400).send(e);
    });;
};

exports.post = (req, res, next) => {
    var product = new Product(req.body);
    product.save().then(x => {
        res.status(201).send({message: 'Produto cadastrado com sucesso!'});
    }).catch(e => {
        res.status(400).send({message: 'Falha ao cadastrar o produto!', data: e });
    });
};

exports.put = (req, res, next) => {
    const id = req.params.id;
    res.status(200).send({
        id: id,
        item: req.body
    });
};

exports.delete = (req, res, next) => {
    res.status(200).send(req.body);
};
```

src/routes/product-route.js

```
const express = require('express');
const router = express.Router();
const controller = require("../controllers/product-controller");

router.get('/', controller.get);
router.get('/:slug', controller.getBySlug);
router.get('/admin/:id', controller.getById);
router.post('/', controller.post);
router.put('/:id', controller.put);
router.delete('/', controller.delete);

module.exports = router;
```

Testando no Postman

localhost:3000/products/admin/6095a69fbedcdc36e01267c0

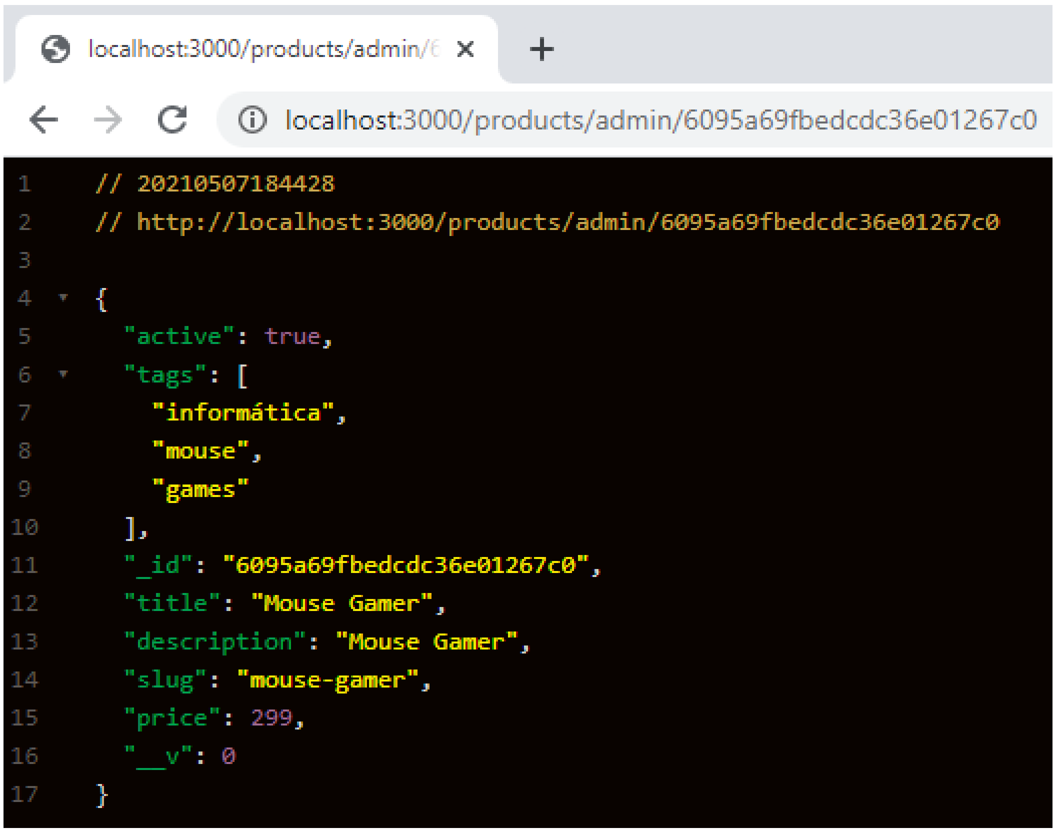


GET localhost:3000/products/admin/6095a69fbedcdc36e01267c0

```
{
    "active": true,
    "tags": [
        "informática",
        "mouse",
        "games"
    ],
    "_id": "6095a69fbedcdc36e01267c0",
    "title": "Mouse Gamer",
    "description": "Mouse Gamer",
    "slug": "mouse-gamer",
    "price": 299,
    "__v": 0
}
```

Testando no navegador

http://localhost:3000/products/admin/6095a69fbedcdc36e01267c0



localhost:3000/products/admin/6095a69fbedcdc36e01267c0

```
// 20210507184428
// http://localhost:3000/products/admin/6095a69fbedcdc36e01267c0

{
  "active": true,
  "tags": [
    "informática",
    "mouse",
    "games"
  ],
  "_id": "6095a69fbedcdc36e01267c0",
  "title": "Mouse Gamer",
  "description": "Mouse Gamer",
  "slug": "mouse-gamer",
  "price": 299,
  "__v": 0
}
```

Aula 20 - Listando os produtos de uma tag

src/controllers/product-controller.js

```
'use strict';

const mongoose = require('mongoose');
const Product = mongoose.model('Product');

exports.get = (req, res, next) => {
   Product.find({ active: true }, 'title price slug').then(data => {
      res.status(200).send(data);
   }).catch(e => {
      res.status(400).send(e);
   });;
};

exports.getBySlug = (req, res, next) => {
   Product.findOne({ slug: req.params.slug, active: true }, 'title description price slug tags').then(data
=> {
      res.status(200).send(data);
   }).catch(e => {
      res.status(400).send(e);
   });;
};

exports.getById = (req, res, next) => {
   Product.findById({_id: req.params.id}).then(data => {
      res.status(200).send(data);
   }).catch(e => {
      res.status(400).send(e);
   });;
};

exports.getByTag = (req, res, next) => {
   Product.find({tags: req.params.tag, active: true}, 'title description price slug tags').then(data => {
      res.status(200).send(data);
   }).catch(e => {
      res.status(400).send(e);
   });;
};

exports.post = (req, res, next) => {
   var product = new Product(req.body);
   product.save().then(x => {
      res.status(201).send({message: 'Produto cadastrado com sucesso!'});
   }).catch(e => {
      res.status(400).send({message: 'Falha ao cadastrar o produto!', data: e });
   });
};
```

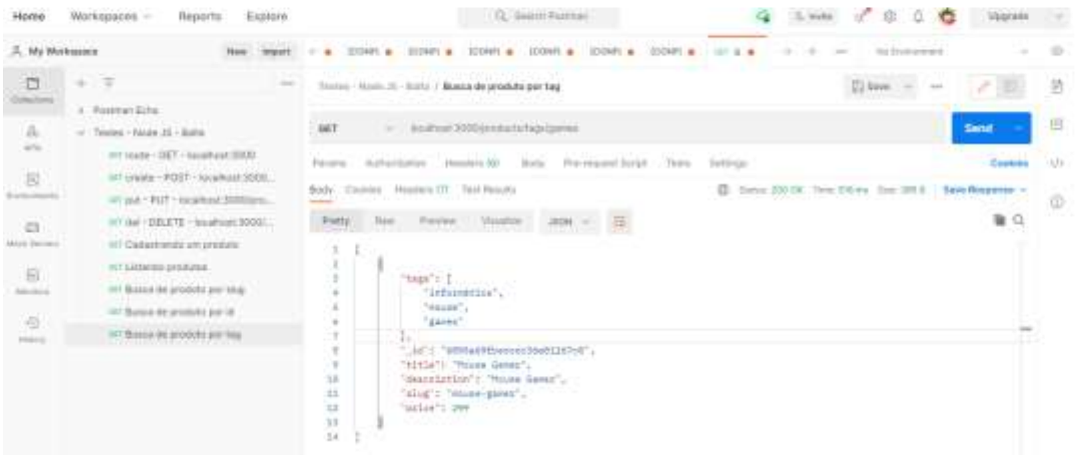
```
exports.put = (req, res, next) => {
    const id = req.params.id;
    res.status(200).send({
        id: id,
        item: req.body
    });
};

exports.delete = (req, res, next) => {
    res.status(200).send(req.body);
};
```

src/routes/product-route.js

```
const express = require('express');
const router = express.Router();
const controller = require("../controllers/product-controller");

router.get('/', controller.get);
router.get('/:slug', controller.getBySlug);
router.get('/admin/:id', controller.getById);
router.get('/tags/:tag', controller.getByTag);
router.post('/', controller.post);
router.put('/:id', controller.put);
router.delete('/', controller.delete);

module.exports = router;
```

Testando no Postman

GET - localhost:3000/products/tags/games



```
[
    {
        "tags": [
            "informática",
            "mouse",
            "games"
        ],
        "_id": "[illegible]",
        "title": "Mouse Gamer",
        "description": "Mouse Gamer",
        "slug": "mouse-gamer",
        "price": 299
    }
]
```

Aula 21 - Atualizando um produto

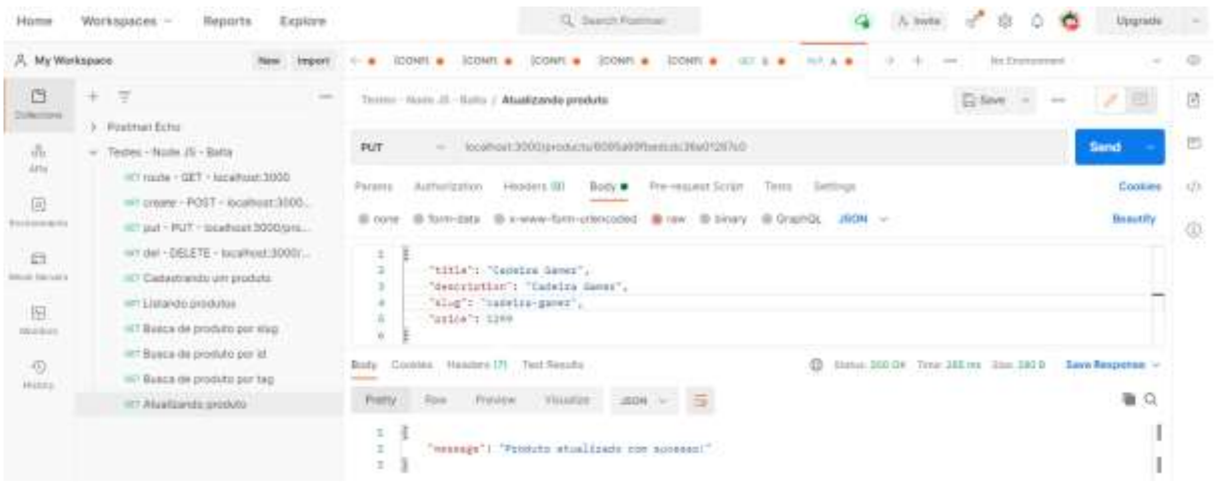
src/controllers/product-controller.js

```
'use strict';

const mongoose = require('mongoose');
const Product = mongoose.model('Product');

exports.get = (req, res, next) => {
    Product.find({ active: true }, 'title price slug').then(data => {
        res.status(200).send(data);
    }).catch(e => {
        res.status(400).send(e);
    });;
};

exports.getBySlug = (req, res, next) => {
    Product.findOne({ slug: req.params.slug, active: true }, 'title description price slug tags').then(data => {
        res.status(200).send(data);
    }).catch(e => {
        res.status(400).send(e);
    });;
};

exports.getById = (req, res, next) => {
    Product.findById({_id: req.params.id}).then(data => {
        res.status(200).send(data);
    }).catch(e => {
        res.status(400).send(e);
    });;
};

exports.getByTag = (req, res, next) => {
    Product.find({tags: req.params.tag, active: true}, 'title description price slug tags').then(data => {
        res.status(200).send(data);
    }).catch(e => {
        res.status(400).send(e);
    });;
};

exports.post = (req, res, next) => {
    var product = new Product(req.body);
    product.save().then(x => {
        res.status(201).send({message: 'Produto cadastrado com sucesso!'});
    }).catch(e => {
        res.status(400).send({message: 'Falha ao cadastrar o produto!', data: e });
    });
};
```

```
exports.put = (req, res, next) => {
    Product.findByIdAndUpdate(req.params.id, {
        $set: {
            title: req.body.title,
            description: req.body.description,
         slug: req.body.slug,
            price: req.body.price
        }
    }).then(x => {
        res.status(200).send({
            message: "Produto atualizado com sucesso!"
        });
    }).catch(e => {
        res.status(400).send({
            message: "Falha ao atualizar produto!", data: e
        });
    });
};

exports.delete = (req, res, next) => {
    res.status(200).send(req.body);
};
```

Testando no Postman

PUT - localhost:3000/products/6095a69fbedcdc36e01267c0

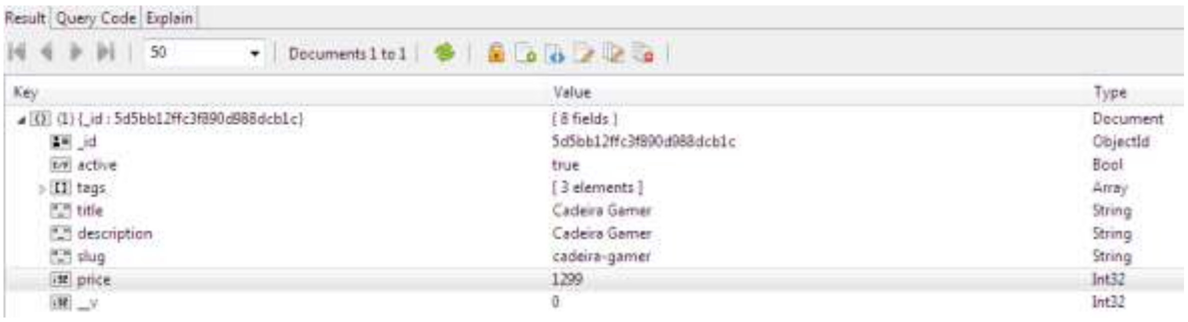

PUT localhost:3000/products/6095a69fbedcdc36e01267c0

```
{
    "title": "Cadeira Gamer",
    "description": "Cadeira Gamer",
    "slug": "cadeira-gamer",
    "price": 1299
}
```

Status: 200 OK

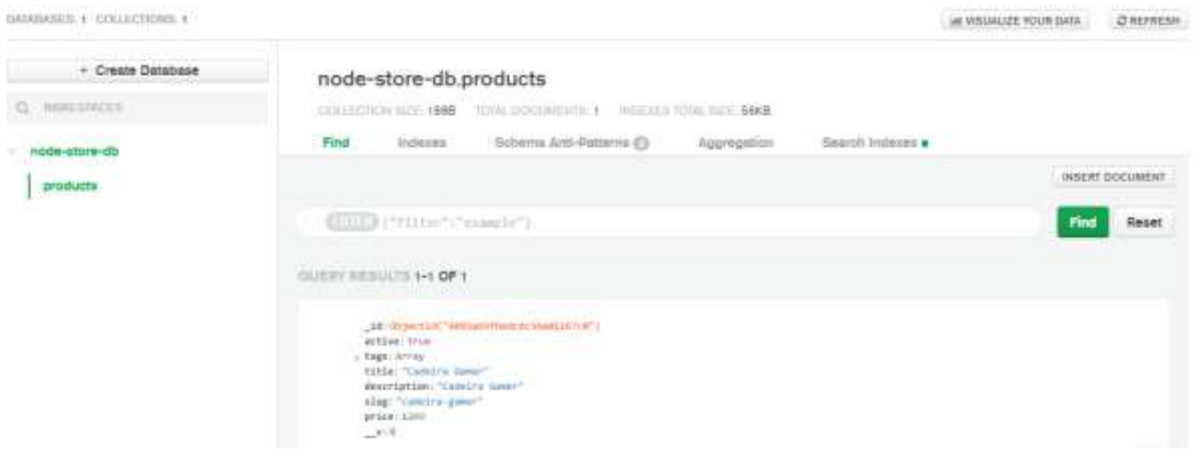
```
{
    "message": "Produto atualizado com sucesso!"
}
```

No Studio 3T



```
Key                                          Value                        Type
(1) {_id : 5d5bb12ffc3f890d988dcb1c}         { 8 fields }                 Document
    _id                                      5d5bb12ffc3f890d988dcb1c     ObjectId
    active                                   true                         Bool
    tags                                     [ 3 elements ]               Array
    title                                    Cadeira Gamer                String
    description                              Cadeira Gamer                String
    slug                                     cadeira-gamer                String
    price                                    1299                         Int32
    __v                                      0                            Int32
```

No mlab



```
_id: ObjectId("[illegible]")
active: true
tags: Array
title: "Cadeira Gamer"
description: "Cadeira Gamer"
slug: "cadeira-gamer"
price: 1299
__v: 0
```

Aula 22 - Excluindo um produto

src/controllers/product-controller.js

```
'use strict';

const mongoose = require('mongoose');
const Product = mongoose.model('Product');

exports.get = (req, res, next) => {
  Product.find({ active: true }, 'title price slug').then(data => {
    res.status(200).send(data);
  }).catch(e => {
    res.status(400).send(e);
  });;
};

exports.getBySlug = (req, res, next) => {
  Product.findOne({ slug: req.params.slug, active: true }, 'title description price slug tags').then(data => {
    res.status(200).send(data);
  }).catch(e => {
    res.status(400).send(e);
  });;
};

exports.getById = (req, res, next) => {
  Product.findById({_id: req.params.id}).then(data => {
    res.status(200).send(data);
  }).catch(e => {
    res.status(400).send(e);
  });;
};

exports.getByTag = (req, res, next) => {
  Product.find({tags: req.params.tag, active: true}, 'title description price slug tags').then(data => {
    res.status(200).send(data);
  }).catch(e => {
    res.status(400).send(e);
  });;
};

exports.post = (req, res, next) => {
  var product = new Product(req.body);
  product.save().then(x => {
    res.status(201).send({message: 'Produto cadastrado com sucesso!'});
  }).catch(e => {
    res.status(400).send({message: 'Falha ao cadastrar o produto!', data: e });
  });
};
```

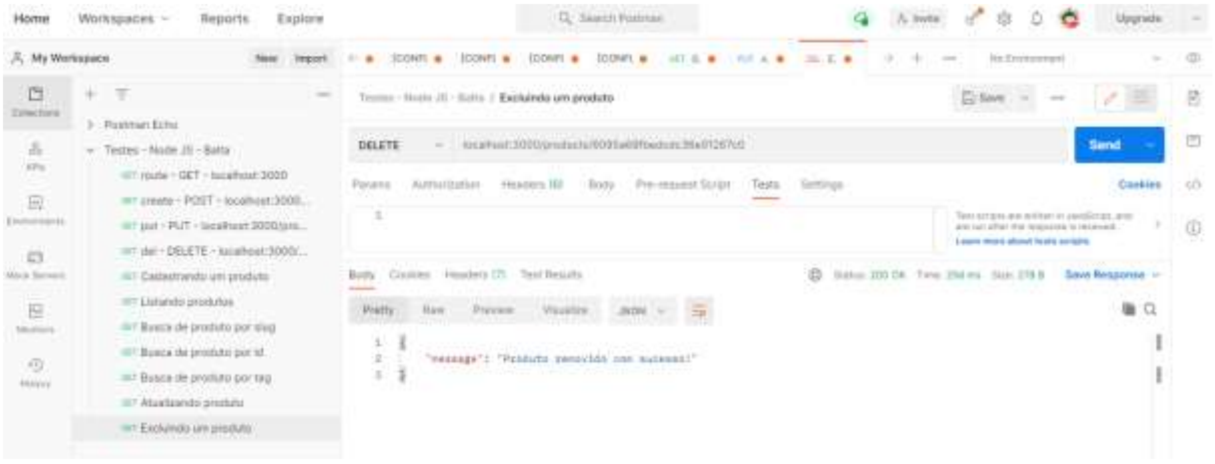
```
exports.put = (req, res, next) => {
    Product.findByIdAndUpdate(req.params.id, {
        $set: {
            title: req.body.title,
            description: req.body.description,
            slug: req.body.slug,
            price: req.body.price
        }
    }).then(x => {
        res.status(200).send({
            message: "Produto atualizado com sucesso!"
        });
    }).catch(e => {
        res.status(400).send({
            message: "Falha ao atualizar produto!", data: e
        });
    });
};

exports.delete = (req, res, next) => {
    Product.findOneAndRemove(req.params.id).then(x => {
        res.status(200).send({
            message: "Produto removido com sucesso!"
        });
    }).catch(e => {
        res.status(400).send({
            message: "Falha ao remover produto!", data: e
        });
    });
};
```

src/routes/product-route.js

```
const express = require('express');
const router = express.Router();
const controller = require("../controllers/product-controller");

router.get('/', controller.get);
router.get('/:slug', controller.getBySlug);
router.get('/admin/:id', controller.getById);
router.get('/tags/:tag', controller.getByTag);
router.post('/', controller.post);
router.put('/:id', controller.put);
router.delete('/:id', controller.delete);

module.exports = router;
```

Testando no Postman

localhost:3000/products/6095a69fbedcdc36e01267c0



Testes - Node JS - Balta / Excluindo um produto

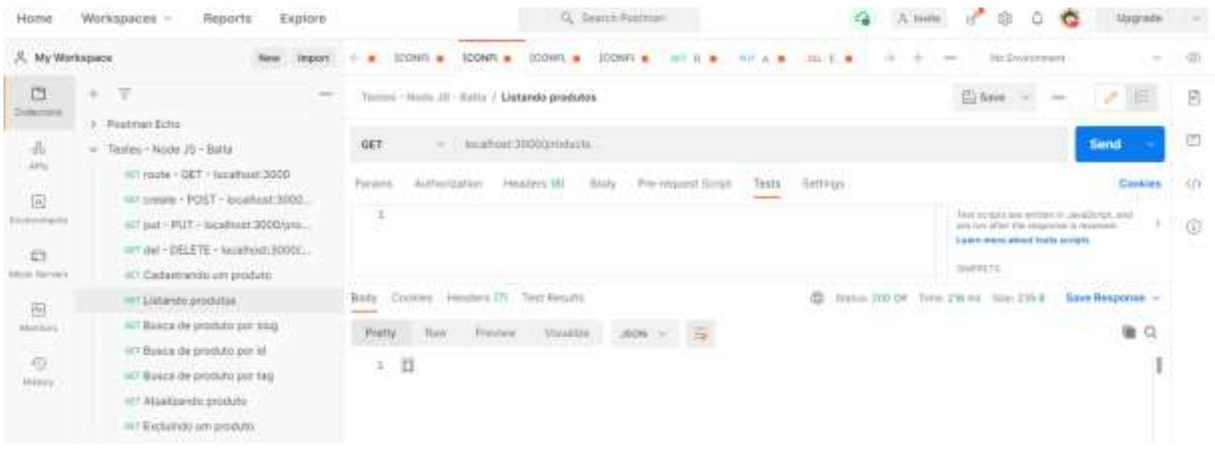
DELETE localhost:3000/products/6095a69fbedcdc36e01267c0

Status: 200 OK

```
{
    "message": "Produto removido com sucesso!"
}
```

- Agora, ao listar os produtos:

GET - localhost:3000/products



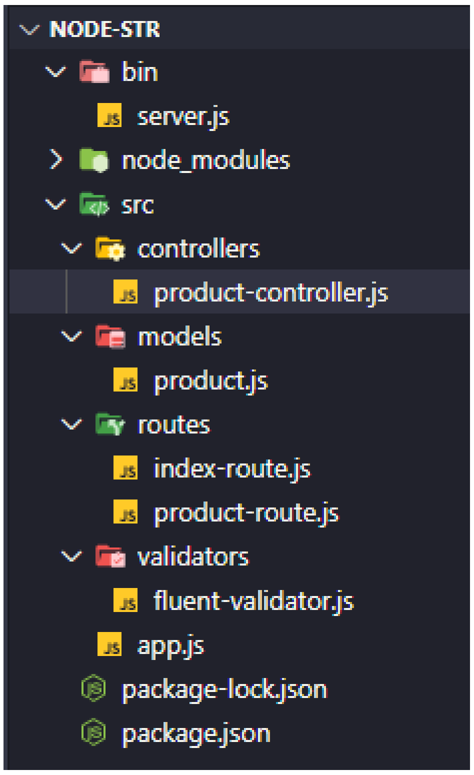
Testes - Node JS - Balta / Listando produtos

GET localhost:3000/products

Status: 200 OK

```
[]
```

Aula 23 - Validações



```
NODE-STR
  bin
    server.js
  node_modules
  src
    controllers
      product-controller.js
    models
      product.js
    routes
      index-route.js
      product-route.js
    validators
      fluent-validator.js
    app.js
  package-lock.json
  package.json
```

src/validators/fluent-validator.js

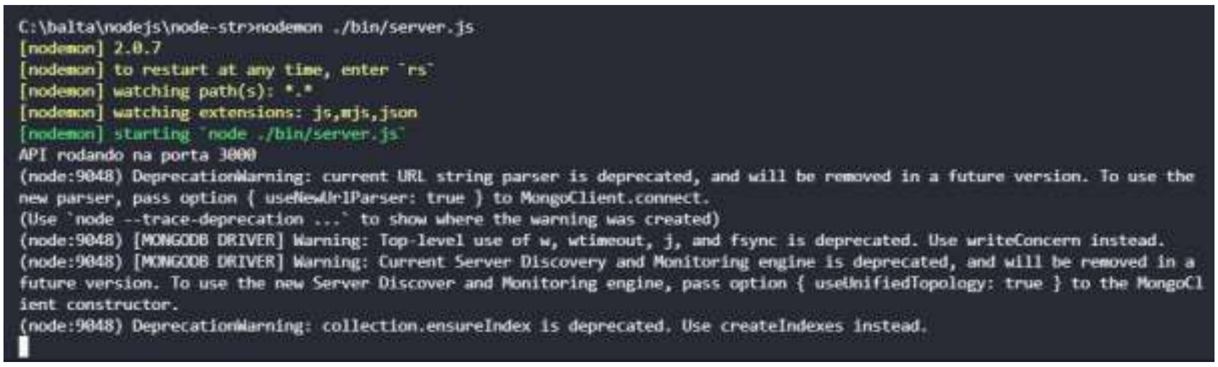
```
'use strict';

let errors = [];

function ValidationContract() {
   errors = [];
}

ValidationContract.prototype.isRequired = (value, message) => {
   if (!value || value.length <= 0)
      errors.push({ message: message });
}

ValidationContract.prototype.hasMinLen = (value, min, message) => {
   if (!value || value.length < min)
      errors.push({ message: message });
}

ValidationContract.prototype.hasMaxLen = (value, max, message) => {
   if (!value || value.length > max)
      errors.push({ message: message });
}

ValidationContract.prototype.isFixedLen = (value, len, message) => {
   if (value.length != len)
      errors.push({ message: message });
}

ValidationContract.prototype.isEmail = (value, message) => {
   var reg = new RegExp(/^\w+([-+.']\w+)*@\w+([-.]\w+)*\.\w+([-.]\w+)*$/);
   if (!reg.test(value))
      errors.push({ message: message });
}

ValidationContract.prototype.errors = () => {
   return errors;
}

ValidationContract.prototype.clear = () => {
   errors = [];
}

ValidationContract.prototype.isValid = () => {
   return errors.length == 0;
}

module.exports = ValidationContract;
```

src/controllers/product-controller.js

```
'use strict';

const mongoose = require('mongoose');
const Product = mongoose.model('Product');
const ValidationContract = require('../validators/fluent-validator');

exports.get = (req, res, next) => {
   Product.find({ active: true }, 'title price slug').then(data => {
      res.status(200).send(data);
   }).catch(e => {
      res.status(400).send(e);
   });
};

exports.getBySlug = (req, res, next) => {
   Product.findOne({ slug: req.params.slug, active: true }, 'title description price slug tags').then(data => {
      res.status(200).send(data);
   }).catch(e => {
      res.status(400).send(e);
   });
};

exports.getById = (req, res, next) => {
   Product.findById({_id: req.params.id}).then(data => {
      res.status(200).send(data);
   }).catch(e => {
      res.status(400).send(e);
   });
};

exports.getByTag = (req, res, next) => {
   Product.find({tags: req.params.tag, active: true}, 'title description price slug tags').then(data => {
      res.status(200).send(data);
   }).catch(e => {
      res.status(400).send(e);
   });
};

exports.post = (req, res, next) => {

   let contract = new ValidationContract();
   contract.hasMinLen(req.body.title, 3, 'O título deve conter pelo menos 3 caracteres');
   contract.hasMinLen(req.body.slug, 3, 'O slug deve conter pelo menos 3 caracteres');
   contract.hasMinLen(req.body.description, 3, 'A descrição deve conter pelo menos 3 caracteres');

   // Se os dados forem inválidos
   if (!contract.isValid()) {
      res.status(400).send(contract.errors()).end();
      return;
   }
```

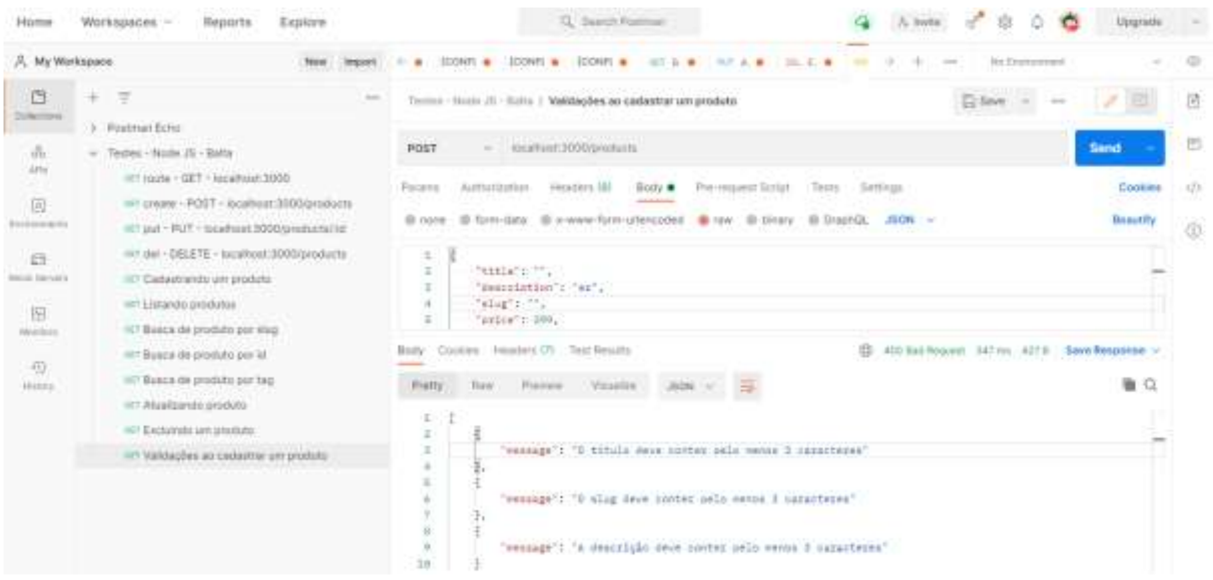
```
  var product = new Product(req.body);
  product.save().then(x => {
    res.status(201).send({message: 'Produto cadastrado com sucesso!'});
  }).catch(e => {
    res.status(400).send({message: 'Falha ao cadastrar o produto!', data: e });
  });
};

exports.put = (req, res, next) => {
  Product.findByIdAndUpdate(req.params.id, {
    $set: {
      title: req.body.title,
      description: req.body.description,
      slug: req.body.slug,
      price: req.body.price
    }
  }).then(x => {
    res.status(200).send({
      message: "Produto atualizado com sucesso!"
    });
  }).catch(e => {
    res.status(400).send({
      message: "Falha ao atualizar produto!", data: e
    });
  });
};

exports.delete = (req, res, next) => {
  Product.findOneAndRemove(req.body.id).then(x => {
    res.status(200).send({
      message: "Produto removido com sucesso!"
    });
  }).catch(e => {
    res.status(400).send({
      message: "Falha ao remover produto!", data: e
    });
  });
};
```

nodemon ./bin/server.js



```
C:\balta\nodejs\node-str>nodemon ./bin/server.js
[nodemon] 2.0.7
[nodemon] to restart at any time, enter `rs`
[nodemon] watching path(s): *.*
[nodemon] watching extensions: js,mjs,json
[nodemon] starting `node ./bin/server.js`
API rodando na porta 3000
(node:9048) DeprecationWarning: current URL string parser is deprecated, and will be removed in a future version. To use the
new parser, pass option { useNewUrlParser: true } to MongoClient.connect.
(Use `node --trace-deprecation ...` to show where the warning was created)
(node:9048) [MONGODB DRIVER] Warning: Top-level use of w, wtimeout, j, and fsync is deprecated. Use writeConcern instead.
(node:9048) [MONGODB DRIVER] Warning: Current Server Discovery and Monitoring engine is deprecated, and will be removed in a
future version. To use the new Server Discover and Monitoring engine, pass option { useUnifiedTopology: true } to the MongoCl
ient constructor.
(node:9048) DeprecationWarning: collection.ensureIndex is deprecated. Use createIndexes instead.
```

Testando no Postman



Testes - Node JS - Batta / Validações ao cadastrar um produto

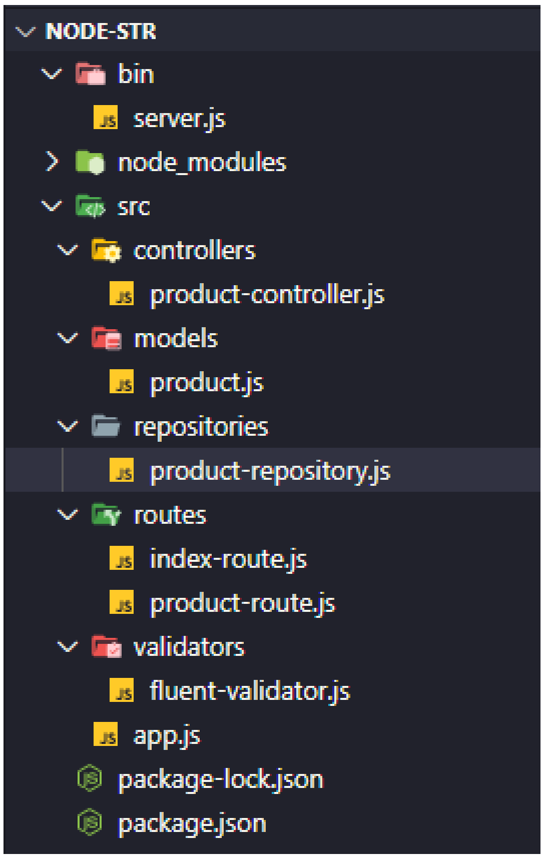
POST localhost:3000/products

```
{
    "title": "",
    "description": "ex",
    "slug": "",
    "price": 200,
```

400 Bad Request 347 ms 427 B

```
[
    {
        "message": "O título deve conter pelo menos 3 caracteres"
    },
    {
        "message": "O slug deve conter pelo menos 3 caracteres"
    },
    {
        "message": "A descrição deve conter pelo menos 3 caracteres"
    }
```

Aula 24 - Repositórios



```
NODE-STR
  bin
    server.js
  node_modules
  src
    controllers
      product-controller.js
    models
      product.js
    repositories
      product-repository.js
    routes
      index-route.js
      product-route.js
    validators
      fluent-validator.js
    app.js
  package-lock.json
  package.json
```

src/repositories/product-repository.js

```
'use strict';
const mongoose = require('mongoose');
const Product = mongoose.model('Product');

exports.get = () => {
    return Product.find({
        active: true
    }, 'title price slug');
}

exports.getBySlug = (slug) => {
    return Product
        .findOne({
            slug: slug,
            active: true
        }, 'title description price slug tags');
}

exports.getById = (id) => {
    return Product
        .findById(id);
}
```

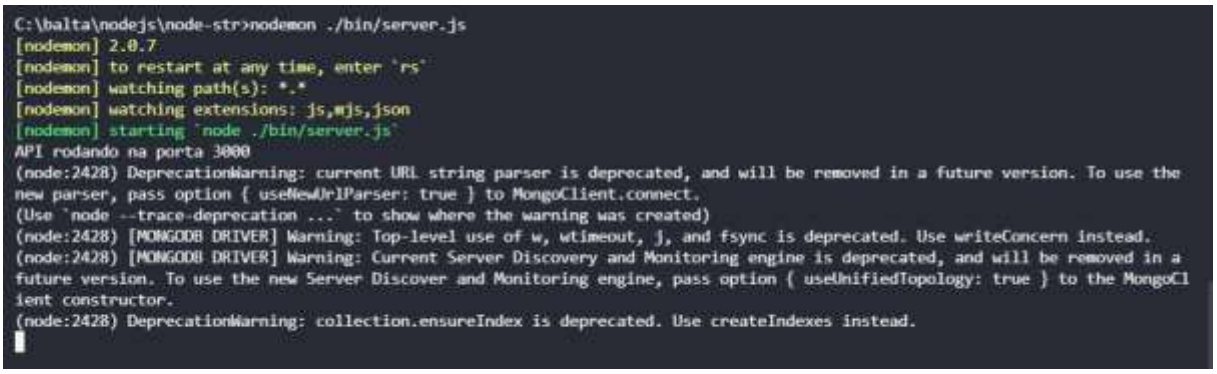
```
exports.getByTag = (tag) => {
    return Product
        .find({
            tags: tag,
            active: true
        }, 'title description price slug tags');
}

exports.create = (data) => {
    var product = new Product(data);
    return product.save();
}

exports.update = (id, data) => {
    return Product
        .findByIdAndUpdate(id, {
            $set: {
                title: data.title,
                description: data.description,
                price: data.price,
                slug: data.slug
            }
        });
}

exports.delete = (id) => {
    return Product
        .findOneAndRemove(id);
}
```

src/controllers/product-controller.js

```
'use strict';

const mongoose = require('mongoose');
const Product = mongoose.model('Product');
const ValidationContract = require('../validators/fluent-validator');
const repository = require('../repositories/product-repository');

exports.get = (req, res, next) => {
   repository
   .get()
   .then(data => {
      res.status(200).send(data);
   }).catch(e => {
      res.status(400).send(e);
   });
};

exports.getBySlug = (req, res, next) => {
   repository
   .getBySlug(req.params.slug)
   .then(data => {
      res.status(200).send(data);
   }).catch(e => {
      res.status(400).send(e);
   });
};

exports.getById = (req, res, next) => {
   repository
   .getById(req.params.id)
   .then(data => {
      res.status(200).send(data);
   }).catch(e => {
      res.status(400).send(e);
   });
};

exports.getByTag = (req, res, next) => {
   repository
   .getByTag(req.params.tag)
   .then(data => {
      res.status(200).send(data);
   }).catch(e => {
      res.status(400).send(e);
   });
};
```

```
exports.post = (req, res, next) => {

    let contract = new ValidationContract();
    contract.hasMinLen(req.body.title, 3, 'O título deve conter pelo menos 3 caracteres');
    contract.hasMinLen(req.body.slug, 3, 'O slug deve conter pelo menos 3 caracteres');
    contract.hasMinLen(req.body.description, 3, 'A descrição deve conter pelo menos 3 caracteres');

    // Se os dados forem inválidos
    if (!contract.isValid()) {
        res.status(400).send(contract.errors()).end();
        return;
    }

    repository
    .create(req.body)
    .then(x => {
        res.status(201).send({message: 'Produto cadastrado com sucesso!'});
    }).catch(e => {
        res.status(400).send({message: 'Falha ao cadastrar o produto!', data: e });
    });
};

exports.put = (req, res, next) => {
    repository
    .update(req.params.id, req.body)
    .then(x => {
        res.status(200).send({
            message: "Produto atualizado com sucesso!"
        });
    }).catch(e => {
        res.status(400).send({
            message: "Falha ao atualizar produto!", data: e
        });
    });
};

exports.delete = (req, res, next) => {
    repository
    .delete(req.body.id)
    .then(x => {
        res.status(200).send({
            message: "Produto removido com sucesso!"
        });
    }).catch(e => {
        res.status(400).send({
            message: "Falha ao remover produto!", data: e
        });
    });
};
```

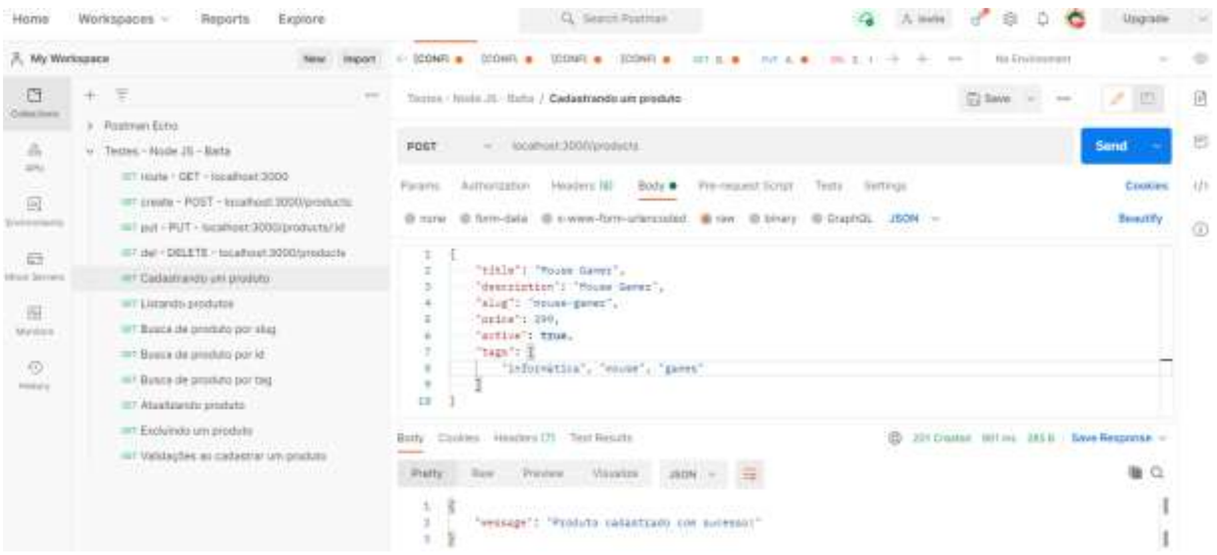
nodemon ./bin/server.js



```
C:\balta\nodejs\node-str>nodemon ./bin/server.js
[nodemon] 2.0.7
[nodemon] to restart at any time, enter `rs`
[nodemon] watching path(s): *.*
[nodemon] watching extensions: js,mjs,json
[nodemon] starting `node ./bin/server.js`
API rodando na porta 3000
(node:2428) DeprecationWarning: current URL string parser is deprecated, and will be removed in a future version. To use the
new parser, pass option { useNewUrlParser: true } to MongoClient.connect.
(Use `node --trace-deprecation ...` to show where the warning was created)
(node:2428) [MONGODB DRIVER] Warning: Top-level use of w, wtimeout, j, and fsync is deprecated. Use writeConcern instead.
(node:2428) [MONGODB DRIVER] Warning: Current Server Discovery and Monitoring engine is deprecated, and will be removed in a
future version. To use the new Server Discover and Monitoring engine, pass option { useUnifiedTopology: true } to the MongoCl
ient constructor.
(node:2428) DeprecationWarning: collection.ensureIndex is deprecated. Use createIndexes instead.
```

Cadastrando um produto

POST - localhost:3000/products



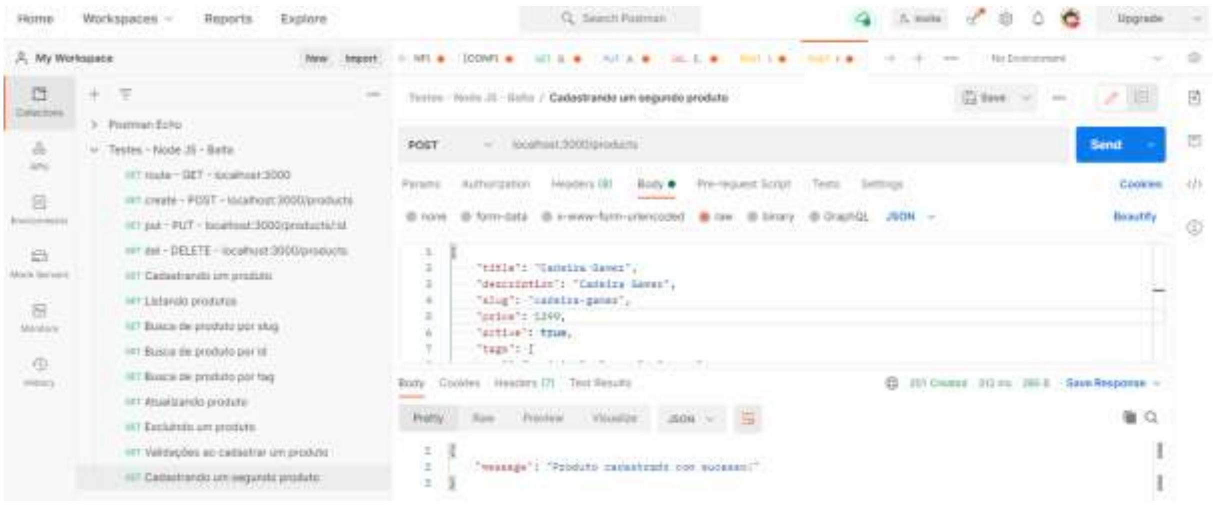
POST localhost:3000/products

```
{
    "title": "Mouse Gamer",
    "description": "Mouse Gamer",
    "slug": "mouse-gamer",
    "price": 299,
    "active": true,
    "tags": [
        "informatica", "mouse", "games"
    ]
}
```

```
{
    "message": "Produto cadastrado com sucesso!"
}
```

Cadastrando um segundo produto

POST - localhost:3000/products



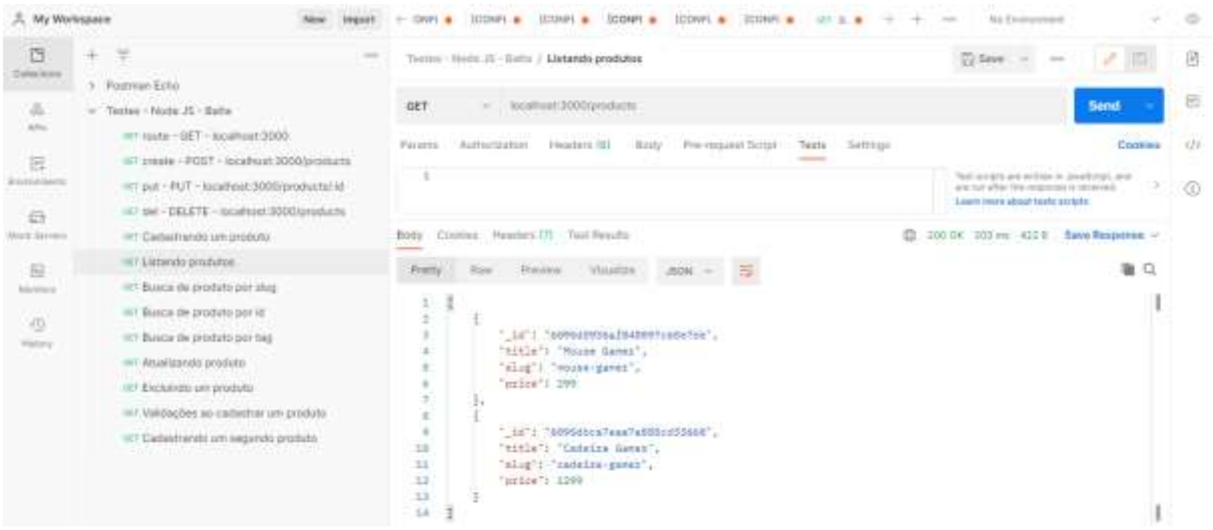
```
{
    "title": "Cadeira Gamer",
    "description": "Cadeira Gamer",
    "slug": "cadeira-gamer",
    "price": 1299,
    "active": true,
    "tags": [
```

201 Created

```
{
    "message": "Produto cadastrado com sucesso!"
}
```

Listando os produtos

GET - localhost:3000/products

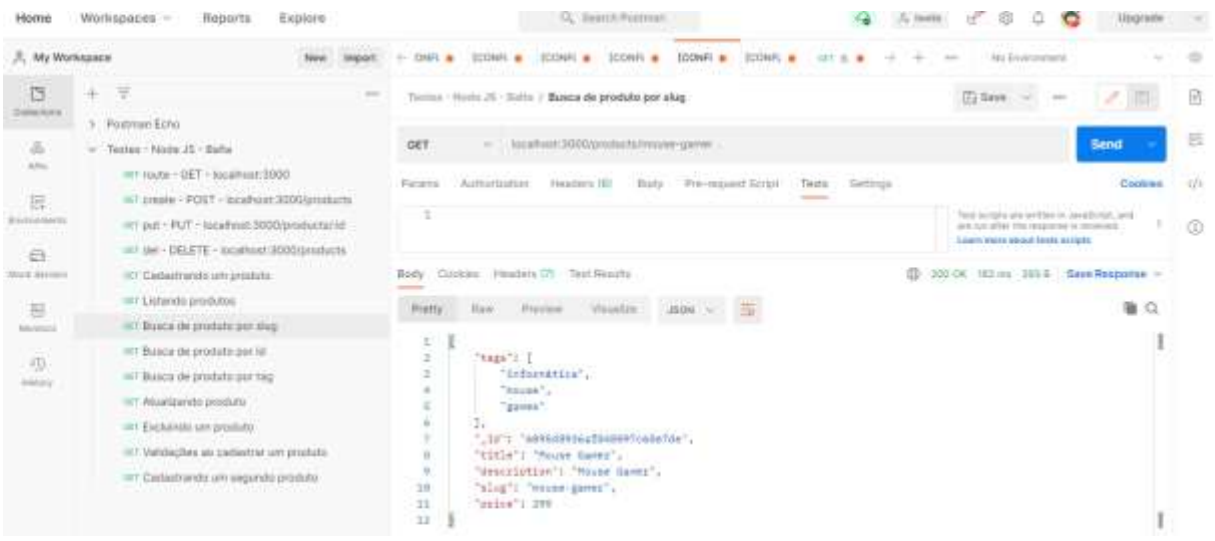


200 OK

```
[
    {
        "_id": "[illegible]",
        "title": "Mouse Gamer",
        "slug": "mouse-gamer",
        "price": 299
    },
    {
        "_id": "[illegible]",
        "title": "Cadeira Gamer",
        "slug": "cadeira-gamer",
        "price": 1299
    }
]
```

Exibindo dados de um produto por slug

GET - localhost:3000/products/mouse-gamer



Testes - Node JS - Balta / Busca de produto por slug

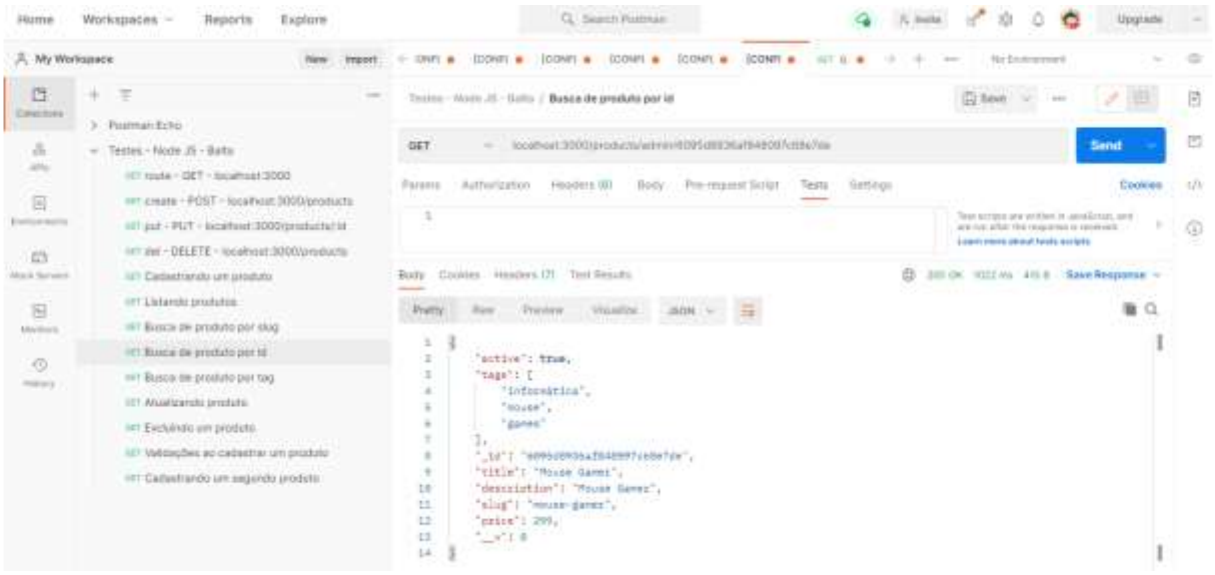
GET localhost:3000/products/mouse-gamer

200 OK

```
{
    "tags": [
        "informática",
        "mouse",
        "games"
    ],
    "_id": "6095d8936af848097c68e7de",
    "title": "Mouse Gamer",
    "description": "Mouse Gamer",
    "slug": "mouse-gamer",
    "price": 299
}
```

Exibindo dados de um produto por id

localhost:3000/products/admin/6095d8936af848097c68e7de



Testes - Node JS - Balta / Busca de produto por id

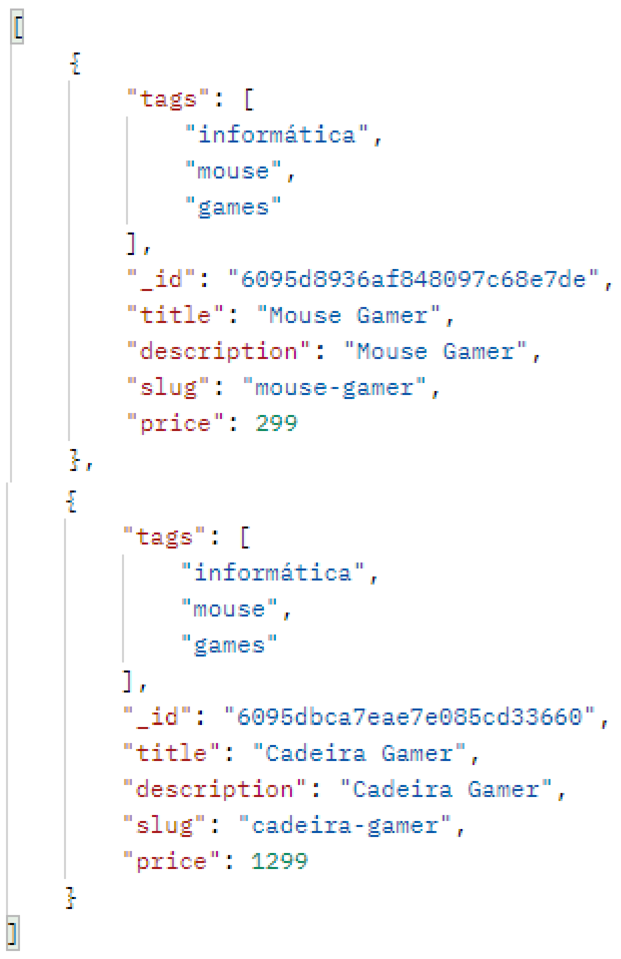
GET localhost:3000/products/admin/6095d8936af848097c68e7de

200 OK

```
{
    "active": true,
    "tags": [
        "informática",
        "mouse",
        "games"
    ],
    "_id": "6095d8936af848097c68e7de",
    "title": "Mouse Gamer",
    "description": "Mouse Gamer",
    "slug": "mouse-gamer",
    "price": 299,
    "__v": 0
}
```

Exibindo produtos por tag

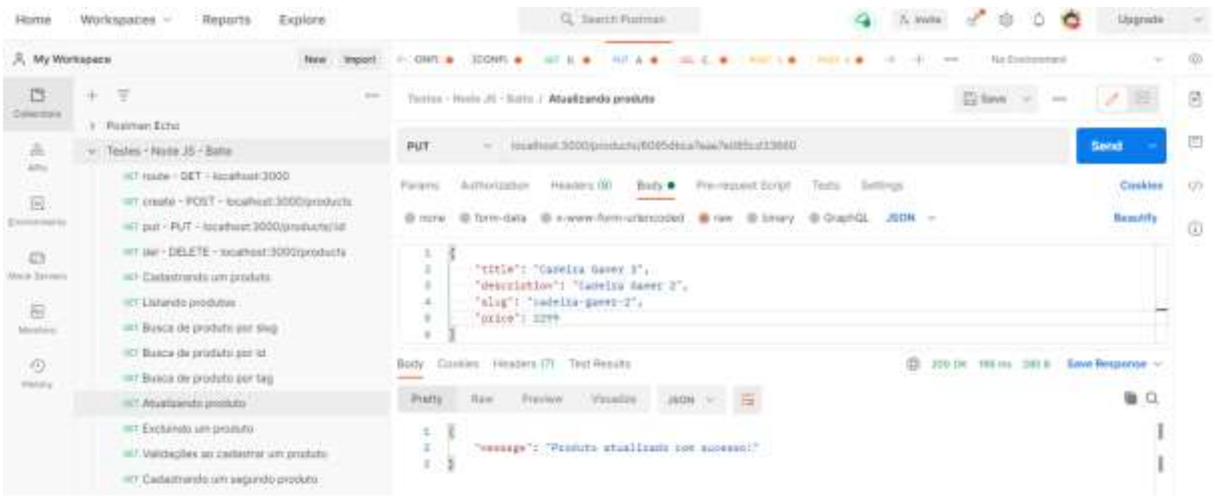
GET - localhost:3000/products/tags/games



```
[
    {
        "tags": [
            "informática",
            "mouse",
            "games"
        ],
        "_id": "6095d8936af848097c68e7de",
        "title": "Mouse Gamer",
        "description": "Mouse Gamer",
        "slug": "mouse-gamer",
        "price": 299
    },
    {
        "tags": [
            "informática",
            "mouse",
            "games"
        ],
        "_id": "6095dbca7eae7e085cd33660",
        "title": "Cadeira Gamer",
        "description": "Cadeira Gamer",
        "slug": "cadeira-gamer",
        "price": 1299
    }
]
```

Atualizando dados de um produto

localhost:3000/products/6095dbca7eae7e085cd33660



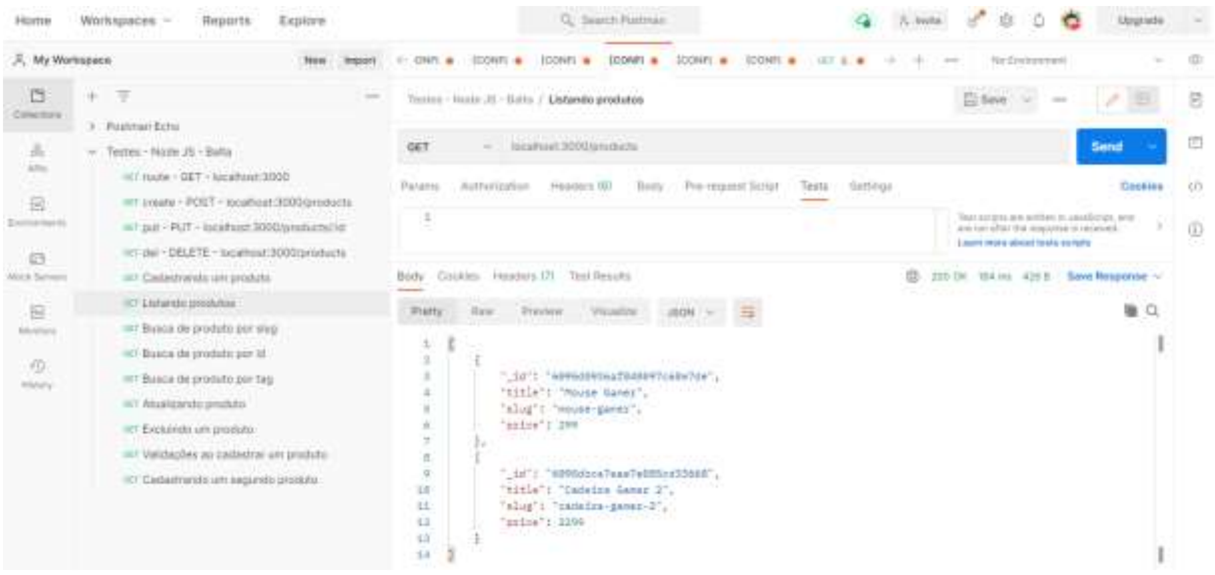
PUT localhost:3000/products/6095dbca7eae7e085cd33660

```
{
    "title": "Cadeira Gamer 3",
    "description": "Cadeira Gamer 2",
    "slug": "cadeira-gamer-2",
    "price": 2299
}
```

```
{
    "message": "Produto atualizado com sucesso!"
}
```

Listando os produtos

GET - localhost:3000/products



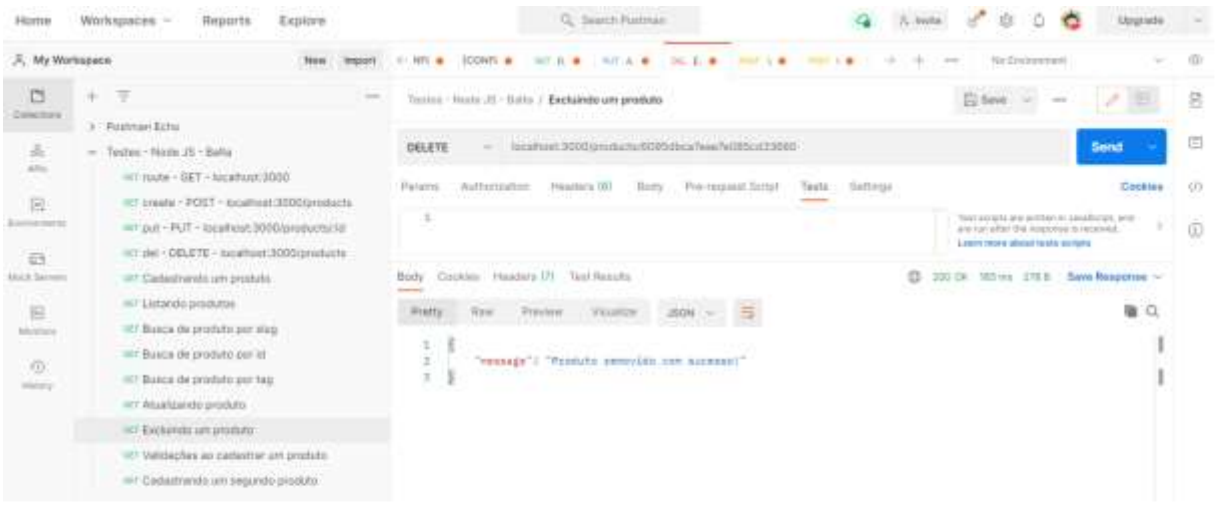
GET localhost:3000/products

200 OK 184 ms 426 B

```
[
    {
        "_id": "[illegible]",
        "title": "Mouse Gamer",
        "slug": "mouse-gamer",
        "price": 299
    },
    {
        "_id": "[illegible]",
        "title": "Cadeira Gamer 2",
        "slug": "cadeira-gamer-2",
        "price": 2299
    }
]
```

Excluindo um produto

DELETE - localhost:3000/products/5d5c6627cc81b832f8f37dd9



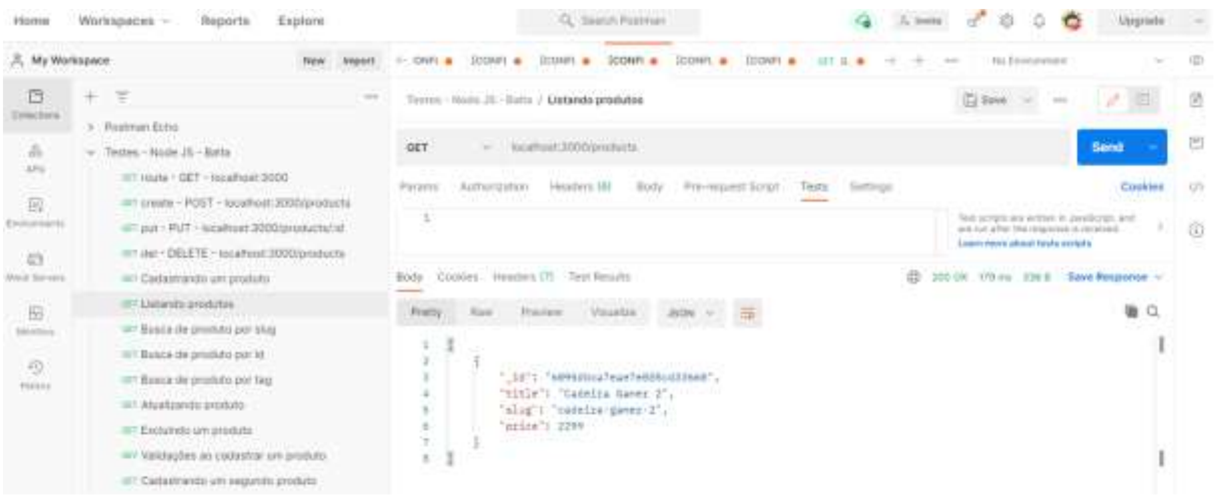
DELETE localhost:3000/products/[illegible]

200 OK 185 ms 278 B

```
{
    "message": "Produto removido com sucesso!"
}
```

Listando os produtos

GET - localhost:3000/products



GET localhost:3000/products

```
[
    {
        "_id": "[illegible]",
        "title": "Cadeira Gamer 2",
        "slug": "cadeira-gamer-2",
        "price": 2299
    }
]
```

Aula 25 - Async / Await

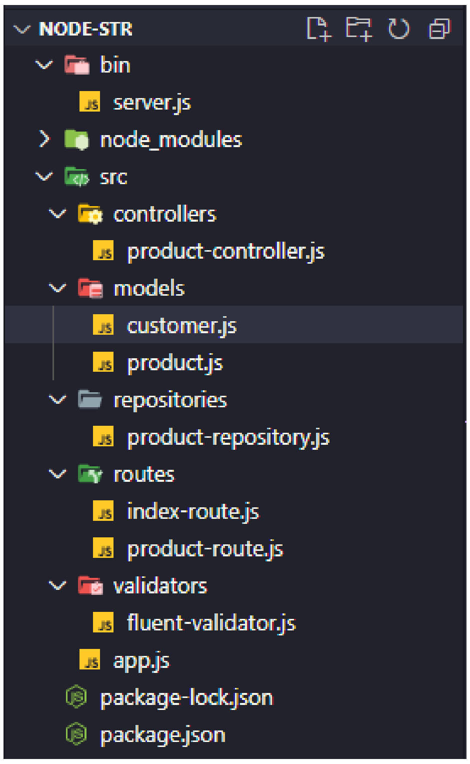
src/repositories/product-repository.js

```
'use strict';
const mongoose = require('mongoose');
const Product = mongoose.model('Product');

exports.get = async() => {
    const res = await Product.find({
        active: true
    }, 'title price slug');
    return res;
}

exports.getBySlug = async(slug) => {
    const res = await Product
        .findOne({
            slug: slug,
            active: true
        }, 'title description price slug tags');
    return res;
}

exports.getById = async(id) => {
    const res = await Product
        .findById(id);
    return res;
}

exports.getByTag = async(tag) => {
    const res = Product
        .find({
            tags: tag,
            active: true
        }, 'title description price slug tags');
    return res;
}

exports.create = async(data) => {
    var product = new Product(data);
    await product.save();
}

exports.update = async(id, data) => {
    await Product
        .findByIdAndUpdate(id, {
            $set: {
                title: data.title,
                description: data.description,
                price: data.price,
                slug: data.slug
            }
        });
}

exports.delete = async(id) => {
  await Product
    .findOneAndRemove(id);
}
```

src/controllers/product-controller.js

```
'use strict';

const ValidationContract = require('../validators/fluent-validator');
const repository = require('../repositories/product-repository');

exports.get = async(req, res, next) => {
  try {
    var data = await repository.get();
    res.status(200).send(data);
  } catch (e) {
    res.status(500).send({
      message: 'Falha ao processar sua requisição'
    });
  }
}

exports.getBySlug = async(req, res, next) => {
  try {
    var data = await repository.getBySlug(req.params.slug);
    res.status(200).send(data);
  } catch (e) {
    res.status(500).send({
      message: 'Falha ao processar sua requisição'
    });
  }
}

exports.getById = async(req, res, next) => {
  try {
    var data = await repository.getById(req.params.id);
    res.status(200).send(data);
  } catch (e) {
    res.status(500).send({
      message: 'Falha ao processar sua requisição'
    });
  }
}

exports.getByTag = async(req, res, next) => {
  try {
    const data = await repository.getByTag(req.params.tag);
    res.status(200).send(data);
  } catch (e) {
    res.status(500).send({
      message: 'Falha ao processar sua requisição'
    });
  }
}

exports.post = async(req, res, next) => {
  let contract = new ValidationContract();
  contract.hasMinLen(req.body.title, 3, 'O título deve conter pelo menos 3 caracteres');
  contract.hasMinLen(req.body.slug, 3, 'O título deve conter pelo menos 3 caracteres');
  contract.hasMinLen(req.body.description, 3, 'O título deve conter pelo menos 3 caracteres');

  // Se os dados forem inválidos
  if (!contract.isValid()) {
    res.status(400).send(contract.errors()).end();
    return;
  }

  try {
    await repository.create(req.body);
    res.status(201).send({
      message: 'Produto cadastrado com sucesso!'
    });
  } catch (e) {
    console.log(e);
    res.status(500).send({
      message: 'Falha ao processar sua requisição'
    });
  }
};

exports.put = async(req, res, next) => {
  try {
    await repository.update(req.params.id, req.body);
    res.status(200).send({
      message: 'Produto atualizado com sucesso!'
    });
  } catch (e) {
    res.status(500).send({
      message: 'Falha ao processar sua requisição'
    });
  }
};

exports.delete = async(req, res, next) => {
  try {
    await repository.delete(req.body.id)
    res.status(200).send({
      message: 'Produto removido com sucesso!'
    });
  } catch (e) {
    res.status(500).send({
      message: 'Falha ao processar sua requisição'
    });
  }
};
```

Aula 26 - Revisitando os Models: Customer


```
NODE-STR
  bin
    server.js
  node_modules
  src
    controllers
      product-controller.js
    models
      customer.js
      product.js
    repositories
      product-repository.js
    routes
      index-route.js
      product-route.js
    validators
      fluent-validator.js
    app.js
  package-lock.json
  package.json
```

src/models/customer.js

```
'use strict';

const mongoose = require('mongoose');
const Schema = mongoose.Schema;

const schema = new Schema({
  name: {
    type: String,
    required: true
  },
  email: {
    type: String,
    required: true
  },
  password: {
    type: String,
    required: true
  }
});

module.exports = mongoose.model('Customer', schema);
```

src/app.js

```
const express = require('express');
const bodyParser = require('body-parser');
const mongoose = require('mongoose');

const app = express();
const router = express.Router();

// Conecta ao banco
mongoose.connect("mongodb+srv://betopinheiro1005:angstron1005@node-store-cluster-
nlcnv.mongodb.net/node-str-db?retryWrites=true&w=majority", { useNewUrlParser: true });

// Carrega os models
const Product = require('./models/product');
const Customer = require('./models/customer');

// Carrega as rotas
const indexRoute = require('./routes/index-route');
const productRoute = require('./routes/product-route');

app.use(bodyParser.json());
app.use(bodyParser.urlencoded({
   extended: false
}));

app.use('/', indexRoute);
app.use('/products', productRoute);

module.exports = app;
```

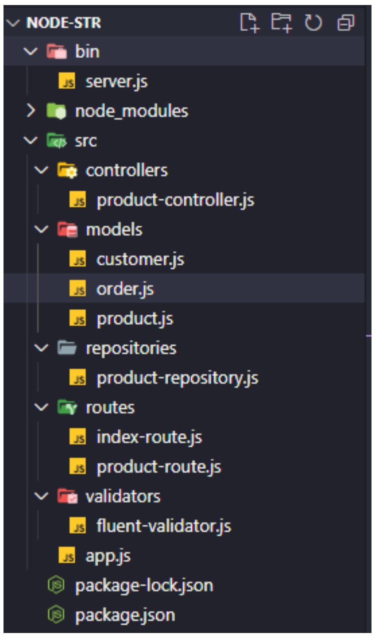
Aula 27 - Revisitando os Models: Order

src/models/order.js

```
'use strict';

const mongoose = require('mongoose');
const Schema = mongoose.Schema;

const schema = new Schema({
   customer: {
      type: mongoose.Schema.Types.ObjectId,
      ref: 'Customer'
   },
   number: {
      type: String,
      required: true
   },
   createDate: {
      type: Date,
      required: true,
      default: Date.now
   },
   status: {
      type: String,
      required: true,
      enum: ['created', 'done'],
      default: 'created'
   },
   items: [{
      quantity: {
         type: Number,
         required: true,
         default: 1
      },
      price: {
         type: Number,
         required: true
      },
      product: {
         type: mongoose.Schema.Types.ObjectId,
         ref: 'Product'
      }
   }],
});

module.exports = mongoose.model('Order', schema);
```

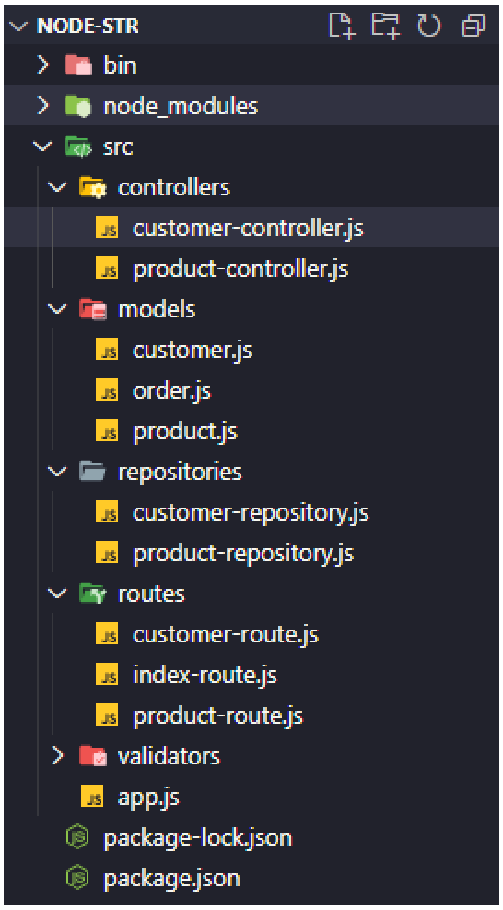
src/app.js

```
const express = require('express');
const bodyParser = require('body-parser');
const mongoose = require('mongoose');

const app = express();
const router = express.Router();

// Conecta ao banco
mongoose.connect("mongodb+srv://betopinheiro1005:angstron1005@node-store-cluster-
nlcnv.mongodb.net/node-str-db?retryWrites=true&w=majority", { useNewUrlParser: true });

// Carrega os models
const Product = require('./models/product');
const Customer = require('./models/customer');
const Order = require('./models/order');

// Carrega as rotas
const indexRoute = require('./routes/index-route');
const productRoute = require('./routes/product-route');

app.use(bodyParser.json());
app.use(bodyParser.urlencoded({
   extended: false
}));

app.use('/', indexRoute);
app.use('/products', productRoute);

module.exports = app;
```



```
NODE-STR
  bin
    server.js
  node_modules
  src
    controllers
      product-controller.js
    models
      customer.js
      order.js
      product.js
    repositories
      product-repository.js
    routes
      index-route.js
      product-route.js
    validators
      fluent-validator.js
    app.js
  package-lock.json
  package.json
```

Aula 28 - Revisitando os Controllers: Customer


```
NODE-STR
  bin
  node_modules
  src
    controllers
      customer-controller.js
      product-controller.js
    models
      customer.js
      order.js
      product.js
    repositories
      customer-repository.js
      product-repository.js
    routes
      customer-route.js
      index-route.js
      product-route.js
    validators
    app.js
  package-lock.json
  package.json
```

src/controllers/customer-controller.js

```
'use strict';

const ValidationContract = require('../validators/fluent-validator');
const repository = require('../repositories/customer-repository');

exports.post = async(req, res, next) => {
    let contract = new ValidationContract();
    contract.hasMinLen(req.body.name, 3, 'O nome deve conter pelo menos 3 caracteres');
    contract.isEmail(req.body.email, 'Email inválido');
    contract.hasMinLen(req.body.password, 6, 'A senha deve conter pelo menos 6 caracteres');

    // Se os dados forem inválidos
    if (!contract.isValid()) {
        res.status(400).send(contract.errors()).end();
        return;
    }
    try {
        await repository.create(req.body);
        res.status(201).send({
            message: 'Cliente cadastrado com sucesso!'
        });
    } catch (e) {
        console.log(e);
        res.status(500).send({
            message: 'Falha ao processar sua requisição'
        });
    }
};
```

src/repositories/customer-repository.js

```
'use strict';
const mongoose = require('mongoose');
const Customer = mongoose.model('Customer');

exports.create = async(data) => {
    var customer = new Customer(data);
    await customer.save();
}
```

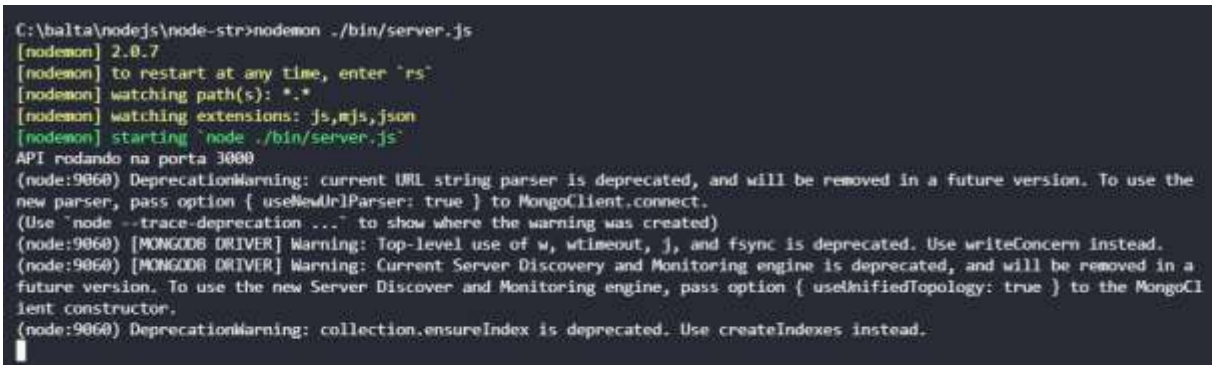
src/routes/customer-route.js

```
const express = require('express');
const router = express.Router();
const controller = require("../controllers/customer-controller");

router.post('/', controller.post);

module.exports = router;
```

src/app.js

```
const express = require('express');
const bodyParser = require('body-parser');
const mongoose = require('mongoose');

const app = express();
const router = express.Router();

// Conecta ao banco
mongoose.connect("mongodb+srv://betopinheiro1005:angstron1005@node-store-cluster-
nlcnv.mongodb.net/node-str-db?retryWrites=true&w=majority", { useNewUrlParser: true });

// Carrega os models
const Product = require('./models/product');
const Customer = require('./models/customer');
const Order = require('./models/order');

// Carrega as rotas
const indexRoute = require('./routes/index-route');
const productRoute = require('./routes/product-route');
const customerRoute = require('./routes/customer-route');

app.use(bodyParser.json());
app.use(bodyParser.urlencoded({
    extended: false
}));

app.use('/', indexRoute);
app.use('/products', productRoute);
app.use('/customers', customerRoute);

module.exports = app;
```

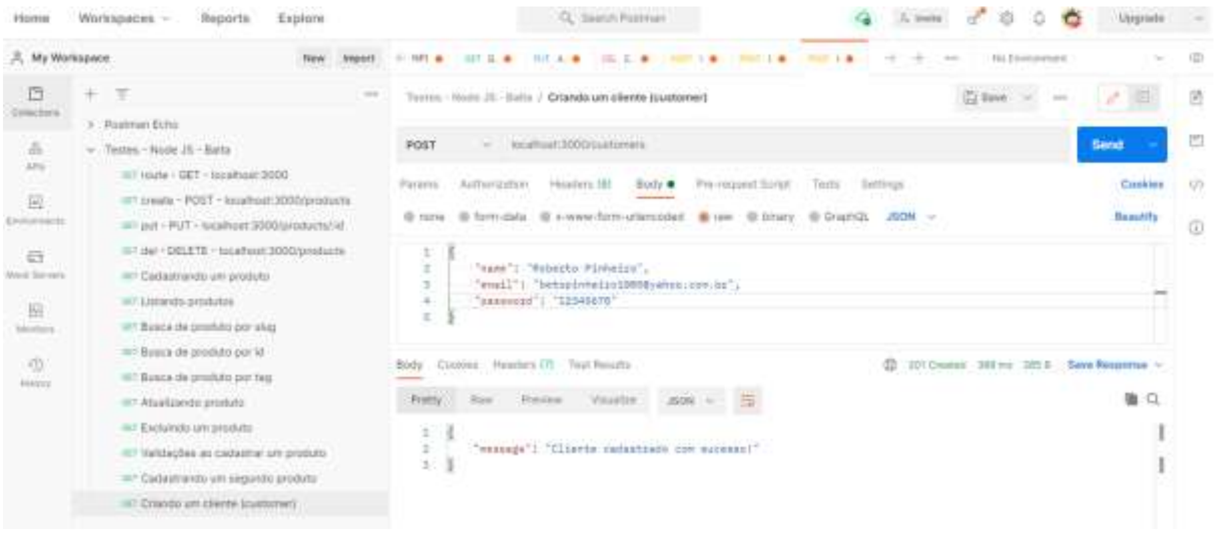
```
nodemon ./bin/server.js
```



```
C:\balta\nodejs\node-str>nodemon ./bin/server.js
[nodemon] 2.0.7
[nodemon] to restart at any time, enter `rs`
[nodemon] watching path(s): *.*
[nodemon] watching extensions: js,mjs,json
[nodemon] starting `node ./bin/server.js`
API rodando na porta 3000
(node:9060) DeprecationWarning: current URL string parser is deprecated, and will be removed in a future version. To use the
new parser, pass option { useNewUrlParser: true } to MongoClient.connect.
(Use `node --trace-deprecation ...` to show where the warning was created)
(node:9060) [MONGODB DRIVER] Warning: Top-level use of w, wtimeout, j, and fsync is deprecated. Use writeConcern instead.
(node:9060) [MONGODB DRIVER] Warning: Current Server Discovery and Monitoring engine is deprecated, and will be removed in a
future version. To use the new Server Discover and Monitoring engine, pass option { useUnifiedTopology: true } to the MongoCl
ient constructor.
(node:9060) DeprecationWarning: collection.ensureIndex is deprecated. Use createIndexes instead.
```

Criando um cliente (customer)

POST - localhost:3000/customers



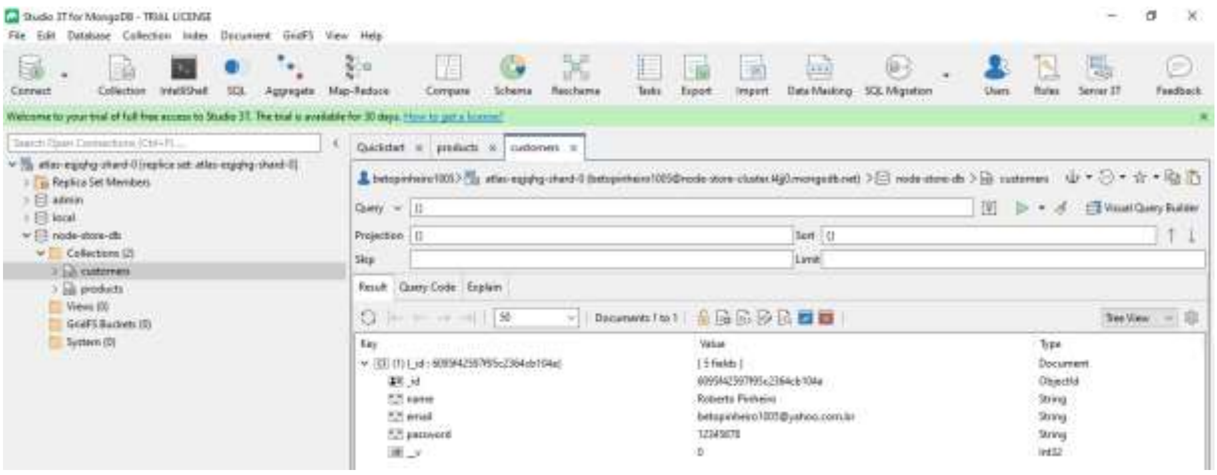
POST localhost:3000/customers

```
{
    "name": "Roberto Pinheiro",
    "email": "betopinheiro1005@yahoo.com.br",
    "password": "12345678"
}
```

201 Created

```
{
    "message": "Cliente cadastrado com sucesso!"
}
```

No Studio 3T:



Documents 1 to 1

Key	Value	Type
(1) {_id : 6095f42597f95c2364cb104a}	{ 5 fields }	Document
_id	6095f42597f95c2364cb104a	ObjectId
name	Roberto Pinheiro	String
email	betopinheiro1005@yahoo.com.br	String
password	12345678	String
__v	0	Int32

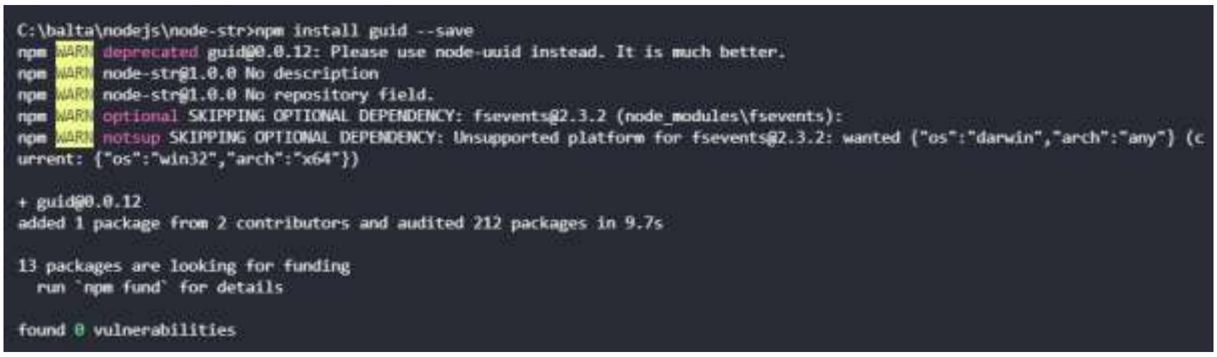
Aula 29 - Revisitando os Controllers: Order

src/repositories/order-repository.js

```
'use strict';
const mongoose = require('mongoose');
const Order = mongoose.model('Order');

exports.get = async(data) => {
    var res = await Order.find({}, 'name status customer items')
    .populate('customer', 'name')
    .populate('items.product', 'title');
    return res;
}

exports.create = async(data) => {
    var order = new Order(data);
    await order.save();
}
```

Instalação do pacote guid

```
npm install guid --save
```



```
C:\balta\nodejs\node-str>npm install guid --save
npm WARN deprecated guid@0.0.12: Please use node-uuid instead. It is much better.
npm WARN node-str@1.0.0 No description
npm WARN node-str@1.0.0 No repository field.
npm WARN optional SKIPPING OPTIONAL DEPENDENCY: fsevents@2.3.2 (node_modules\fsevents):
npm WARN notsup SKIPPING OPTIONAL DEPENDENCY: Unsupported platform for fsevents@2.3.2: wanted {"os":"darwin","arch":"any"} (c
urrent: {"os":"win32","arch":"x64"})

+ guid@0.0.12
added 1 package from 2 contributors and audited 212 packages in 9.7s

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

found 0 vulnerabilities
```

src/controllers/order-controller.js

```
'use strict';

const ValidationContract = require('../validators/fluent-validator');
const repository = require('../repositories/order-repository');
const guid = require('guid');

exports.get = async(req, res, next) => {
    try {
        var data = await repository.get();
        res.status(200).send(data);
    } catch (e) {
        res.status(500).send({
            message: 'Falha ao processar sua requisição'
        });
    }
}

exports.post = async(req, res, next) => {
    try {
        await repository.create({
            customer: req.body.customer,
            number: guid.raw().substring(0, 6),
            items: req.body.items
        });
        res.status(201).send({
            message: 'Pedido cadastrado com sucesso!'
        });
    } catch (e) {
        console.log(e);
        res.status(500).send({
            message: 'Falha ao processar sua requisição'
        });
    }
};
```

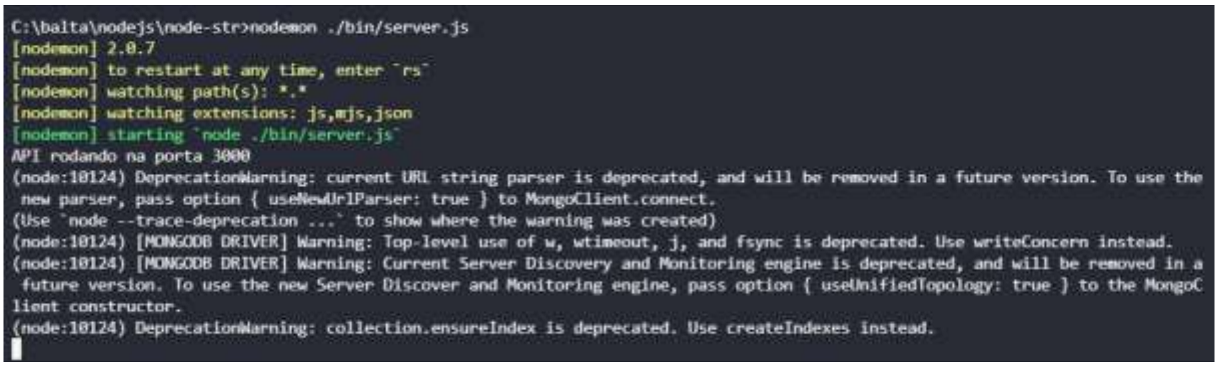
src/routes/order-route.js

```
const express = require('express');
const router = express.Router();
const controller = require("../controllers/order-controller");

router.get('/', controller.get);
router.post('/', controller.post);

module.exports = router;
```

src/app.js

```
const express = require('express');
const bodyParser = require('body-parser');
const mongoose = require('mongoose');

const app = express();
const router = express.Router();

// Conecta ao banco
mongoose.connect("mongodb+srv://betopinheiro1005:angstron1005@node-store-cluster-
nlcnv.mongodb.net/node-str-db?retryWrites=true&w=majority", { useNewUrlParser: true });

// Carrega os models
const Product = require('./models/product');
const Customer = require('./models/customer');
const Order = require('./models/order');

// Carrega as rotas
const indexRoute = require('./routes/index-route');
const productRoute = require('./routes/product-route');
const customerRoute = require('./routes/customer-route');
const orderRoute = require('./routes/order-route');

app.use(bodyParser.json());
app.use(bodyParser.urlencoded({
   extended: false
}));

app.use('/', indexRoute);
app.use('/products', productRoute);
app.use('/customers', customerRoute);
app.use('/orders', orderRoute);

module.exports = app;
```

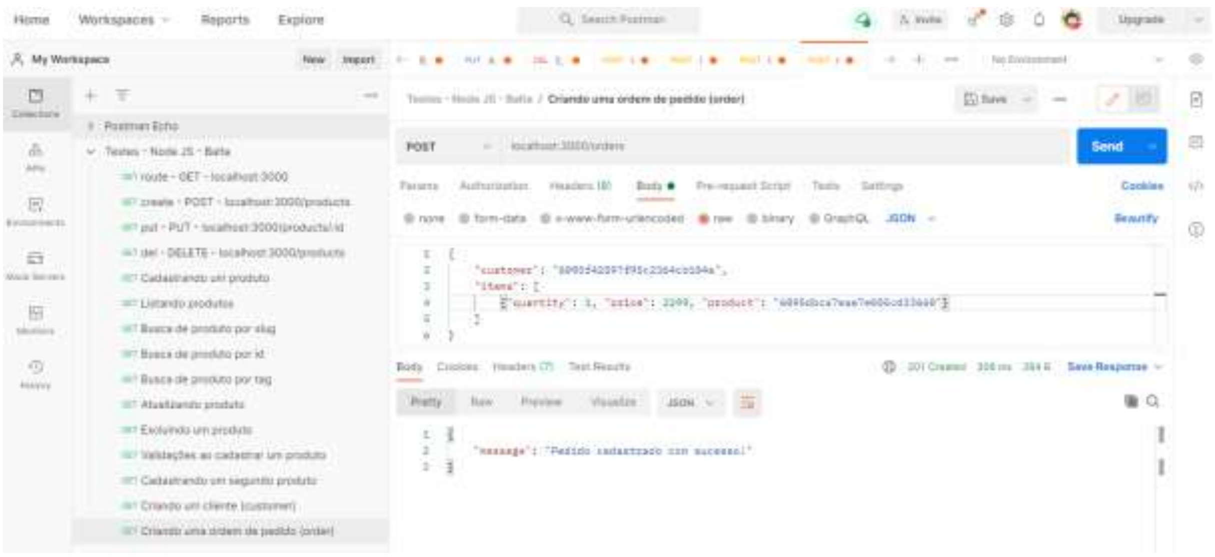
nodemon ./bin/server.js



```
C:\balta\nodejs\node-str>nodemon ./bin/server.js
[nodemon] 2.0.7
[nodemon] to restart at any time, enter `rs`
[nodemon] watching path(s): *.*
[nodemon] watching extensions: js,mjs,json
[nodemon] starting `node ./bin/server.js`
API rodando na porta 3000
(node:10124) DeprecationWarning: current URL string parser is deprecated, and will be removed in a future version. To use the
 new parser, pass option { useNewUrlParser: true } to MongoClient.connect.
(Use `node --trace-deprecation ...` to show where the warning was created)
(node:10124) [MONGODB DRIVER] Warning: Top-level use of w, wtimeout, j, and fsync is deprecated. Use writeConcern instead.
(node:10124) [MONGODB DRIVER] Warning: Current Server Discovery and Monitoring engine is deprecated, and will be removed in a
 future version. To use the new Server Discover and Monitoring engine, pass option { useUnifiedTopology: true } to the MongoC
lient constructor.
(node:10124) DeprecationWarning: collection.ensureIndex is deprecated. Use createIndexes instead.
```

Testando no Postman

POST - localhost:3000/orders


Testes - Node JS - Bafa / Criando uma ordem de pedido (order)

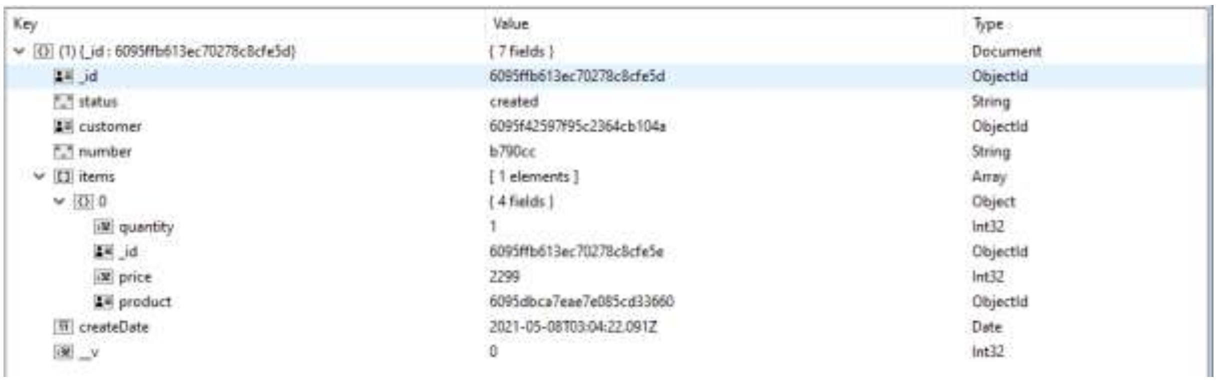
POST localhost:3000/orders

```
{
    "customer": "6095f42597f95c2364cb104a",
    "items": [
        {"quantity": 1, "price": 2299, "product": "6095dbca7eae7e085cd33660"}
    ]
}
```

201 Created 306 ms 384 B

```
{
    "message": "Pedido cadastrado com sucesso!"
}
```

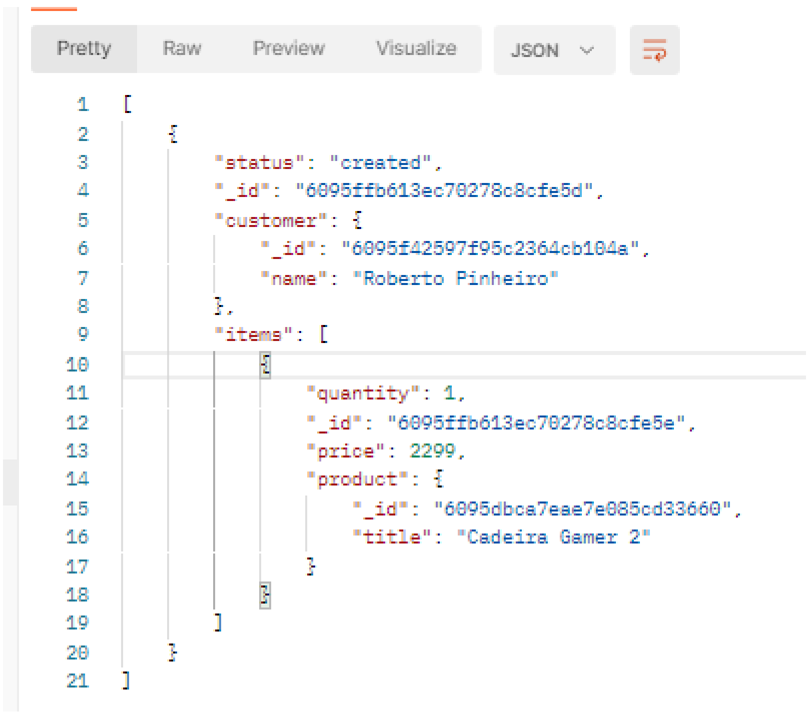
No Studio 3T:



Key	Value	Type
(1) {_id : 6095ffb613ec70278c8cfe5d}	{ 7 fields }	Document
_id	6095ffb613ec70278c8cfe5d	ObjectId
status	created	String
customer	6095f42597f95c2364cb104a	ObjectId
number	b790cc	String
items	[1 elements]	Array
0	{ 4 fields }	Object
quantity	1	Int32
_id	6095ffb613ec70278c8cfe5e	ObjectId
price	2299	Int32
product	6095dbca7eae7e085cd33660	ObjectId
createDate	2021-05-08T03:04:22.091Z	Date
__v	0	Int32

Listando os pedidos no Postman

GET - localhost:3000/orders



```
[
    {
        "status": "created",
        "_id": "6095ffb613ec70278c8cfe5d",
        "customer": {
            "_id": "6095f42597f95c2364cb104a",
            "name": "Roberto Pinheiro"
        },
        "items": [
            {
                "quantity": 1,
                "_id": "6095ffb613ec70278c8cfe5e",
                "price": 2299,
                "product": {
                    "_id": "6095dbca7eae7e085cd33660",
                    "title": "Cadeira Gamer 2"
                }
            }
        ]
    }
]
```

Aula 30 - Arquivo de configurações

src/config.js

```
global.SALT_KEY = 'f5b99242-6504-4ca3-90f2-05e78e5761ef';
global.EMAIL_TMPL = 'Olá, <strong>{0}</strong>, seja bem vindo à Node Store!';

module.exports = {
   connectionString: 'mongodb+srv://betopinheiro1005:angstron1005@node-store-
cluster.l4jj0.mongodb.net/node-store-db?retryWrites=true&w=majority',
   sendgridKey: 'TBD',
   containerConnectionString: 'TBD'
}
```

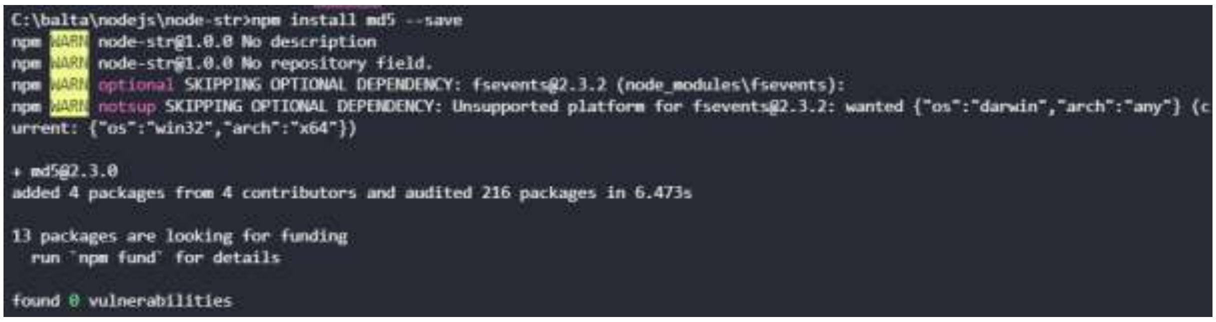
src/app.js

```
const express = require('express');
const bodyParser = require('body-parser');
const mongoose = require('mongoose');
const config = require('./config');

const app = express();
const router = express.Router();

// Conecta ao banco
mongoose.connect(config.connectionString);

// Carrega os models
const Product = require('./models/product');
const Customer = require('./models/customer');
const Order = require('./models/order');

// Carrega as rotas
const indexRoute = require('./routes/index-route');
const productRoute = require('./routes/product-route');
const customerRoute = require('./routes/customer-route');
const orderRoute = require('./routes/order-route');

app.use(bodyParser.json());
app.use(bodyParser.urlencoded({
   extended: false
}));

app.use('/', indexRoute);
app.use('/products', productRoute);
app.use('/customers', customerRoute);
app.use('/orders', orderRoute);

module.exports = app;
```

Aula 31 - Encriptando a senha

Instalação do md5

```
npm install md5 --save
```



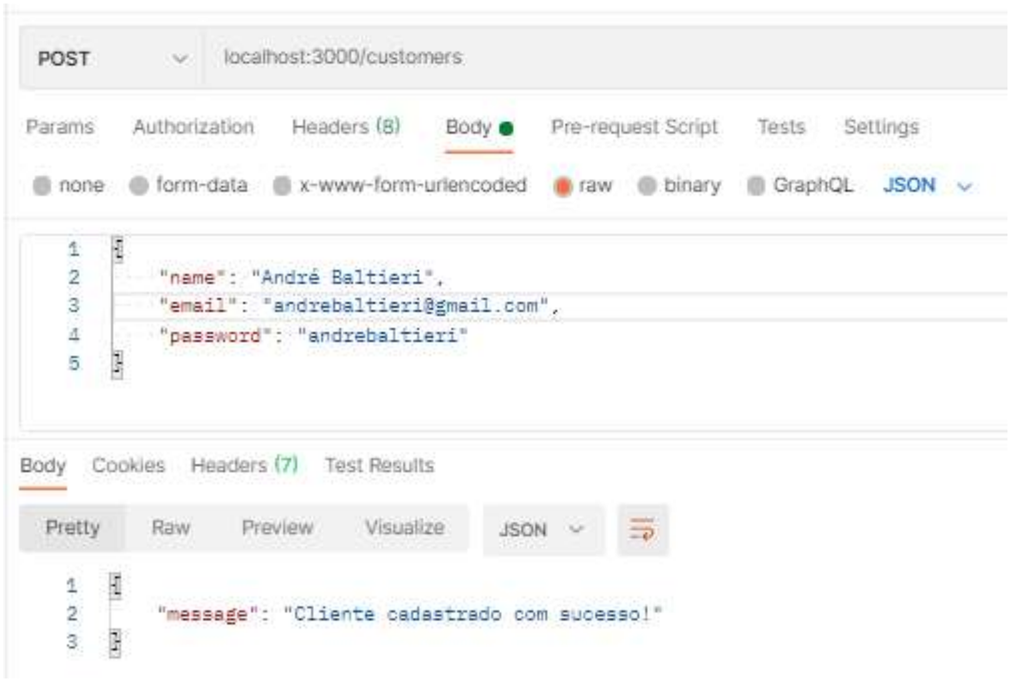
```
C:\balta\nodejs\node-str>npm install md5 --save
npm WARN node-str@1.0.0 No description
npm WARN node-str@1.0.0 No repository field.
npm WARN optional SKIPPING OPTIONAL DEPENDENCY: fsevents@2.3.2 (node_modules\fsevents):
npm WARN notsup SKIPPING OPTIONAL DEPENDENCY: Unsupported platform for fsevents@2.3.2: wanted {"os":"darwin","arch":"any"} (c
urrent: {"os":"win32","arch":"x64"})

+ md5@2.3.0
added 4 packages from 4 contributors and audited 216 packages in 6.473s

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

found 0 vulnerabilities
```

src/controllers/customer-controller.js

```
'use strict';

const ValidationContract = require('../validators/fluent-validator');
const repository = require('../repositories/customer-repository');
const md5 = require('md5');

exports.post = async(req, res, next) => {
  let contract = new ValidationContract();
  contract.hasMinLen(req.body.name, 3, 'O título deve conter pelo menos 3 caracteres');
  contract.isEmail(req.body.email, 'Email inválido');
  contract.hasMinLen(req.body.password, 6, 'A senha deve conter pelo menos 6 caracteres');

  // Se os dados forem inválidos
  if (!contract.isValid()) {
    res.status(400).send(contract.errors()).end();
    return;
  }

  try {
    await repository.create({
      name: req.body.name,
      email: req.body.email,
      password: md5(req.body.password + global.SALT_KEY)
    });
    res.status(201).send({
      message: 'Cliente cadastrado com sucesso!'
    });
  } catch (e) {
    console.log(e);
    res.status(500).send({
            message: 'Falha ao processar sua requisição'
        });
    }
};
```

Criando um segundo cliente

POST - localhost:3000/customers



POST localhost:3000/customers

Params · Authorization · Headers (8) · Body ● · Pre-request Script · Tests · Settings

none · form-data · x-www-form-urlencoded · ● raw · binary · GraphQL · JSON

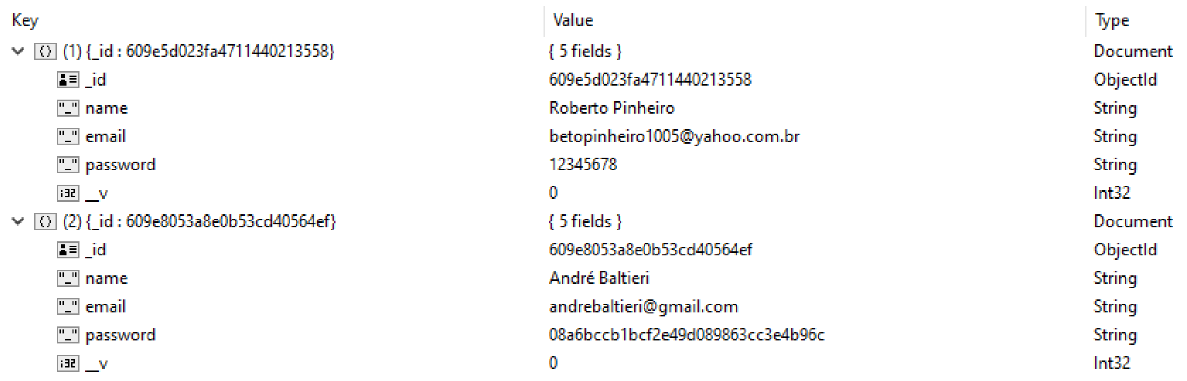
```
{
    "name": "André Baltieri",
    "email": "andrebaltieri@gmail.com",
    "password": "andrebaltieri"
}
```

Body · Cookies · Headers (7) · Test Results

Pretty · Raw · Preview · Visualize · JSON

```
{
    "message": "Cliente cadastrado com sucesso!"
}
```

No Studio 3T



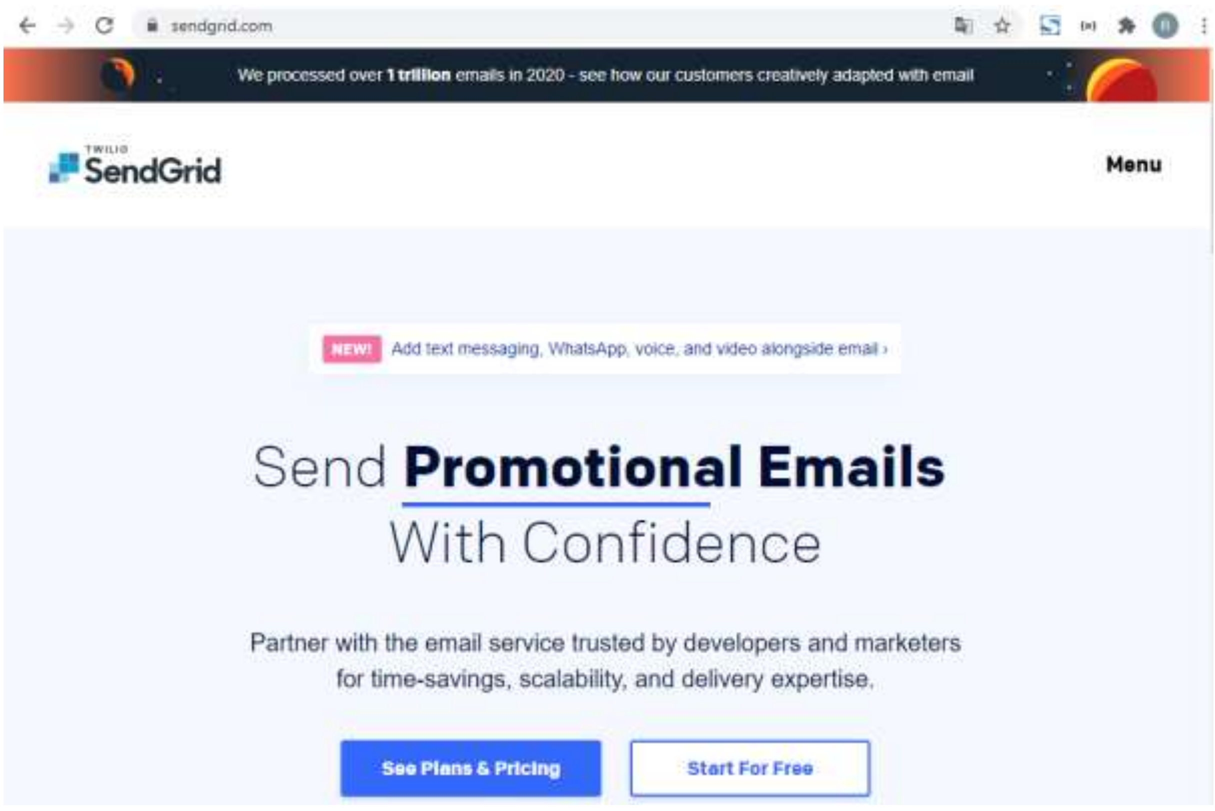
Key	Value	Type
(1) {_id : 609e5d023fa4711440213558}	{ 5 fields }	Document
_id	609e5d023fa4711440213558	ObjectId
name	Roberto Pinheiro	String
email	betopinheiro1005@yahoo.com.br	String
password	12345678	String
__v	0	Int32
(2) {_id : 609e8053a8e0b53cd40564ef}	{ 5 fields }	Document
_id	609e8053a8e0b53cd40564ef	ObjectId
name	André Baltieri	String
email	andrebaltieri@gmail.com	String
password	08a6bccb1bcf2e49d089863cc3e4b96c	String
__v	0	Int32

- Repare que a senha do segundo cliente está encriptada.

Aula 32 - Enviando email de boas vindas

SendGrid

- Acesse https://sendgrid.com/ e abra uma conta.



sendgrid.com

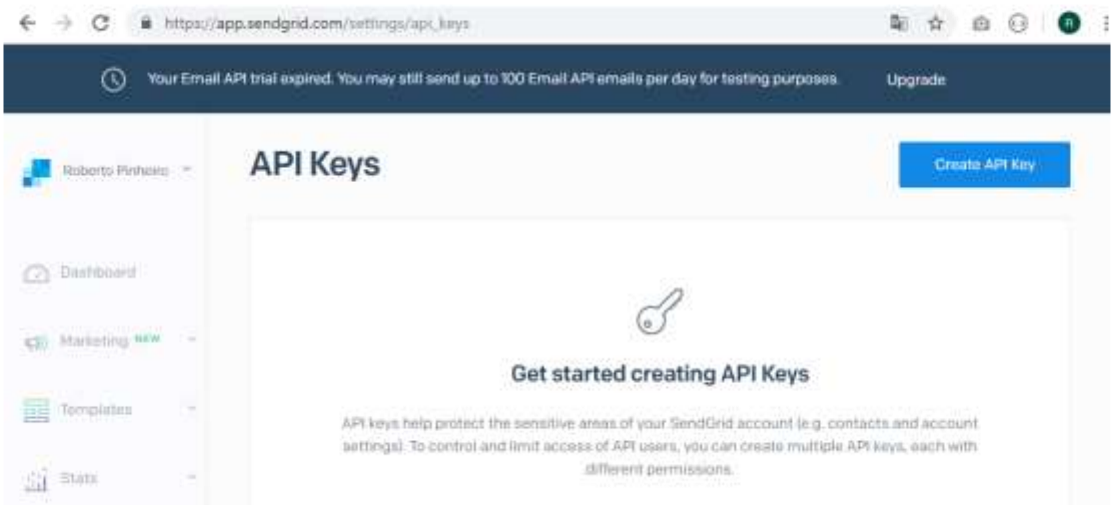
We processed over **1 trillion** emails in 2020 - see how our customers creatively adapted with email

Add text messaging, WhatsApp, voice, and video alongside email ›

Send **Promotional Emails** With Confidence

Partner with the email service trusted by developers and marketers for time-savings, scalability, and delivery expertise.

- Crie uma API Key



https://app.sendgrid.com/settings/api_keys

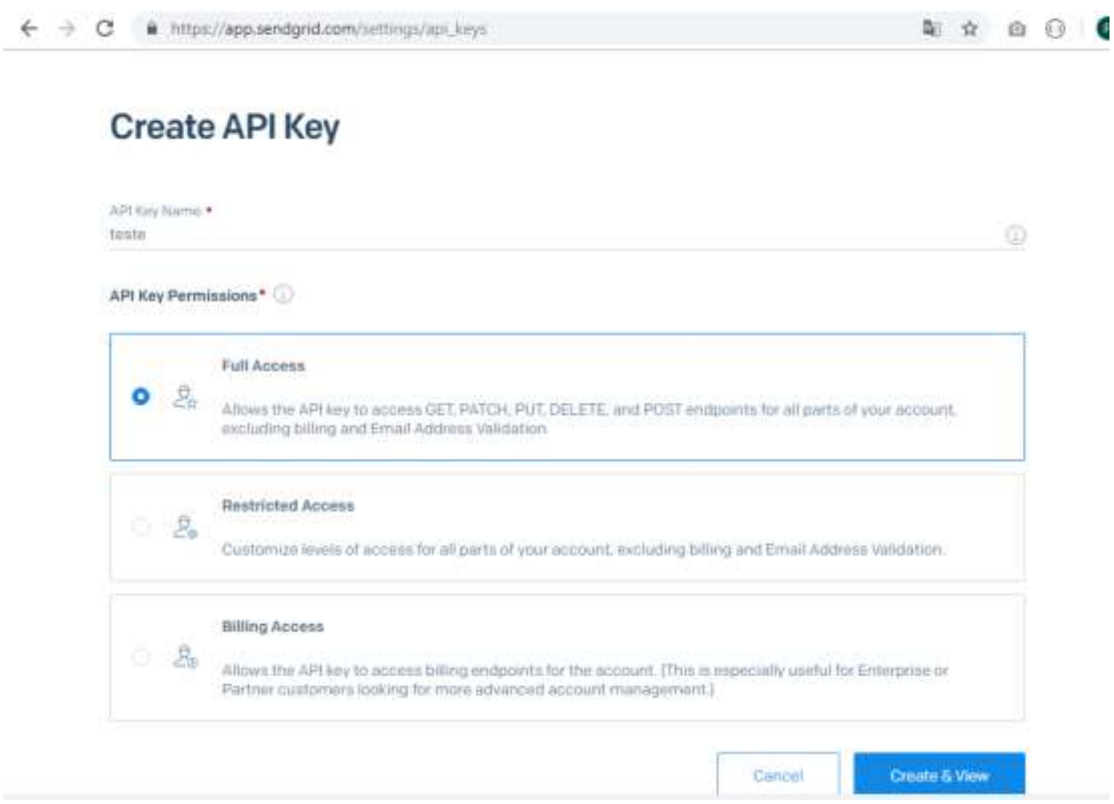
Your Email API trial expired. You may still send up to 100 Email API emails per day for testing purposes.

API Keys

Get started creating API Keys

API keys help protect the sensitive areas of your SendGrid account (e.g. contacts and account settings). To control and limit access of API users, you can create multiple API keys, each with different permissions.

- Nomeie a API de teste e dê acesso total (full access):



https://app.sendgrid.com/settings/api_keys

Create API Key

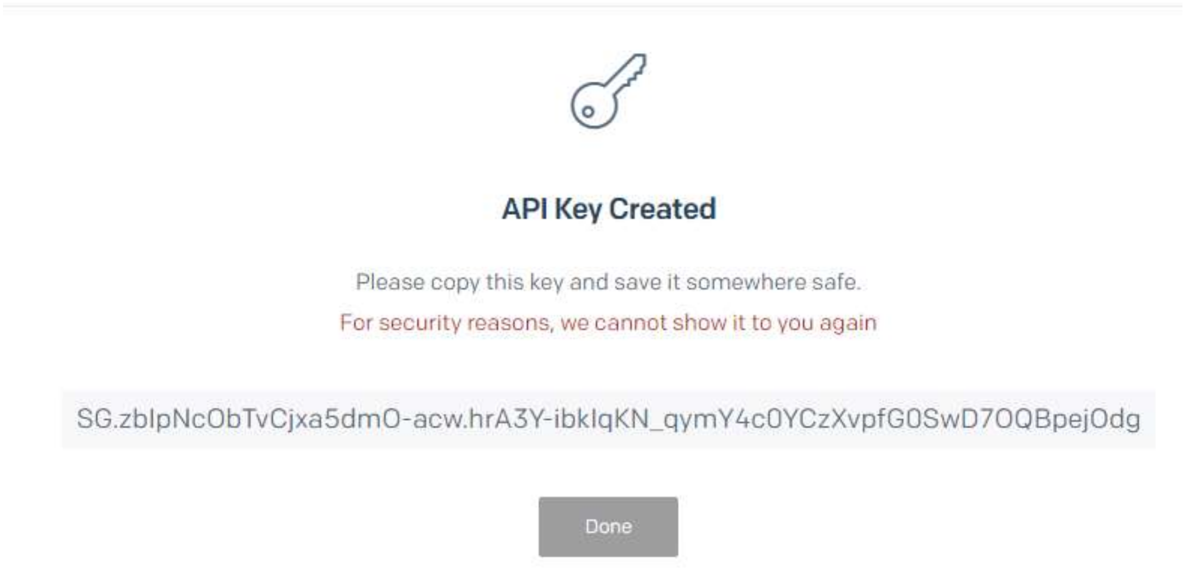
API Key Name *
teste

API Key Permissions *

[✓ Full Access]
Allows the API key to access GET, PATCH, PUT, DELETE, and POST endpoints for all parts of your account, excluding billing and Email Address Validation.

Restricted Access
Customize levels of access for all parts of your account, excluding billing and Email Address Validation.

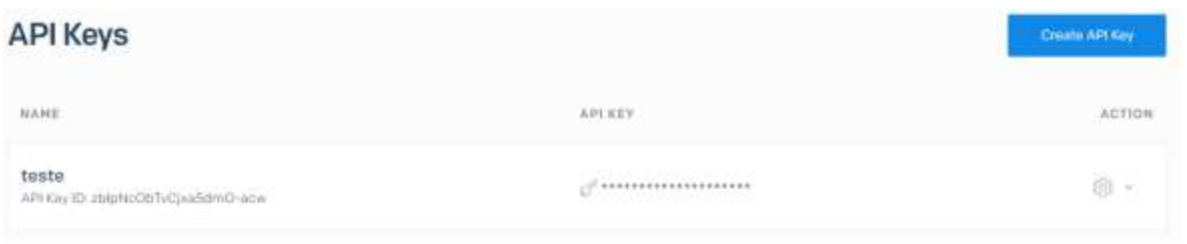
Billing Access
Allows the API key to access billing endpoints for the account. (This is especially useful for Enterprise or Partner customers looking for more advanced account management.)



API Key Created

Please copy this key and save it somewhere safe.
For security reasons, we cannot show it to you again

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



API Keys

NAME	API KEY	ACTION
teste API Key ID: zblpNcObTvCjxa5dmO-acw	••••••••••••••••••••	

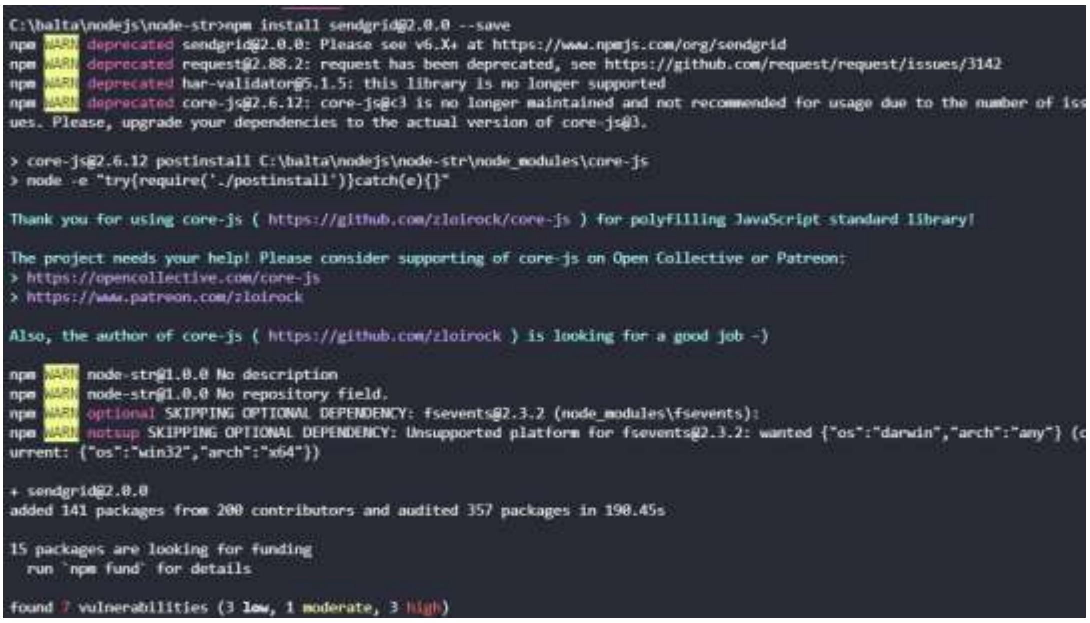
- Copie a chave e cole-a no arquivo config.js:

src/config.js

```
global.SALT_KEY = 'f5b99242-6504-4ca3-90f2-05e78e5761ef';
global.EMAIL_TMPL = 'Olá, <strong>{0}</strong>, seja bem vindo à Node Store!';

module.exports = {
  connectionString: 'mongodb+srv://betopinheiro1005:angstron1005@node-store-
cluster.l4jj0.mongodb.net/node-store-db?retryWrites=true&w=majority ',
  sendgridKey: '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',
  containerConnectionString: 'TBD'
}
```

Instalação do SendGrid

npm install sendgrid@2.0.0 --save



```
C:\balta\nodejs\node-str>npm install sendgrid@2.0.0 --save
npm WARN deprecated sendgrid@2.0.0: Please see v6.X+ at https://www.npmjs.com/org/sendgrid
npm WARN deprecated request@2.88.2: request has been deprecated, see https://github.com/request/request/issues/3142
npm WARN deprecated har-validator@5.1.5: this library is no longer supported
npm WARN deprecated core-js@2.6.12: core-js@<3 is no longer maintained and not recommended for usage due to the number of iss
ues. Please, upgrade your dependencies to the actual version of core-js@3.

> core-js@2.6.12 postinstall C:\balta\nodejs\node-str\node_modules\core-js
> node -e "try{require('./postinstall')}catch(e){}"

Thank you for using core-js ( https://github.com/zloirock/core-js ) for polyfilling JavaScript standard library!

The project needs your help! Please consider supporting of core-js on Open Collective or Patreon:
> https://opencollective.com/core-js
> https://www.patreon.com/zloirock

Also, the author of core-js ( https://github.com/zloirock ) is looking for a good job -)

npm WARN node-str@1.0.0 No description
npm WARN node-str@1.0.0 No repository field.
npm WARN optional SKIPPING OPTIONAL DEPENDENCY: fsevents@2.3.2 (node_modules\fsevents):
npm WARN notsup SKIPPING OPTIONAL DEPENDENCY: Unsupported platform for fsevents@2.3.2: wanted {"os":"darwin","arch":"any"} (c
urrent: {"os":"win32","arch":"x64"})

+ sendgrid@2.0.0
added 141 packages from 200 contributors and audited 357 packages in 190.45s

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

found 7 vulnerabilities (3 low, 1 moderate, 3 high)
```

package.json

```
{
  "name": "node-str",
  "version": "1.0.0",
  "description": "",
  "main": "index.js",
  "scripts": {
    "test": "echo \"Error: no test specified\" && exit 1",
    "start": "node ./bin/server.js"
  },
  "keywords": [],
  "author": "",
  "license": "ISC",
  "dependencies": {
    "body-parser": "^1.19.0",
    "debug": "^4.3.1",
    "express": "^4.17.1",
    "guid": "0.0.12",
    "http": "0.0.1-security",
    "md5": "^2.3.0",
    "mongoose": "^5.12.7",
    "sendgrid": "^2.0.0"
  },
  "devDependencies": {
    "nodemon": "^2.0.7"
  }
}
```

src/services/email-service.js

```
'use strict';
var config = require('../config');
var sendgrid = require('sendgrid')(config.sendgridKey);

exports.send = async (to, subject, body) => {
    sendgrid.send({
        to: to,
        from: 'andrebaltieri@balta.io',
        subject: subject,
        html: body
    });
}
```

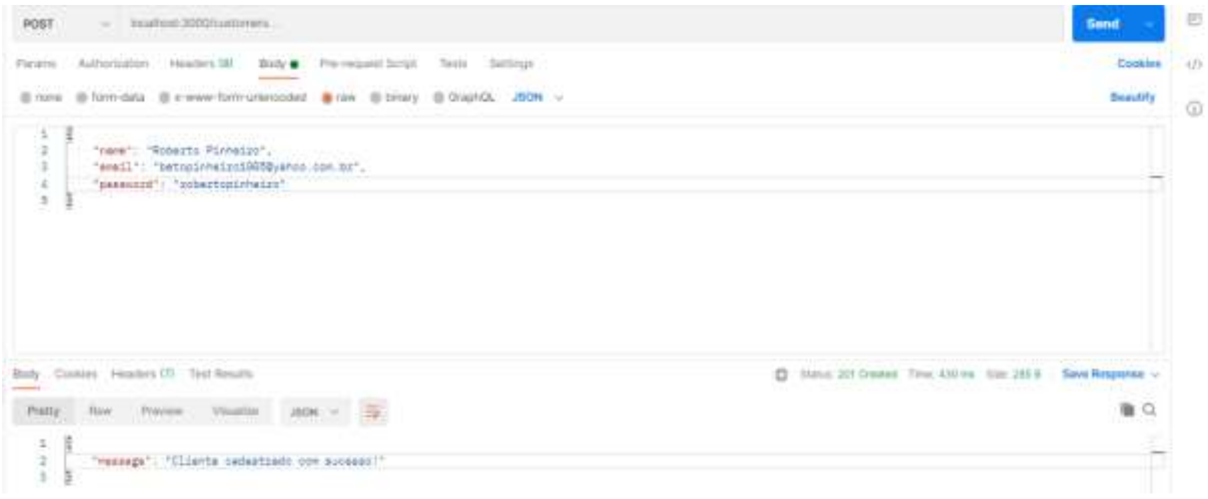
src/controllers/customer-controller.js

```
'use strict';

const ValidationContract = require('../validators/fluent-validator');
const repository = require('../repositories/customer-repository');
const md5 = require('md5');
const emailService = require('../services/email-service');

exports.post = async(req, res, next) => {
  let contract = new ValidationContract();
  contract.hasMinLen(req.body.name, 3, 'O título deve conter pelo menos 3 caracteres');
  contract.isEmail(req.body.email, 'Email inválido');
  contract.hasMinLen(req.body.password, 6, 'A senha deve conter pelo menos 6 caracteres');

  // Se os dados forem inválidos
  if (!contract.isValid()) {
    res.status(400).send(contract.errors()).end();
    return;
  }

  try {
    await repository.create({
      name: req.body.name,
      email: req.body.email,
      password: md5(req.body.password + global.SALT_KEY)
    });

    emailService.send(
      req.body.email,
      'Bem vindo ao Node Store',
      global.EMAIL_TMPL.replace('{0}', req.body.name)
    );

    res.status(201).send({
      message: 'Cliente cadastrado com sucesso!'
    });
  } catch (e) {
    console.log(e);
    res.status(500).send({
      message: 'Falha ao processar sua requisição'
    });
  }
};
```

- No Studio 3T, apague os clientes cadastrados.

- Crie um novo cliente.

No Postman

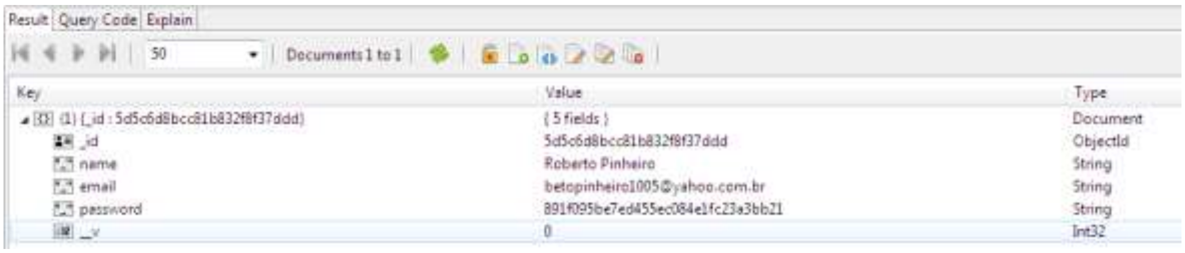

POST localhost:3000/customers

Body (raw, JSON):

```
{
    "name": "Roberto Pinheiro",
    "email": "betopinheiro1005@yahoo.com.br",
    "password": "robertopinheiro"
}
```

Status: 201 Created Time: 430 ms Size: 285 B

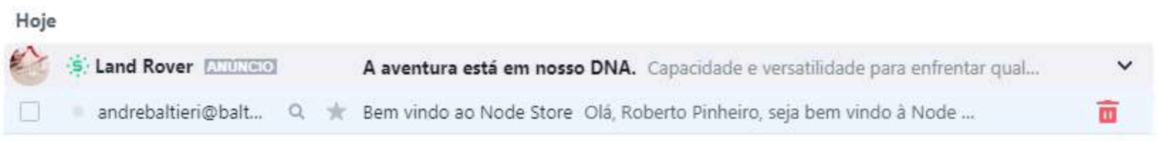
```
{
    "message": "Cliente cadastrado com sucesso!"
}
```


Result | Query Code | Explain

50 Documents 1 to 1

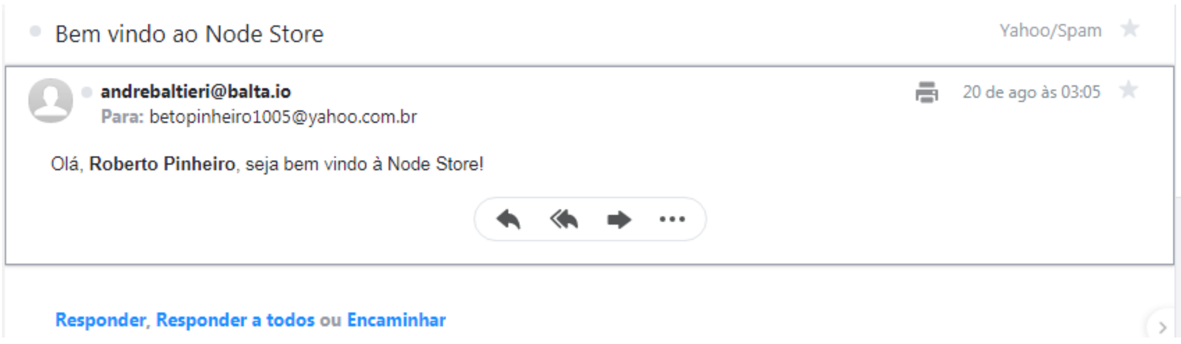
Key	Value	Type
(1) {_id : 5d5c6d8bcc81b832f8f37ddd}	{ 5 fields }	Document
_id	5d5c6d8bcc81b832f8f37ddd	ObjectId
name	Roberto Pinheiro	String
email	betopinheiro1005@yahoo.com.br	String
password	891f095be7ed455ec084e1fc23a3bb21	String
__v	0	Int32

- Ao realizar o cadastro, o cliente irá receber em seu email a seguinte mensagem:


Hoje

Land Rover ANÚNCIO A aventura está em nosso DNA. Capacidade e versatilidade para enfrentar qual...

andrebaltieri@balt... Bem vindo ao Node Store Olá, Roberto Pinheiro, seja bem vindo à Node ...


Bem vindo ao Node Store Yahoo/Spam

andrebaltieri@balta.io 20 de ago às 03:05
Para: betopinheiro1005@yahoo.com.br

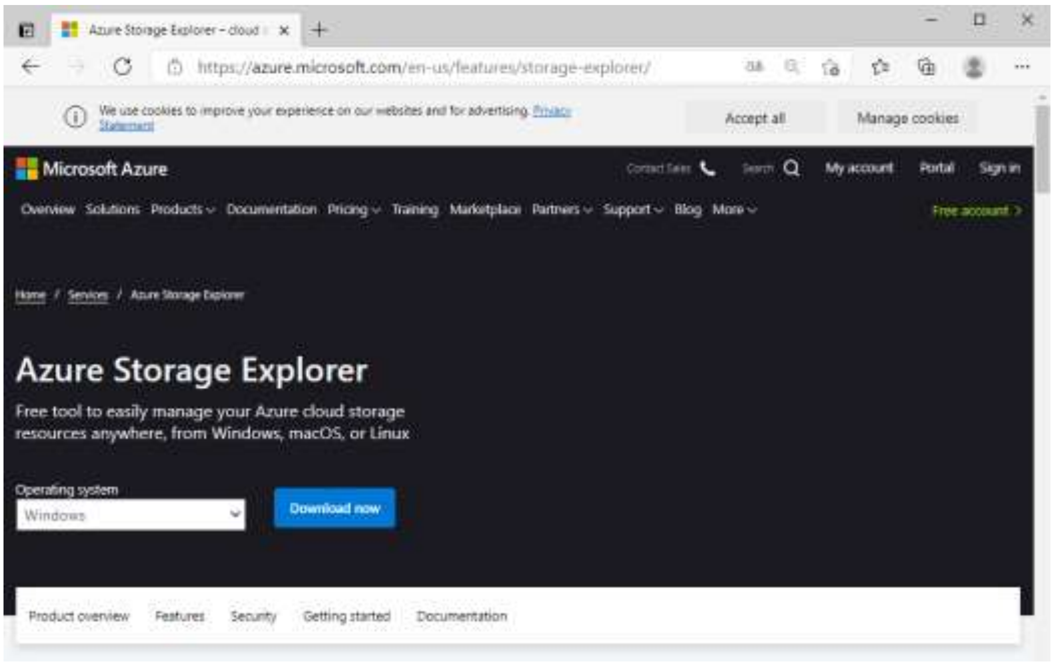
Olá, **Roberto Pinheiro**, seja bem vindo à Node Store!

Responder, Responder a todos ou Encaminhar

Aula 33 - Upload da imagem do produto

Acesse a URL:

https://azure.microsoft.com/en-us/features/storage-explorer/

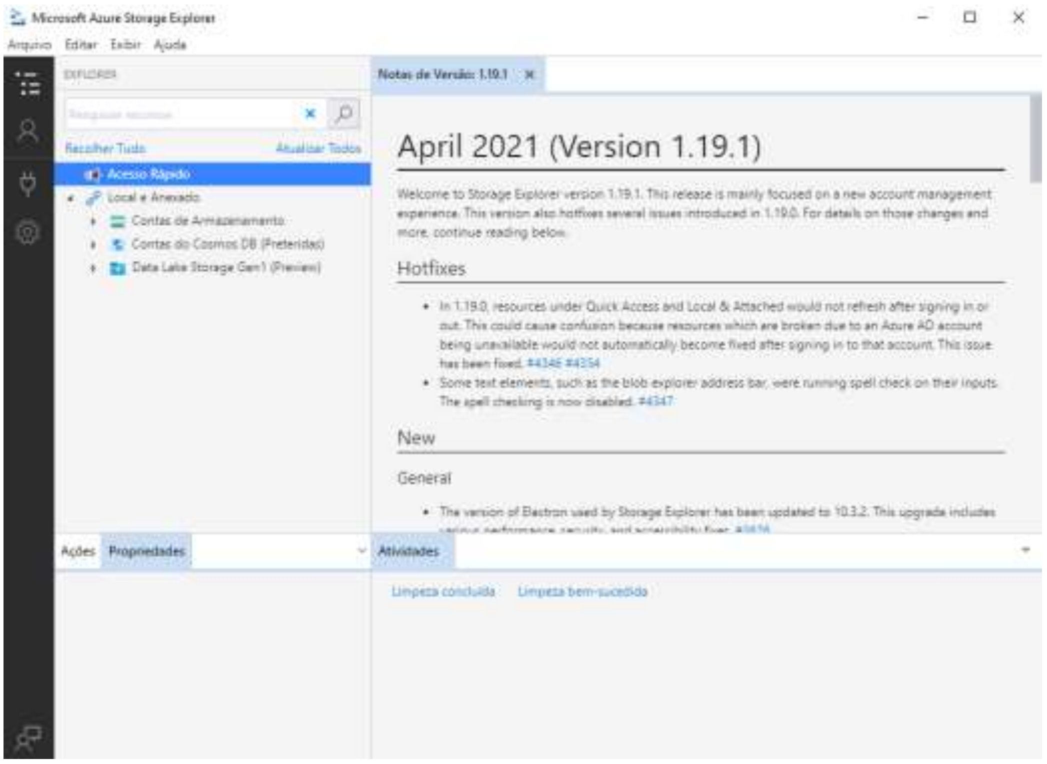


We use cookies to improve your experience on our websites and for advertising. Privacy Statement

Azure Storage Explorer

Free tool to easily manage your Azure cloud storage resources anywhere, from Windows, macOS, or Linux

- Baixe e instale o programa Microsoft Azure Storage Explorer free.



April 2021 (Version 1.19.1)

Welcome to Storage Explorer version 1.19.1. This release is mainly focused on a new account management experience. This version also hotfixes several issues introduced in 1.19.0. For details on those changes and more, continue reading below.

Hotfixes

- In 1.19.0, resources under Quick Access and Local & Attached would not refresh after signing in or out. This could cause confusion because resources which are broken due to an Azure AD account being unavailable would not automatically become fixed after signing in to that account. This issue has been fixed. #4346 #4354
- Some text elements, such as the blob explorer address bar, were running spell check on their inputs. The spell checking is now disabled. #4347

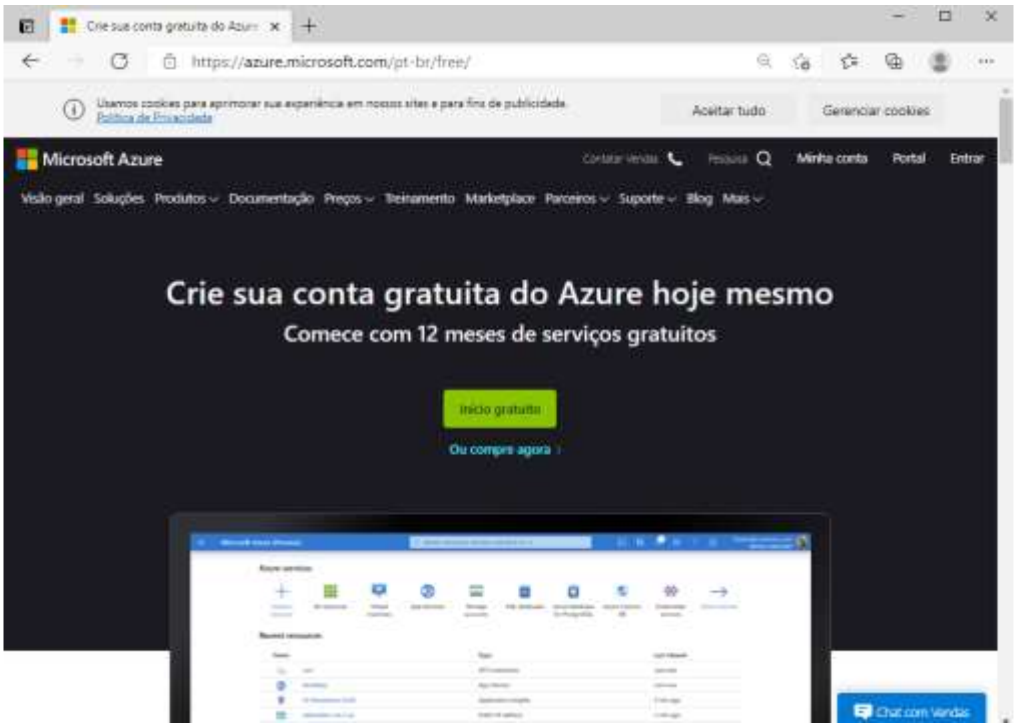
New

General

- The version of Electron used by Storage Explorer has been updated to 10.3.2. This upgrade includes

- Crie sua conta no Azzure:

https://azure.microsoft.com/pt-br/free/

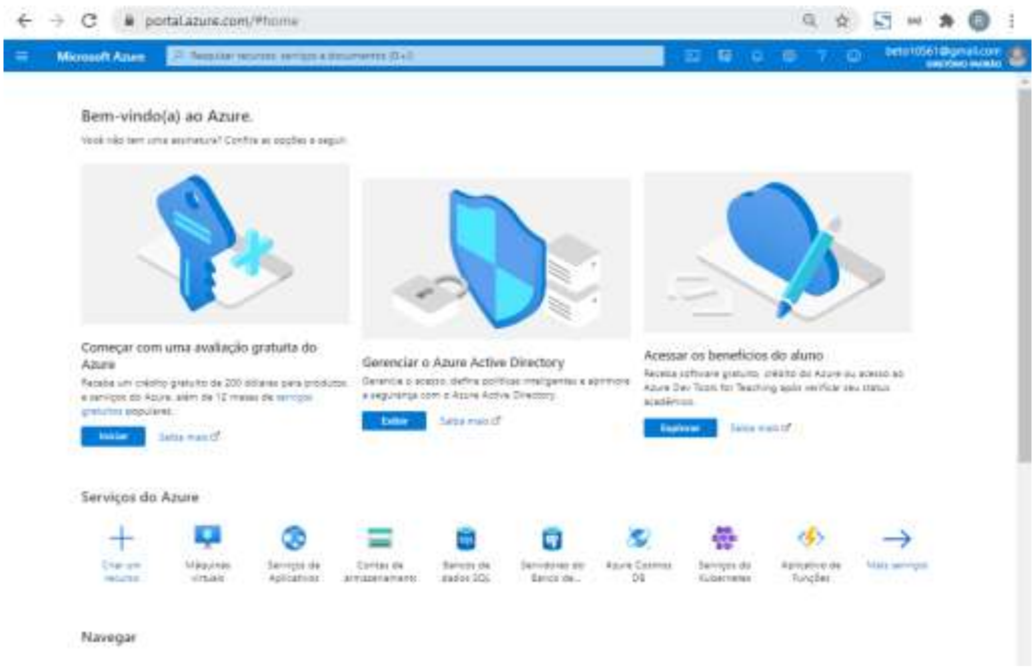


Usamos cookies para aprimorar sua experiência em nossos sites e para fins de publicidade.
Política de Privacidade

Crie sua conta gratuita do Azure hoje mesmo

Comece com 12 meses de serviços gratuitos

- Acesse o portal.



Bem-vindo(a) ao Azure

Você não tem uma assinatura? Confira as opções a seguir.

Começar com uma avaliação gratuita do Azure

Receba um crédito gratuito de 200 dólares para produtos e serviços do Azure, além de 12 meses de serviços gratuitos populares.

Gerenciar o Azure Active Directory

Gerencie o acesso, defina políticas inteligentes e aprimore a segurança com o Azure Active Directory.

Acessar os benefícios do aluno

Receba software gratuito, crédito do Azure ou acesso ao Azure Dev Tools for Teaching após verificar seu status acadêmico.

Serviços do Azure

Navegar

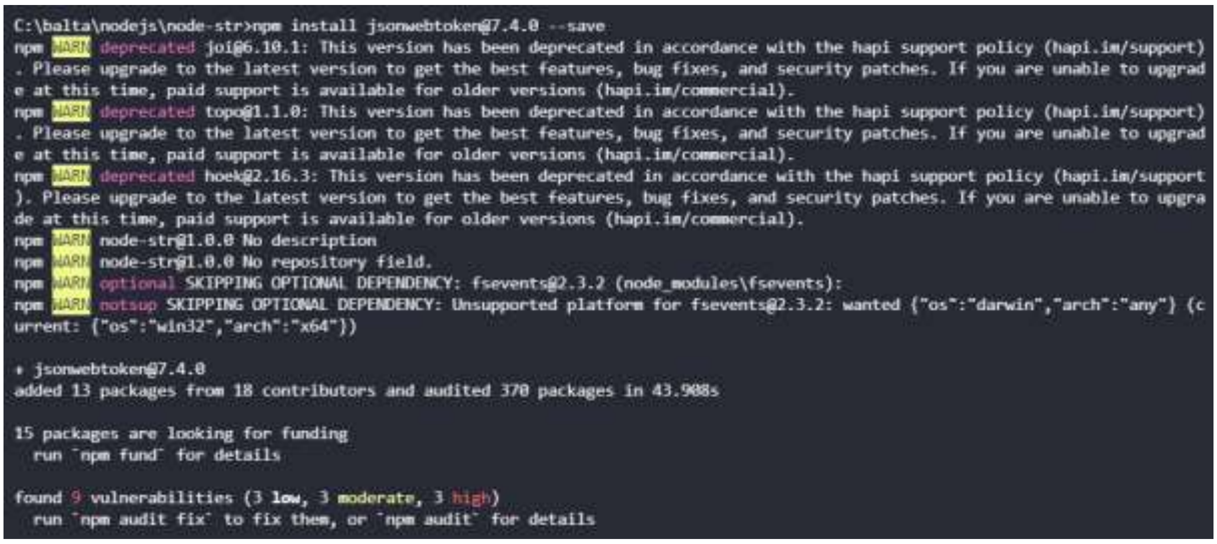
- Crie um Storage Account.

Aula 34 - Autenticação

- Vamos utilizar autenticação via token com JWT.

Instalando o pacote JWT

npm install jsonwebtoken@7.4.0 --save



```
C:\balta\nodejs\node-str>npm install jsonwebtoken@7.4.0 --save
npm WARN deprecated joi@6.10.1: This version has been deprecated in accordance with the hapi support policy (hapi.im/support)
. Please upgrade to the latest version to get the best features, bug fixes, and security patches. If you are unable to upgrad
e at this time, paid support is available for older versions (hapi.im/commercial).
npm WARN deprecated topo@1.1.0: This version has been deprecated in accordance with the hapi support policy (hapi.im/support)
. Please upgrade to the latest version to get the best features, bug fixes, and security patches. If you are unable to upgrad
e at this time, paid support is available for older versions (hapi.im/commercial).
npm WARN deprecated hoek@2.16.3: This version has been deprecated in accordance with the hapi support policy (hapi.im/support
). Please upgrade to the latest version to get the best features, bug fixes, and security patches. If you are unable to upgra
de at this time, paid support is available for older versions (hapi.im/commercial).
npm WARN node-str@1.0.0 No description
npm WARN node-str@1.0.0 No repository field.
npm WARN optional SKIPPING OPTIONAL DEPENDENCY: fsevents@2.3.2 (node_modules\fsevents):
npm WARN notsup SKIPPING OPTIONAL DEPENDENCY: Unsupported platform for fsevents@2.3.2: wanted {"os":"darwin","arch":"any"} (c
urrent: {"os":"win32","arch":"x64"})

+ jsonwebtoken@7.4.0
added 13 packages from 18 contributors and audited 370 packages in 43.908s

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

found 9 vulnerabilities (3 low, 3 moderate, 3 high)
  run `npm audit fix` to fix them, or `npm audit` for details
```

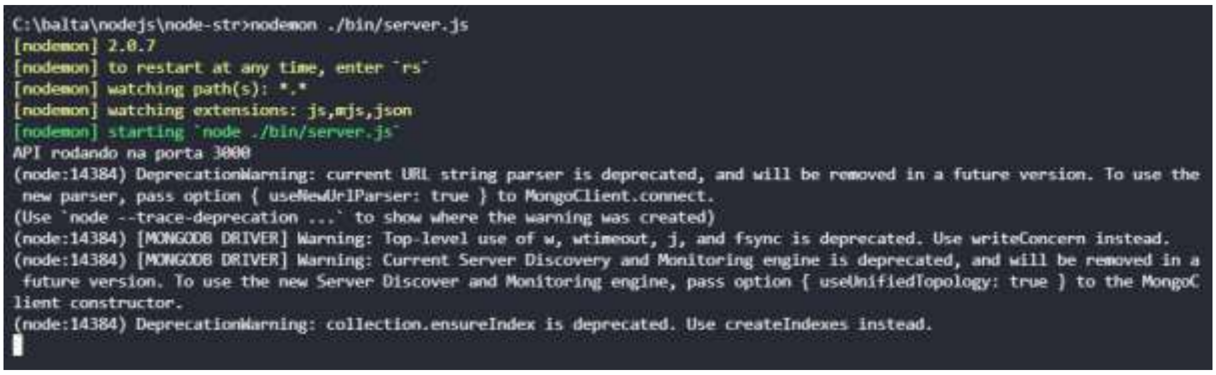
src\services\auth-service.js

```
'use strict';
const jwt = require('jsonwebtoken');

exports.generateToken = async (data) => {
  return jwt.sign(data, global.SALT_KEY, { expiresIn: '1d' });
}

exports.decodeToken = async (token) => {
  var data = await jwt.verify(token, global.SALT_KEY);
  return data;
}

exports.authorize = function (req, res, next) {
  var token = req.body.token || req.query.token || req.headers['x-access-token'];

  if (!token) {
    res.status(401).json({
      message: 'Acesso Restrito'
    });
  } else {
    jwt.verify(token, global.SALT_KEY, function (error, decoded) {
      if (error) {
        res.status(401).json({
          message: 'Token Inválido'
        });
      } else {
        next();
      }
    });
  }
};
```

src\routes\product-route.js

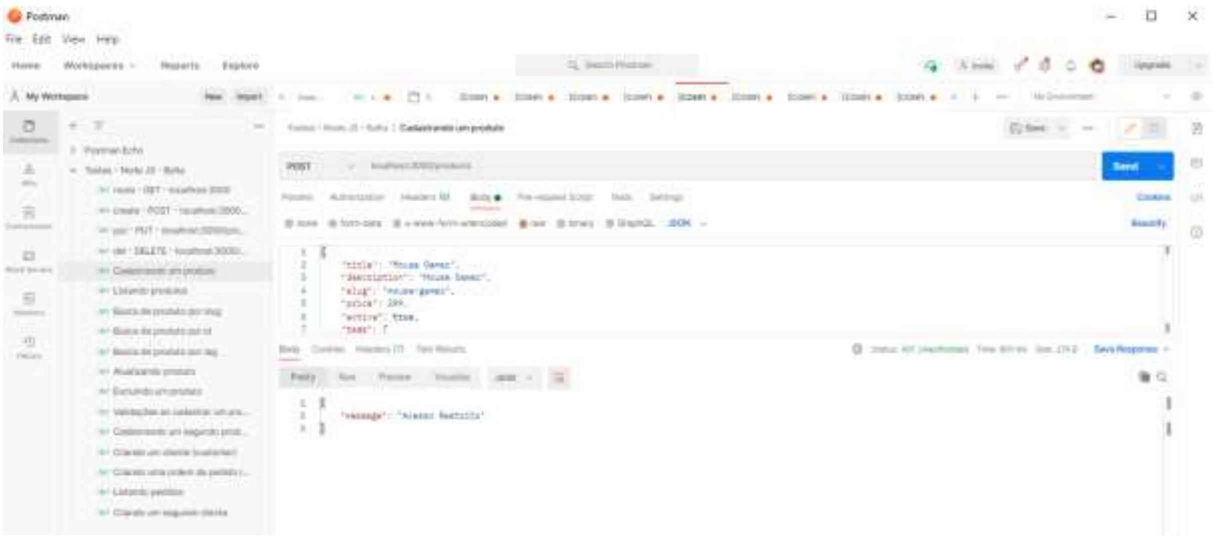
```
const express = require('express');
const router = express.Router();
const controller = require("../controllers/product-controller");
const authService = require('../services/auth-service');

router.get('/', controller.get);
router.get('/:slug', controller.getBySlug);
router.get('/admin/:id', controller.getById);
router.get('/tags/:tag', controller.getByTag);
router.post('/', authService.authorize, controller.post);
router.put('/:id', authService.authorize, controller.put);
router.delete('/:id', authService.authorize, controller.delete);

module.exports = router;
```

nodemon ./bin/server.js



```
C:\balta\nodejs\node-str>nodemon ./bin/server.js
[nodemon] 2.0.7
[nodemon] to restart at any time, enter `rs`
[nodemon] watching path(s): *.*
[nodemon] watching extensions: js,mjs,json
[nodemon] starting `node ./bin/server.js`
API rodando na porta 3000
(node:14384) DeprecationWarning: current URL string parser is deprecated, and will be removed in a future version. To use the
 new parser, pass option { useNewUrlParser: true } to MongoClient.connect.
(Use `node --trace-deprecation ...` to show where the warning was created)
(node:14384) [MONGODB DRIVER] Warning: Top-level use of w, wtimeout, j, and fsync is deprecated. Use writeConcern instead.
(node:14384) [MONGODB DRIVER] Warning: Current Server Discovery and Monitoring engine is deprecated, and will be removed in a
 future version. To use the new Server Discover and Monitoring engine, pass option { useUnifiedTopology: true } to the MongoC
lient constructor.
(node:14384) DeprecationWarning: collection.ensureIndex is deprecated. Use createIndexes instead.
```

- Ao tentar criar um produto:



```
POST   localhost:3000/products

{
    "title": "Mouse Gamer",
    "description": "Mouse Gamer",
    "slug": "mouse-gamer",
    "price": 299,
    "active": true,
    "tags": [
```

```
{
    "message": "Acesso Restrito"
}
```

src\repositories\customer-repository.js

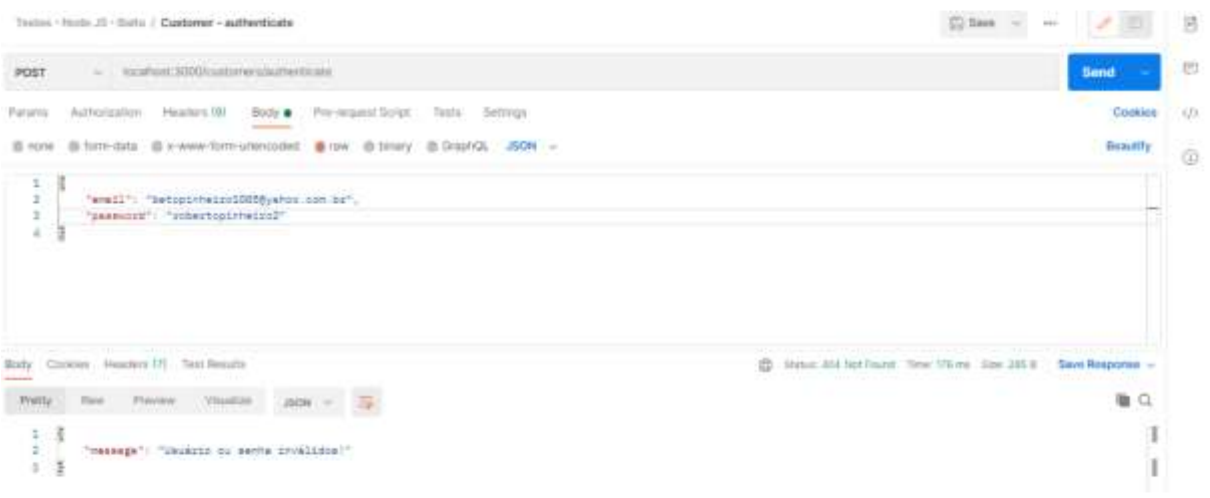
```
'use strict';
const mongoose = require('mongoose');
const Customer = mongoose.model('Customer');

exports.create = async(data) => {
   var customer = new Customer(data);
   await customer.save();
}

exports.authenticate = async(data) => {
   const res = await Customer.findOne({
      email: data.email,
      password: data.password
   });
   return res;
}
```

src\controllers\customer-controller.js

```
'use strict';

const ValidationContract = require('../validators/fluent-validator');
const repository = require('../repositories/customer-repository');
const md5 = require('md5');
const authService = require('../services/auth-service');

exports.post = async(req, res, next) => {
  let contract = new ValidationContract();
  contract.hasMinLen(req.body.name, 3, 'O nome deve conter pelo menos 3 caracteres');
  contract.isEmail(req.body.email, 'Email inválido');
  contract.hasMinLen(req.body.password, 6, 'A senha deve conter pelo menos 6 caracteres');

  // Se os dados forem inválidos
  if (!contract.isValid()) {
    res.status(400).send(contract.errors()).end();
    return;
  }

  try {
    await repository.create({
      name: req.body.name,
      email: req.body.email,
      password: md5(req.body.password + global.SALT_KEY)
    }
);
    res.status(201).send({
      message: 'Cliente cadastrado com sucesso!'
    });
  } catch (e) {
    console.log(e);
    res.status(500).send({
      message: 'Falha ao processar sua requisição'
    });
  }
};

exports.authenticate = async(req, res, next) => {

  try {
    const customer = await repository.authenticate({
      email: req.body.email,
      password: md5(req.body.password + global.SALT_KEY)
    });

    if(!customer){
      res.status(404).send({
        message: 'Usuário ou senha inválido(s)!'
      });
```

```
            return;
        }

        const token = await authService.generateToken({
            email: customer.email,
            name: customer.name
        });

        res.status(201).send({
            token: token,
            data: {
                email: customer.email,
                name: customer.name
            }
        });
    } catch (e) {
        console.log(e);
        res.status(500).send({
            message: 'Falha ao processar sua requisição'
        });
    }
};
```

- No Postman, passando senha errada:



Testes - Node JS - Beto / Customer - authenticate

POST localhost:3000/customers/authenticate

```
{
    "email": "betopinheiro1005@yahoo.com.br",
    "password": "robertopinheiro2"
}
```

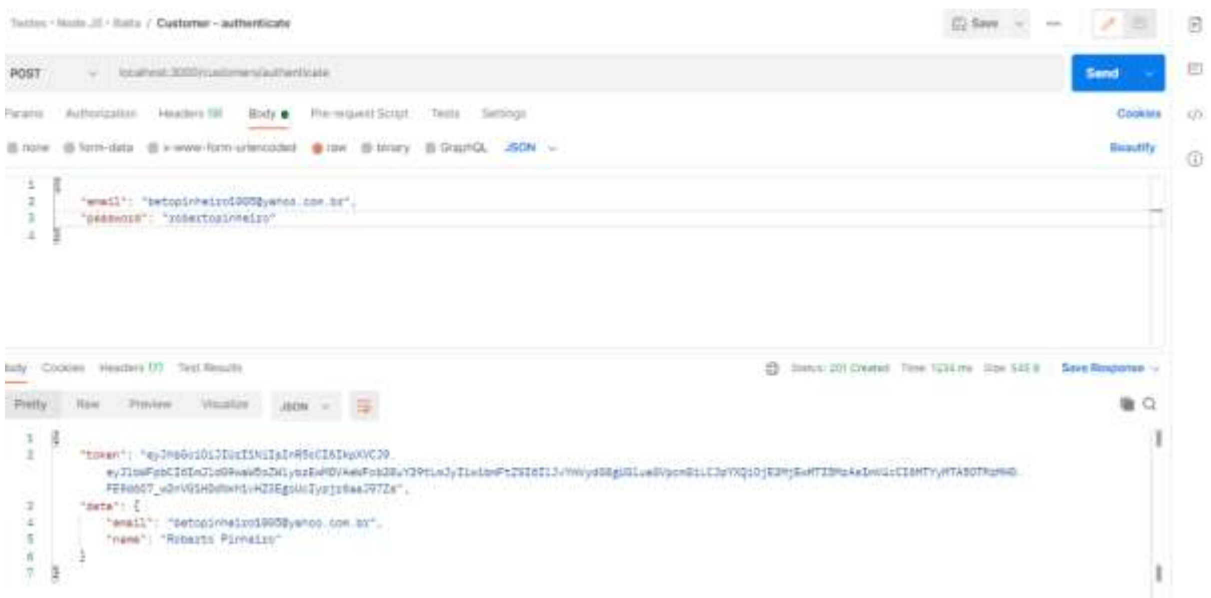
Status: 404 Not Found Time: 176 ms Size: 285 B

```
{
    "message": "Usuário ou senha inválidos!"
}
```

src\routes\customer-route.js

```
const express = require('express');
const router = express.Router();
const controller = require("../controllers/customer-controller");

router.post('/', controller.post);
router.post('/authenticate', controller.authenticate);

module.exports = router;
```

No Postman, passando a senha correta:


Testes • Node JS • Balta / Customer - authenticate

POST localhost:3000/customers/authenticate

```
{
    "email": "betopinheiro1005@yahoo.com.br",
    "password": "robertopinheiro"
}
```

Status: 201 Created

```
{
    "token": "eyJhbGciOiJIUzI1NiIsInR5cCI6IkpXVCJ9.
      eyJlbWFpbCI6ImJldG9waW5oZWlybzEwMDVAeWFob28uY29tLmJyIiwibmFtZSI6IlJvYmVydG8gUGluaGVpcm8iLCJpYXQiOjE2MjEwMTI5MzAsImV4cCI6MTYyMTA5OTMzMH0.
      FE9d6O7_w2nVG1HDdNkh1vHZ3EgoUclypjr6aaJ97Zs",
    "data": {
        "email": "betopinheiro1005@yahoo.com.br",
        "name": "Roberto Pinheiro"
    }
}
```

```
{
   "token":
"eyJhbGciOiJIUzI1NiIsInR5cCI6IkpXVCJ9.eyJlbWFpbCI6ImJldG9waW5oZWlybzEwMDVAeWFob28uY29tLmJyIiwibmFtZSI6IlJvYmVydG8gUGluaGVpcm8iLCJpYXQiOjE2MjEwMTI5MzAsImV4cCI6MTYyMTA5OTMzMH0.FE9d6O7_w2nVG1HDdNkh1vHZ3EgoUclypjr6aaJ97Zs",
   "data": {
      "email": "betopinheiro1005@yahoo.com.br",
      "name": "Roberto Pinheiro"
   }
}
```

- No Postman, na requisição que cadastra um produto, na aba Header, insira a key:

x-access-token

- Em value, cole o valor do token obtido ao cadastrar o cliente.

Aula 35 - Recuperando dados do usuário logado

src\routes\order-route.js

```
const express = require('express');
const router = express.Router();
const controller = require("../controllers/order-controller");
const authService = require('../services/auth-service');

router.get('/', authService.authorize, controller.get);
router.post('/', authService.authorize, controller.post);

module.exports = router;
```

src\controllers\customer-controller.js

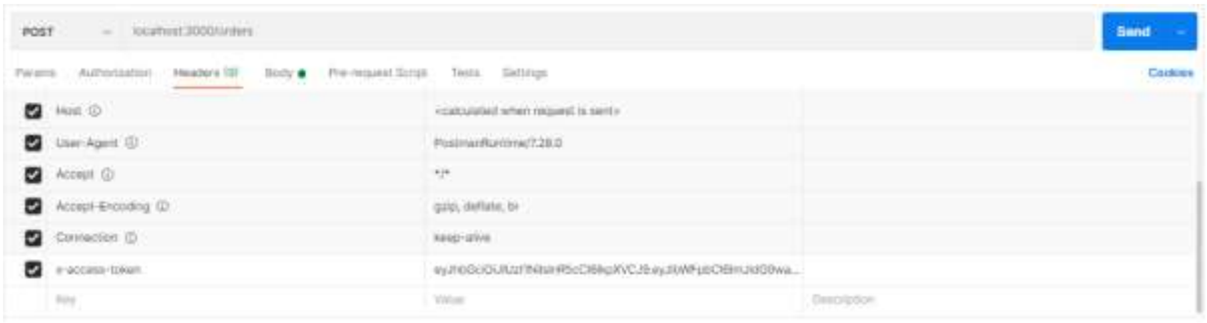
```
'use strict';

const ValidationContract = require('../validators/fluent-validator');
const repository = require('../repositories/customer-repository');
const md5 = require('md5');
const emailService = require('../services/email-service');

const authService = require('../services/auth-service');

exports.get = async(req, res, next) => {
    try {
        var data = await repository.get();
        res.status(200).send(data);
    } catch (e) {
        res.status(500).send({
            message: 'Falha ao processar sua requisição'
        });
    }
}

exports.post = async(req, res, next) => {
    let contract = new ValidationContract();
    contract.hasMinLen(req.body.name, 3, 'O nome deve conter pelo menos 3 caracteres');
    contract.isEmail(req.body.email, 'Email inválido');
    contract.hasMinLen(req.body.password, 6, 'A senha deve conter pelo menos 6 caracteres');

    // Se os dados forem inválidos
    if (!contract.isValid()) {
        res.status(400).send(contract.errors()).end();
        return;
    }

    try {
        await repository.create({
            name: req.body.name,
            email: req.body.email,
            // password: req.body.password
```

```
      password: md5(req.body.password + global.SALT_KEY)
    });

    emailService.send(
      req.body.email,
      'Bem vindo ao Node Store',
      global.EMAIL_TMPL.replace('{0}', req.body.name)
    );

    res.status(201).send({
      message: 'Cliente cadastrado com sucesso!'
    });
  } catch (e) {
    console.log(e);
    res.status(500).send({
      message: 'Falha ao processar sua requisição'
    });
  }
};

exports.authenticate = async(req, res, next) => {

  try {
    const customer = await repository.authenticate({
      email: req.body.email,
      password: md5(req.body.password + global.SALT_KEY)
    });

    if(!customer){
      res.status(404).send({
        message: 'Usuário ou senha inválidos!'
      });
      return;
    }

    const token = await authService.generateToken({
      id: customer._id,
      email: customer.email,
      name: customer.name
    });

    res.status(201).send({
      token: token,
      data: {
        email: customer.email,
        name: customer.name
      }
    });
  } catch (e) {
    console.log(e);
    res.status(500).send({
      message: 'Falha ao processar sua requisição'
    });
  }
};
```

src\controllers\order-controller.js

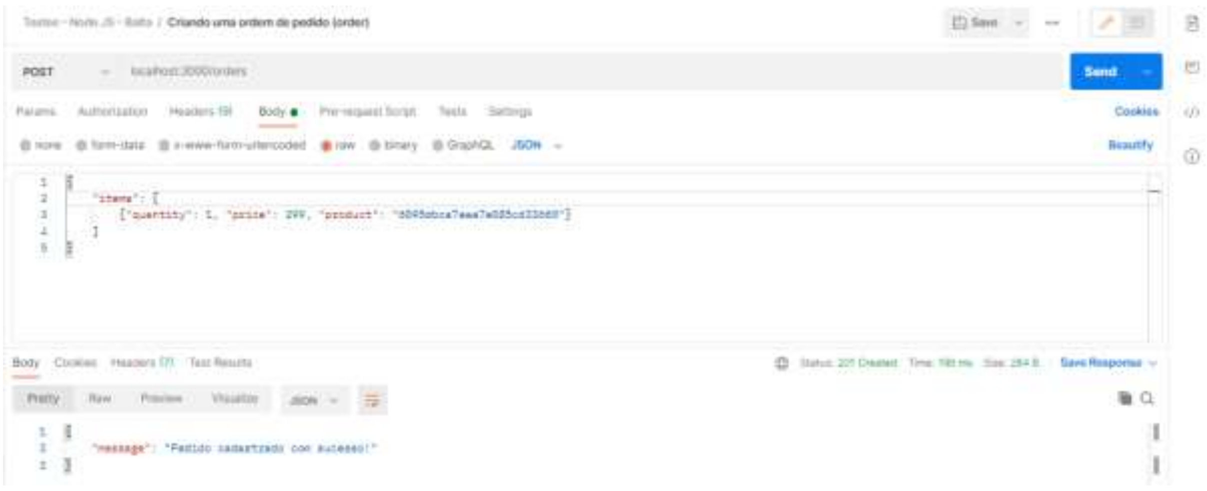
```
'use strict';

const ValidationContract = require('../validators/fluent-validator');
const repository = require('../repositories/order-repository');
const guid = require('guid');
const authService = require('../services/auth-service');

exports.get = async(req, res, next) => {
    try {
        var data = await repository.get();
        res.status(200).send(data);
    } catch (e) {
        res.status(500).send({
            message: 'Falha ao processar sua requisição'
        });
    }
}

exports.post = async(req, res, next) => {
    try {

        const token = req.body.token || req.query.token || req.headers['x-access-token'];
        const data = await authService.decodeToken(token);

        await repository.create({
            customer: data.id,
            number: guid.raw().substring(0, 6),
            items: req.body.items
        });
        res.status(201).send({
            message: 'Pedido cadastrado com sucesso!'
        });
    } catch (e) {
        console.log(e);
        res.status(500).send({
            message: 'Falha ao processar sua requisição'
        });
    }
};
```

- No Postman:


POST localhost:3000/orders

Params · Authorization · Headers (9) · Body · Pre-request Script · Tests · Settings · Cookies

	Key	Value	Description
☑	Host	<calculated when request is sent>	
☑	User-Agent	PostmanRuntime/7.28.0	
☑	Accept	*/*	
☑	Accept-Encoding	gzip, deflate, br	
☑	Connection	keep-alive	
☑	x-access-token	eyJhbGciOiJIUzI1NiIsInR5cCI6IkpXVCJ9.eyJ[illegible]wa...	


Testes - Node JS - Rotas / Criando uma ordem de pedido (order)

POST localhost:3000/orders

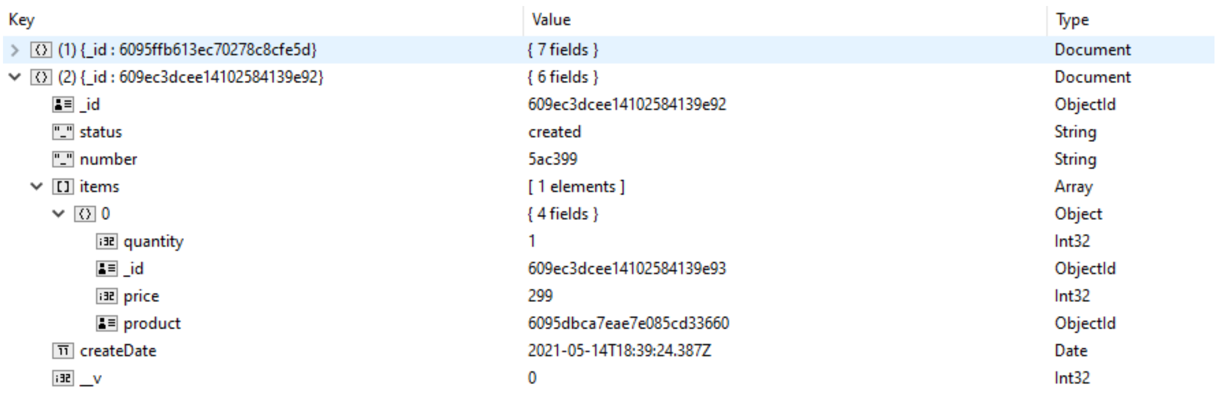
Params · Authorization · Headers (9) · Body · Pre-request Script · Tests · Settings

none · form-data · x-www-form-urlencoded · [✓ raw] · binary · GraphQL · JSON

```json
{
    "items": [
        {"quantity": 1, "price": 299, "product": "6095dbca7eae7e085cd33660"}
    ]
}
```

Body · Cookies · Headers (7) · Test Results — Status: 201 Created Time: [illegible] ms Size: 284 B

```json
{
    "message": "Pedido cadastrado com sucesso!"
}
```



```
Key                                      Value                        Type
> (1) {_id : 6095ffb613ec70278c8cfe5d}   { 7 fields }                 Document
v (2) {_id : 609ec3dcee14102584139e92}   { 6 fields }                 Document
    _id                                  609ec3dcee14102584139e92     ObjectId
    status                               created                      String
    number                               5ac399                       String
  v items                                [ 1 elements ]               Array
    v 0                                  { 4 fields }                 Object
        quantity                         1                            Int32
        _id                              609ec3dcee14102584139e93     ObjectId
        price                            299                          Int32
        product                          6095dbca7eae7e085cd33660     ObjectId
    createDate                           2021-05-14T18:39:24.387Z     Date
    __v                                  0                            Int32
```

Aula 36 - Refresh Token

src\controllers\customer-controller.js

```
'use strict';

const ValidationContract = require('../validators/fluent-validator');
const repository = require('../repositories/customer-repository');
const md5 = require('md5');
const emailService = require('../services/email-service');

const authService = require('../services/auth-service');

exports.get = async(req, res, next) => {
  try {
    var data = await repository.get();
    res.status(200).send(data);
  } catch (e) {
    res.status(500).send({
      message: 'Falha ao processar sua requisição'
    });
  }
}

exports.post = async(req, res, next) => {
  let contract = new ValidationContract();
  contract.hasMinLen(req.body.name, 3, 'O nome deve conter pelo menos 3 caracteres');
  contract.isEmail(req.body.email, 'Email inválido');
  contract.hasMinLen(req.body.password, 6, 'A senha deve conter pelo menos 6 caracteres');

  // Se os dados forem inválidos
  if (!contract.isValid()) {
    res.status(400).send(contract.errors()).end();
    return;
  }

  try {
    await repository.create({
      name: req.body.name,
      email: req.body.email,
      // password: req.body.password
      password: md5(req.body.password + global.SALT_KEY)
    });

    emailService.send(
      req.body.email,
      'Bem vindo ao Node Store',
      global.EMAIL_TMPL.replace('{0}', req.body.name)
    );

    res.status(201).send({
      message: 'Cliente cadastrado com sucesso!'
    });
  } catch (e) {
        console.log(e);
        res.status(500).send({
            message: 'Falha ao processar sua requisição'
        });
    }
};

exports.authenticate = async(req, res, next) => {

    try {
        const customer = await repository.authenticate({
            email: req.body.email,
            password: md5(req.body.password + global.SALT_KEY)
        });

        if(!customer){
            res.status(404).send({
                message: 'Usuário ou senha inválidos!'
            });
            return;
        }

        const token = await authService.generateToken({
            id: customer._id,
            email: customer.email,
            name: customer.name
        });

        res.status(201).send({
            token: token,
            data: {
                email: customer.email,
                name: customer.name
            }
        });
    } catch (e) {
        console.log(e);
        res.status(500).send({
            message: 'Falha ao processar sua requisição'
        });
    }
};

exports.refreshToken = async(req, res, next) => {
    try {
        const token = req.body.token || req.query.token || req.headers['x-access-token'];
        const data = await authService.decodeToken(token);

        const customer = await repository.getById(data.id);

        if (!customer) {
            res.status(404).send({
                message: 'Cliente não encontrado'
            });
            return;
        }
        const tokenData = await authService.generateToken({
            id: customer._id,
            email: customer.email,
            name: customer.name,
            roles: customer.roles
        });

        res.status(201).send({
            token: token,
            data: {
                email: customer.email,
                name: customer.name
            }
        });
    } catch (e) {
        res.status(500).send({
            message: 'Falha ao processar sua requisição'
        });
    }
};
```

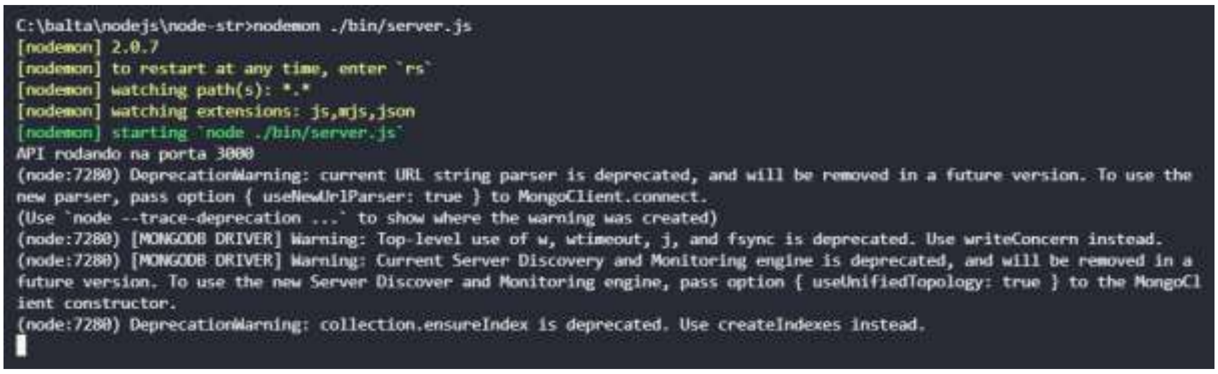
src\repositories\customer-repository.js

```
'use strict';
const mongoose = require('mongoose');
const Customer = mongoose.model('Customer');


exports.get = async() => {
    const res = await Customer.find({
    }, 'name email password');
    return res;
}

exports.create = async(data) => {
    var customer = new Customer(data);
    await customer.save();
}

exports.authenticate = async(data) => {
    const res = await Customer.findOne({
        email: data.email,
        password: data.password
    });
    return res;
}

exports.getById = async(id) => {
    const res = await Customer.findById(id);
    return res;
}
```

src\routes\customer-route.js

```
'use strict';

const express = require('express');
const router = express.Router();
const controller = require("../controllers/customer-controller");
const authService = require('../services/auth-service');

router.get('/', controller.get);
router.post('/', controller.post);
router.post('/authenticate', controller.authenticate);
router.post('/refresh-token', authService.authorize, controller.refreshToken);

module.exports = router;
```

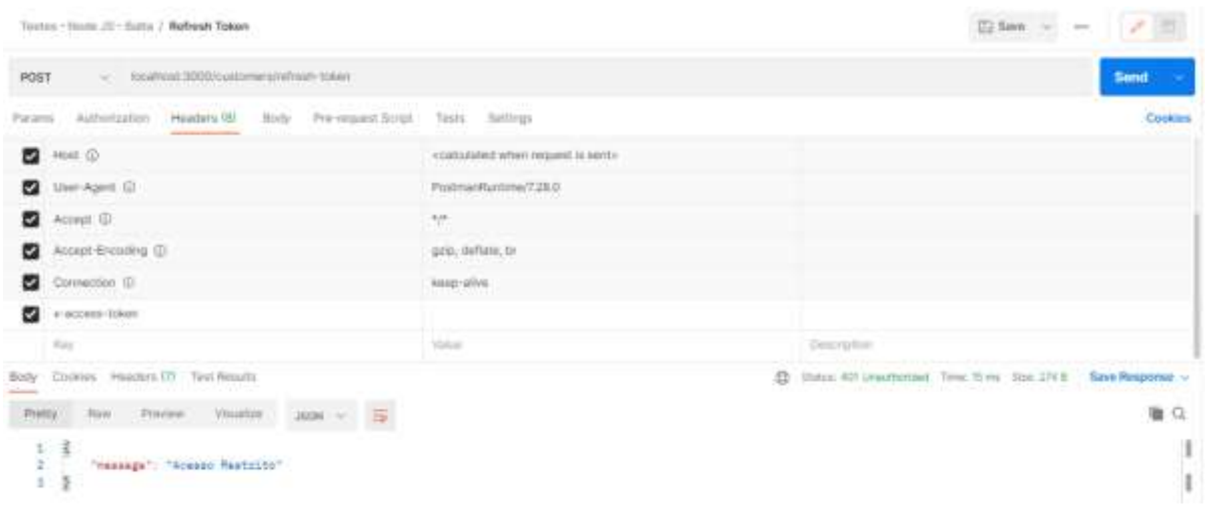
```
nodemon ./bin/server.js
```



```
C:\balta\nodejs\node-str>nodemon ./bin/server.js
[nodemon] 2.0.7
[nodemon] to restart at any time, enter `rs`
[nodemon] watching path(s): *.*
[nodemon] watching extensions: js,mjs,json
[nodemon] starting `node ./bin/server.js`
API rodando na porta 3000
(node:7280) DeprecationWarning: current URL string parser is deprecated, and will be removed in a future version. To use the
new parser, pass option { useNewUrlParser: true } to MongoClient.connect.
(Use `node --trace-deprecation ...` to show where the warning was created)
(node:7280) [MONGODB DRIVER] Warning: Top-level use of w, wtimeout, j, and fsync is deprecated. Use writeConcern instead.
(node:7280) [MONGODB DRIVER] Warning: Current Server Discovery and Monitoring engine is deprecated, and will be removed in a
future version. To use the new Server Discover and Monitoring engine, pass option { useUnifiedTopology: true } to the MongoCl
ient constructor.
(node:7280) DeprecationWarning: collection.ensureIndex is deprecated. Use createIndexes instead.
```

- No Postman, crie a requisição localhost:3000/customers/refresh-token:

- Sem o token na key x-access-token da aba Headers:



Refresh Token

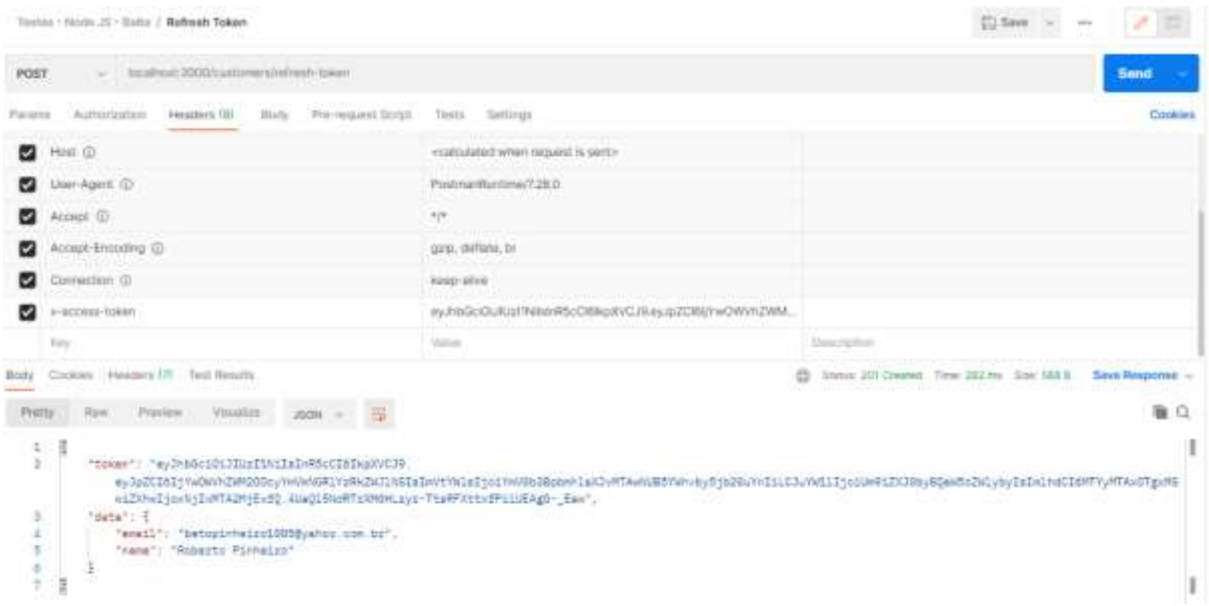
POST localhost:3000/customers/refresh-token

Key	Value	Description
Host	<calculated when request is sent>	
User-Agent	PostmanRuntime/7.28.0	
Accept	*/*	
Accept-Encoding	gzip, deflate, br	
Connection	keep-alive	
x-access-token		

Status: 401 Unauthorized Time: 15 ms Size: 274 B

```
{
    "message": "Acesso Restrito"
}
```

- Com o token ainda válido, na key x-access-token da aba Headers, ao clicar no botão Send é gerado um novo token:



POST localhost:3000/customers/refresh-token

✓	Host	<calculated when request is sent>
✓	User-Agent	PostmanRuntime/7.28.0
✓	Accept	*/*
✓	Accept-Encoding	gzip, deflate, br
✓	Connection	keep-alive
✓	x-access-token	eyJhbGciOiJIUzI1NiIsInR5cCI6IkpXVCJ9.eyJpZCI6IjYwOWVhZWM...
	Key	Value

Status: 201 Created Time: 282 ms Size: 588 B

```
{
    "token": "eyJhbGciOiJIUzI1NiIsInR5cCI6IkpXVCJ9.
        eyJpZCI6IjYwOWVhZWM2ODcyYmVkNGRlYzRkZWJlNSIsImVtYWlsIjoiYmV0b3BpbmhlaXJvMTAwNUB5YWhvby5jb20uYnIiLCJuYW1lIjoiUm9iZXJ0byBQaW5oZWlybyIsImlhdCI6MTYyMTAxOTgxMS
        wiZXhwIjoxNjIxMTA2MjExfQ.4UaQlSNdRTrXM6HLzyr-TtsRFXttxfPiiUEAgG-_Eaw",
    "data": {
        "email": "betopinheiro1005@yahoo.com.br",
        "name": "Roberto Pinheiro"
    }
}
```

```
{
   "token":
"eyJhbGciOiJIUzI1NiIsInR5cCI6IkpXVCJ9.eyJpZCI6IjYwOWVhZWM2ODcyYmVkNGRlYzRkZWJlNSIsImVtYWlsIjoiYmV0b3BpbmhlaXJvMTAwNUB5YWhvby5jb20uYnIiLCJuYW1lIjoiUm9iZXJ0byBQaW5oZWlybyIsImlhdCI6MTYyMTAxOTgxMSwiZXhwIjoxNjIxMTA2MjExfQ.4UaQlSNdRTrXM6HLzyr-TtsRFXttxfPiiUEAgG-_Eaw",
   "data": {
      "email": "betopinheiro1005@yahoo.com.br",
      "name": "Roberto Pinheiro"
   }
}
```

Aula 37 - Autorização

src\models\customer.js

```
'use strict';

const mongoose = require('mongoose');
const Schema = mongoose.Schema;

const schema = new Schema({
    name: {
        type: String,
        required: true
    },
    email: {
        type: String,
        required: true
    },
    password: {
        type: String,
        required: true
    },
    roles: [{
        type: String,
        required: true,
        enum: ['user', 'admin'],
        default: 'user'
    }]
});

module.exports = mongoose.model('Customer', schema);
```

src\controllers\customer-controller.js

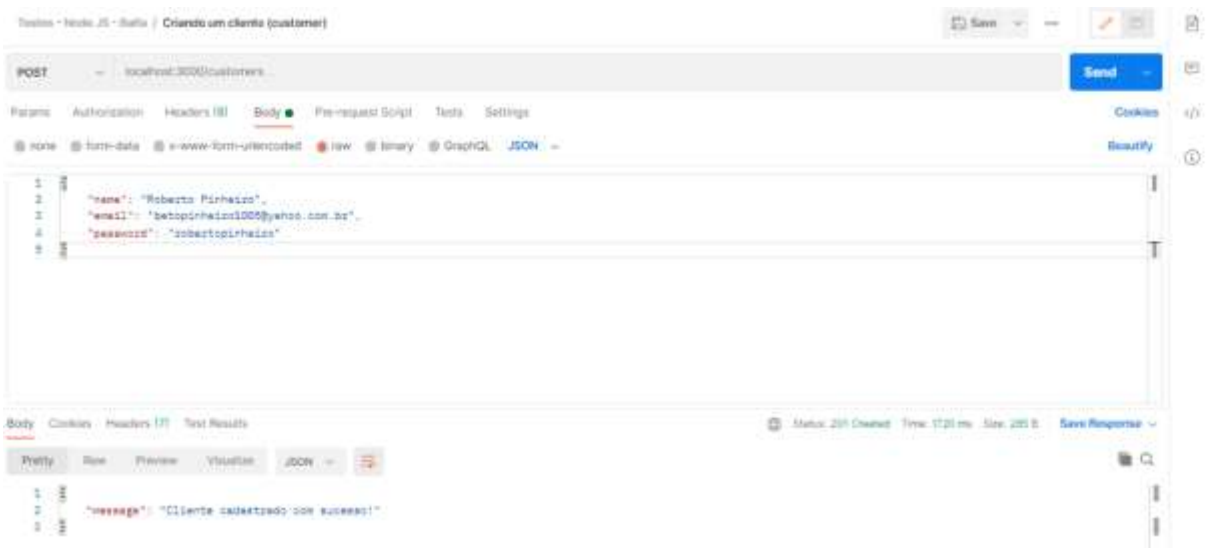
```
'use strict';

const ValidationContract = require('../validators/fluent-validator');
const repository = require('../repositories/customer-repository');
const md5 = require('md5');
const emailService = require('../services/email-service');

const authService = require('../services/auth-service');

exports.get = async(req, res, next) => {
    try {
        var data = await repository.get();
        res.status(200).send(data);
    } catch (e) {
        res.status(500).send({
            message: 'Falha ao processar sua requisição'
        });
    }
}

exports.post = async(req, res, next) => {
    let contract = new ValidationContract();
    contract.hasMinLen(req.body.name, 3, 'O nome deve conter pelo menos 3 caracteres');
    contract.isEmail(req.body.email, 'Email inválido');
    contract.hasMinLen(req.body.password, 6, 'A senha deve conter pelo menos 6 caracteres');

    // Se os dados forem inválidos
    if (!contract.isValid()) {
        res.status(400).send(contract.errors()).end();
        return;
    }

    try {
        await repository.create({
            name: req.body.name,
            email: req.body.email,
            password: md5(req.body.password + global.SALT_KEY),
            roles: ["user"]
        });

        emailService.send(
            req.body.email,
            'Bem vindo ao Node Store',
            global.EMAIL_TMPL.replace('{0}', req.body.name)
        );

        res.status(201).send({
            message: 'Cliente cadastrado com sucesso!'
        });
    } catch (e) {
        console.log(e);
        res.status(500).send({
            message: 'Falha ao processar sua requisição'
        });
    }
};

exports.authenticate = async(req, res, next) => {

    try {
        const customer = await repository.authenticate({
            email: req.body.email,
            password: md5(req.body.password + global.SALT_KEY)
        });

        if(!customer){
            res.status(404).send({
                message: 'Usuário ou senha inválidos!'
            });
            return;
        }

        const token = await authService.generateToken({
            id: customer._id,
            email: customer.email,
            name: customer.name
        });

        res.status(201).send({
            token: token,
            data: {
                email: customer.email,
                name: customer.name
            }
        });
    } catch (e) {
        console.log(e);
        res.status(500).send({
            message: 'Falha ao processar sua requisição'
        });
    }
};

exports.refreshToken = async(req, res, next) => {
    try {
        const token = req.body.token || req.query.token || req.headers['x-access-token'];
        const data = await authService.decodeToken(token);

        const customer = await repository.getById(data.id);

        if (!customer) {
            res.status(404).send({
                message: 'Cliente não encontrado'
            });
            return;
        }

        const tokenData = await authService.generateToken({
            id: customer._id,
            email: customer.email,
            name: customer.name
        });

        res.status(201).send({
            token: token,
            data: {
                email: customer.email,
                name: customer.name
            }
        });
    } catch (e) {
        res.status(500).send({
            message: 'Falha ao processar sua requisição'
        });
    }
};
```

- No Studio 3T, exclua o cliente.

- Rode o servidor:

```
nodemon ./bin/server.js
```

- No Postman, crie um novo cliente(customer).



Criando um cliente (customer)

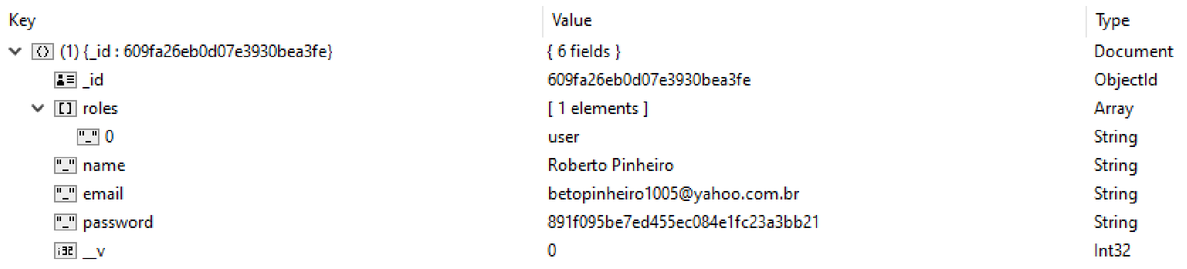
POST localhost:3000/customers

```
{
    "name": "Roberto Pinheiro",
    "email": "betopinheiro1005@yahoo.com.br",
    "password": "robertopinheiro"
}
```

Status: 201 Created Time: 17.20 ms Size: 285 B

```
{
    "message": "Cliente cadastrado com sucesso!"
}
```

- No 3T Studio:



Key	Value	Type
(1) {_id : 609fa26eb0d07e3930bea3fe}	{ 6 fields }	Document
_id	609fa26eb0d07e3930bea3fe	ObjectId
roles	[1 elements]	Array
0	user	String
name	Roberto Pinheiro	String
email	betopinheiro1005@yahoo.com.br	String
password	891f095be7ed455ec084e1fc23a3bb21	String
__v	0	Int32

- Repare que o customer foi criado com role user (valor default).

- Para permitir que somente as pessoas com o role admin possam criar, editar ou excluir produtos, é necessário executar alguns passos a seguir:

src\services\auth-service.js

```
'use strict';
const jwt = require('jsonwebtoken');

exports.generateToken = async (data) => {
   return jwt.sign(data, global.SALT_KEY, { expiresIn: '1d' });
}

exports.decodeToken = async (token) => {
   var data = await jwt.verify(token, global.SALT_KEY);
   return data;
}

exports.authorize = function (req, res, next) {
   var token = req.body.token || req.query.token || req.headers['x-access-token'];

   if (!token) {
      res.status(401).json({
         message: 'Acesso Restrito'
      });
   } else {
      jwt.verify(token, global.SALT_KEY, function (error, decoded) {
         if (error) {
            res.status(401).json({
               message: 'Token Inválido'
            });
         } else {
            next();
         }
      });
   }
};

exports.isAdmin = function (req, res, next) {
   var token = req.body.token || req.query.token || req.headers['x-access-token'];

   if (!token) {
      res.status(401).json({
         message: 'Token Inválido'
      });
   } else {
      jwt.verify(token, global.SALT_KEY, function (error, decoded) {
         if (error) {
            res.status(401).json({
               message: 'Token Inválido'
            });
         } else {
            if (decoded.roles.includes('admin')) {
               next();
            } else {
               res.status(403).json({
                  message: 'Esta funcionalidade é restrita para administradores'
               });
            }
         }
      });
```

```
    }
};
```

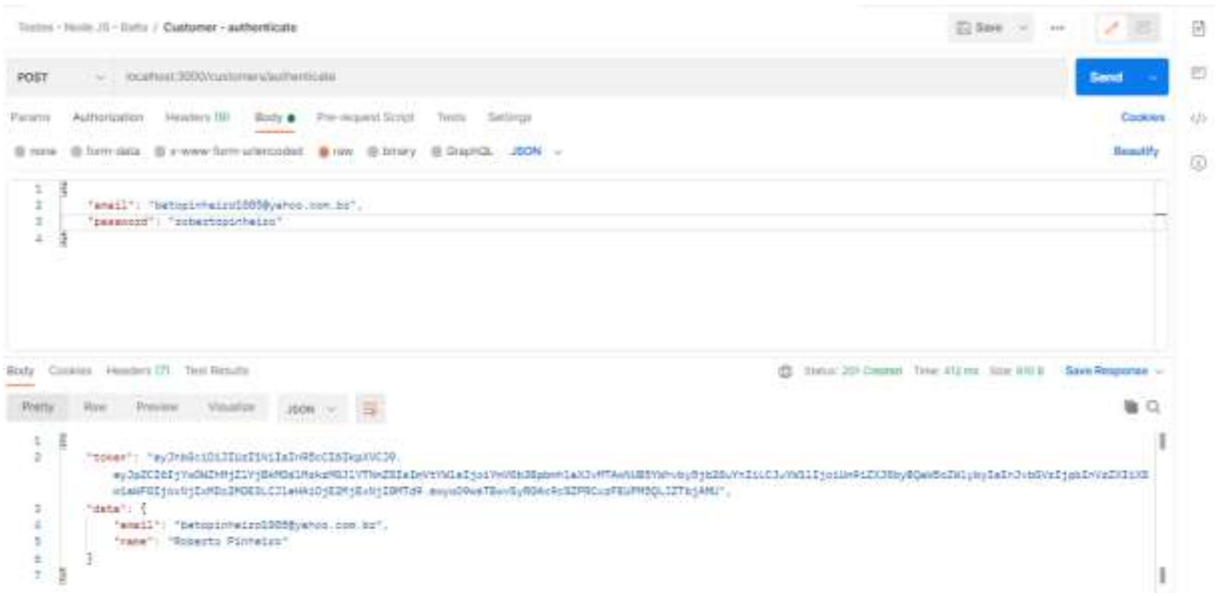
src\controllers\customer-controller.js

```
'use strict';

const ValidationContract = require('../validators/fluent-validator');
const repository = require('../repositories/customer-repository');
const md5 = require('md5');
const emailService = require('../services/email-service');

const authService = require('../services/auth-service');

exports.get = async(req, res, next) => {
    try {
        var data = await repository.get();
        res.status(200).send(data);
    } catch (e) {
        res.status(500).send({
            message: 'Falha ao processar sua requisição'
        });
    }
}

exports.post = async(req, res, next) => {
    let contract = new ValidationContract();
    contract.hasMinLen(req.body.name, 3, 'O nome deve conter pelo menos 3 caracteres');
    contract.isEmail(req.body.email, 'Email inválido');
    contract.hasMinLen(req.body.password, 6, 'A senha deve conter pelo menos 6 caracteres');

    // Se os dados forem inválidos
    if (!contract.isValid()) {
        res.status(400).send(contract.errors()).end();
        return;
    }

    try {
        await repository.create({
            name: req.body.name,
            email: req.body.email,
            password: md5(req.body.password + global.SALT_KEY),
            roles: ["user"]
        });

        emailService.send(
            req.body.email,
            'Bem vindo ao Node Store',
            global.EMAIL_TMPL.replace('{0}', req.body.name)
        );

        res.status(201).send({
            message: 'Cliente cadastrado com sucesso!'
        });
    } catch (e) {
        console.log(e);
        res.status(500).send({
            message: 'Falha ao processar sua requisição'
        });
    }
};

exports.authenticate = async(req, res, next) => {

    try {
        const customer = await repository.authenticate({
            email: req.body.email,
            password: md5(req.body.password + global.SALT_KEY)
        });

        if(!customer){
            res.status(404).send({
                message: 'Usuário ou senha inválidos!'
            });
            return;
        }

        const token = await authService.generateToken({
            id: customer._id,
            email: customer.email,
            name: customer.name,
            roles: customer.roles
        });

        res.status(201).send({
            token: token,
            data: {
                email: customer.email,
                name: customer.name
            }
        });
    } catch (e) {
        console.log(e);
        res.status(500).send({
            message: 'Falha ao processar sua requisição'
        });
    }
};

exports.refreshToken = async(req, res, next) => {
    try {
        const token = req.body.token || req.query.token || req.headers['x-access-token'];
        const data = await authService.decodeToken(token);

        const customer = await repository.getById(data.id);

        if (!customer) {
            res.status(404).send({
                message: 'Cliente não encontrado'
            });
            return;
        }
        const tokenData = await authService.generateToken({
            id: customer._id,
            email: customer.email,
            name: customer.name,
            roles: customer.roles
        });

        res.status(201).send({
            token: token,
            data: {
                email: customer.email,
                name: customer.name
            }
        });
    } catch (e) {
        res.status(500).send({
            message: 'Falha ao processar sua requisição'
        });
    }
};
```

src\routes\product-route.js

```
const express = require('express');
const router = express.Router();
const controller = require("../controllers/product-controller");
const authService = require('../services/auth-service');

router.get('/', controller.get);
router.get('/:slug', controller.getBySlug);
router.get('/admin/:id', controller.getById);
router.get('/tags/:tag', controller.getByTag);
router.post('/', authService.isAdmin, controller.post);
router.put('/:id', authService.isAdmin, controller.put);
router.delete('/:id', authService.isAdmin, controller.delete);

module.exports = router;
```

- No Postman, crie um novo authenticate, para gerar um novo token:



Testes - Node JS - Beta / Customer - authenticate

POST localhost:3000/customers/authenticate

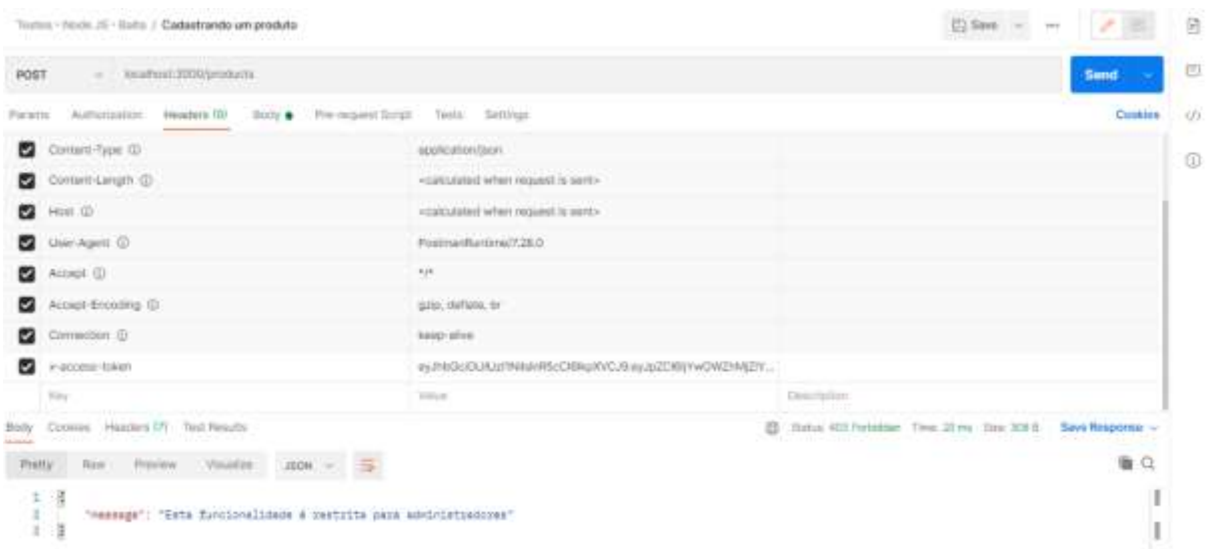
```
{
    "email": "betopinheiro1005@yahoo.com.br",
    "password": "robertopinheiro"
}
```

Status: 201 Created

```
{
    "token": "eyJhbGciOiJIUzI1NiIsInR5cCI6IkpXVCJ9.eyJpZCI6IjYwOWZhMjZlYjBkMDdlMzkzMGJlYTNmZSIsImVtYWlsIjoiYmV0b3BpbmhlaXJvMTAwNUB5YWhvby5jb20uYnIiLCJuYW1lIjoiUm9iZXJ0byBQaW5oZWlybyIsInJvbGVzIjpbInVzZXIiXSwiaWF0IjoxNjIxMDc2MDE3LCJleHAiOjE2MjExNjI0MTd9.swywO9wsTEwvSyR0Ax9cSZPRCxzFEUPM5QLJZTbjAMU",
    "data": {
        "email": "betopinheiro1005@yahoo.com.br",
        "name": "Roberto Pinheiro"
    }
}
```

```
{
   "token":
"eyJhbGciOiJIUzI1NiIsInR5cCI6IkpXVCJ9.eyJpZCI6IjYwOWZhMjZlYjBkMDdlMzkzMGJlYTNmZSIsImVtYWlsIjoiYmV0b3BpbmhlaXJvMTAwNUB5YWhvby5jb20uYnIiLCJuYW1lIjoiUm9iZXJ0byBQaW5oZWlybyIsInJvbGVzIjpbInVzZXIiXSwiaWF0IjoxNjIxMDc2MDE3LCJleHAiOjE2MjExNjI0MTd9.swywO9wsTEwvSyR0Ax9cSZPRCxzFEUPM5QLJZTbjAMU",
   "data": {
      "email": "betopinheiro1005@yahoo.com.br",
      "name": "Roberto Pinheiro"
   }
}
```

- Tente cadastrar um novo produto. Copie e cole o token acima na key x-access-token (aba Headers) e em seguida clique no botão Send.



Testes - Node JS - Beta / Cadastrando um produto

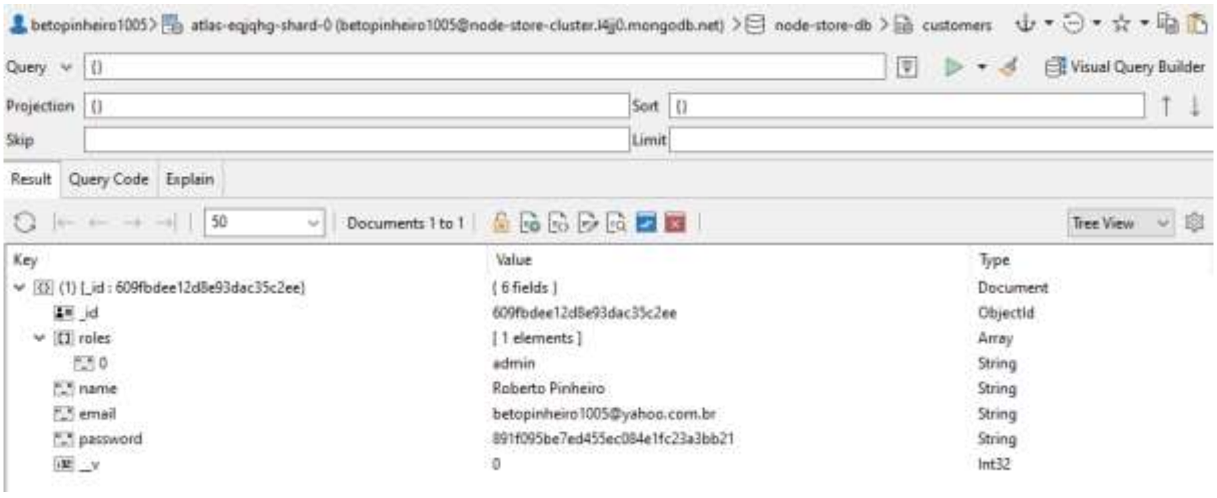
POST localhost:3000/products

Content-Type	application/json
Content-Length	<calculated when request is sent>
Host	<calculated when request is sent>
User-Agent	PostmanRuntime/7.28.0
Accept	*/*
Accept-Encoding	gzip, deflate, br
Connection	keep-alive
x-access-token	eyJhbGciOiJIUzI1NiIsInR5cCI6IkpXVCJ9.eyJpZCI6IjYwOWZhMjZlY...

Status: 403 Forbidden

```
{
    "message": "Esta funcionalidade é restrita para administradores"
}
```

- No 3T Studio edite o role do cliente (customer). Altere de user para admin:



betopinheiro1005 > atlas-eqqhg-shard-0 (betopinheiro1005@node-store-cluster.l4jj0.mongodb.net) > node-store-db > customers

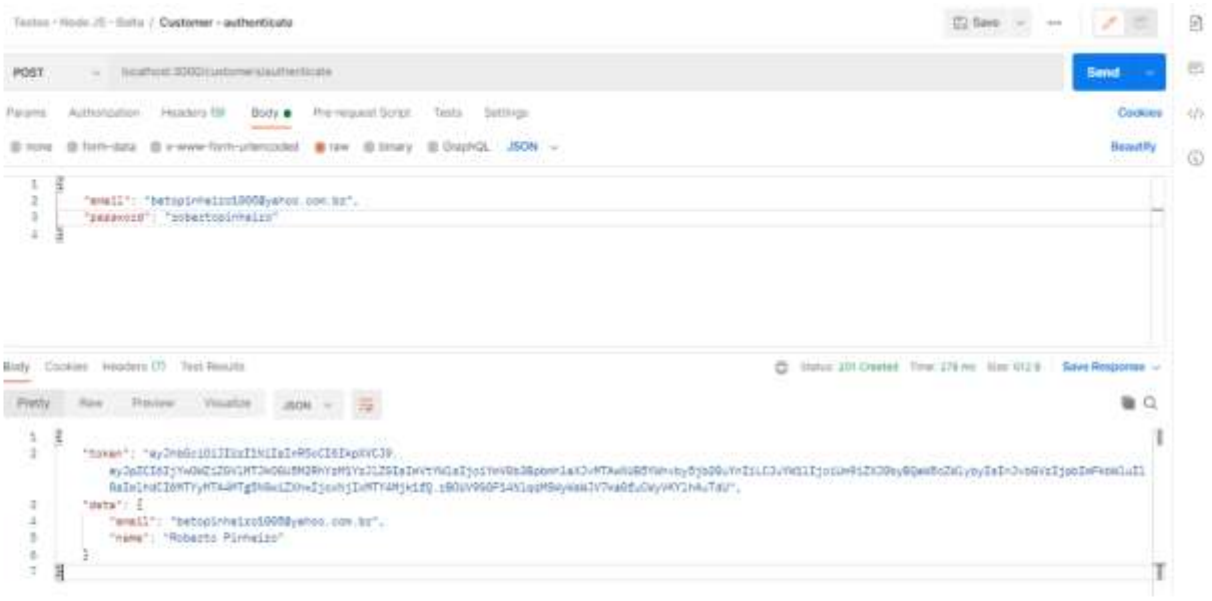
Query {} | Projection {} | Sort {} | Skip | Limit

Result | Query Code | Explain

50 | Documents 1 to 1 | Tree View

```
Key                                         Value                               Type
(1) {_id : 609fbdee12d8e93dac35c2ee}        { 6 fields }                        Document
    _id                                     609fbdee12d8e93dac35c2ee            ObjectId
    roles                                   [ 1 elements ]                      Array
        0                                   admin                               String
    name                                    Roberto Pinheiro                    String
    email                                   betopinheiro1005@yahoo.com.br       String
    password                                891f095be7ed455ec084e1fc23a3bb21    String
    __v                                     0                                   Int32
```

- Na autenticação atual o customer é apenas user. Portanto, agora é necessário fazer uma nova autenticação para tratá-lo como admin:



Testes - Node JS - Balta / Customer - authenticate

POST localhost:3000/customers/authenticate

Body · raw · JSON

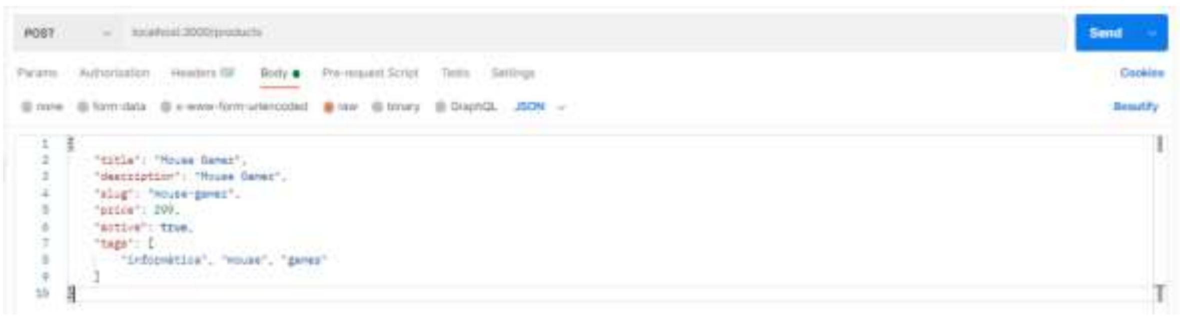
```
{
    "email": "betopinheiro1005@yahoo.com.br",
    "password": "robertopinheiro"
}
```

Status: 201 Created

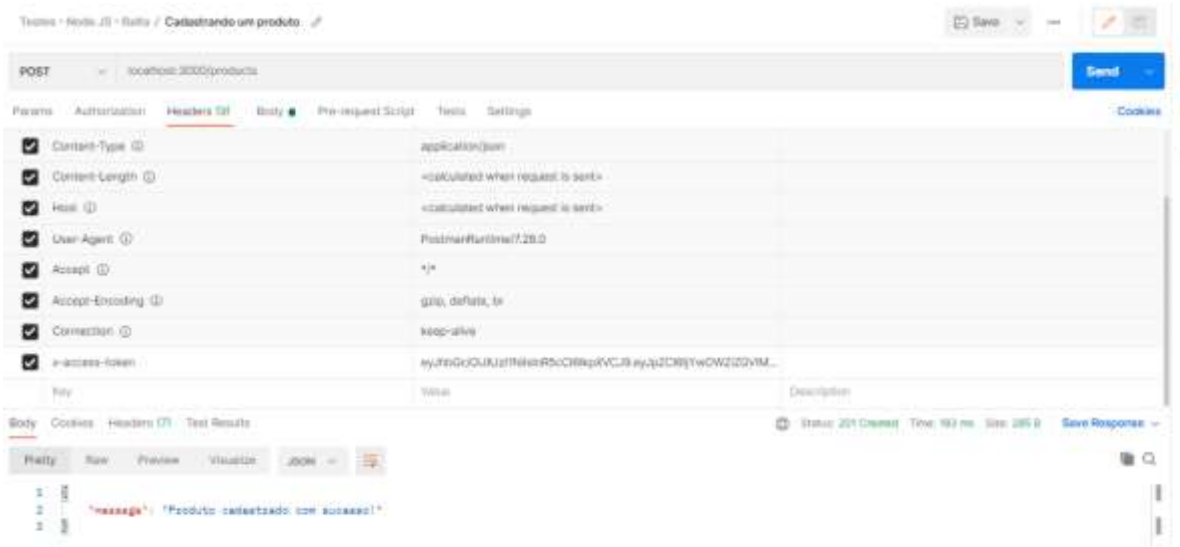
```
{
    "token": "eyJhbGciOiJIUzI1NiIsInR5cCI6IkpXVCJ9.eyJpZCI6IjYwOWZiZGVlMTJkOGU5M2RhYzM1YzJlZSIsImVtYWlsIjoiYmV0b3BpbmhlaXJvMTAwNUB5YWhvby5jb20uYnIiLCJuYW1lIjoiUm9iZXJ0byBQaW5oZWlybyIsInJvbGVzIjpbImFkbWluIl0sImlhdCI6MTYyMTA4MTg5NSwiZXhwIjoxNjIxMTY4Mjk1fQ.rBOUV9GGF14NlqqMSWyWsWJV7ka0fuCWyVKYlhAuTdU",
    "data": {
        "email": "betopinheiro1005@yahoo.com.br",
        "name": "Roberto Pinheiro"
    }
}
```

{
"token":
"eyJhbGciOiJIUzI1NiIsInR5cCI6IkpXVCJ9.eyJpZCI6IjYwOWZiZGVlMTJkOGU5M2RhYzM1YzJlZSIsImVtYWlsIjoiYmV0b3BpbmhlaXJvMTAwNUB5YWhvby5jb20uYnIiLCJuYW1lIjoiUm9iZXJ0byBQaW5oZWlybyIsInJvbGVzIjpbImFkbWluIl0sImlhdCI6MTYyMTA4MTg5NSwiZXhwIjoxNjIxMTY4Mjk1fQ.rBOUV9GGF14NlqqMSWyWsWJV7ka0fuCWyVKYlhAuTdU",
"data": {
"email": "betopinheiro1005@yahoo.com.br",
"name": "Roberto Pinheiro"
}
}

- Tente cadastrar um novo produto. Copie e cole o token acima na key x-access-token (aba Headers) e em seguida clique no botão Send.



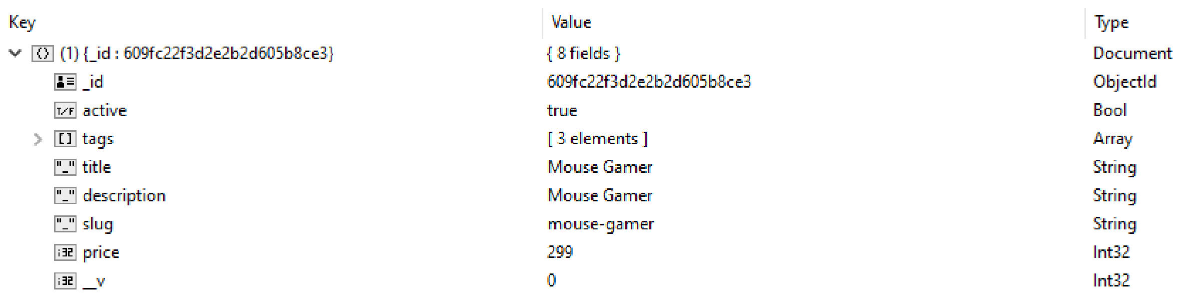
```
{
    "title": "Mouse Gamer",
    "description": "Mouse Gamer",
    "slug": "mouse-gamer",
    "price": 299,
    "active": true,
    "tags": [
        "informática", "mouse", "games"
    ]
}
```



	Key	Value	Description
✓	Content-Type	application/json	
✓	Content-Length	<calculated when request is sent>	
✓	Host	<calculated when request is sent>	
✓	User-Agent	PostmanRuntime/7.28.0	
✓	Accept	*/*	
✓	Accept-Encoding	gzip, deflate, br	
✓	Connection	keep-alive	
✓	x-access-token	eyJhbGciOiJIUzI1NiIsInR5cCI6IkpXVCJ9.eyJpZCI6IjYwOWZiZGVlM...	

Status: 201 Created Time: 183 ms Size: 285 B

```
{
    "message": "Produto cadastrado com sucesso!"
}
```



Key	Value	Type
(1) {_id : 609fc22f3d2e2b2d605b8ce3}	{ 8 fields }	Document
_id	609fc22f3d2e2b2d605b8ce3	ObjectId
active	true	Bool
tags	[3 elements]	Array
title	Mouse Gamer	String
description	Mouse Gamer	String
slug	mouse-gamer	String
price	299	Int32
__v	0	Int32

Aula 38 - Outros

src\app.js

```
const express = require('express');
const bodyParser = require('body-parser');
const mongoose = require('mongoose');

const app = express();
const router = express.Router();

// Conecta ao banco
mongoose.connect("mongodb+srv://betopinheiro1005:angstron1005@node-store-
cluster.l4jj0.mongodb.net/node-store-db?retryWrites=true&w=majority");

// Carrega os models
const Product = require('./models/product');
const Customer = require('./models/customer');
const Order = require('./models/order');

// Carrega as rotas
const indexRoute = require('./routes/index-route');
const productRoute = require('./routes/product-route');
const customerRoute = require('./routes/customer-route');
const orderRoute = require('./routes/order-route');

app.use(bodyParser.json({
   limit: '5mb'
}));

app.use(bodyParser.urlencoded({
   extended: false
}));

// Habilita o CORS
app.use(function (req, res, next) {
   res.header('Access-Control-Allow-Origin', '*');
   res.header('Access-Control-Allow-Headers', 'Origin, X-Requested-With, Content-Type, Accept, x-access-
token');
   res.header('Access-Control-Allow-Methods', 'GET, POST, PUT, DELETE, OPTIONS');
   next();
});

app.use('/', indexRoute);
app.use('/products', productRoute);
app.use('/customers', customerRoute);
app.use('/orders', orderRoute);

module.exports = app;
```