


Passos após se cadastrar em <https://www.mongodb.com/cloud/atlas/register> (indicações em **vermelho** nas imagens)




MONGODB ATLAS

## Deploy a cloud database

Experience the best of MongoDB on AWS, Azure, and Google Cloud. Choose a deployment option to get started.

NEW

 **Serverless**

For application development and testing, or workloads with variable traffic. Minimal configuration required.

✓

 Pay only for the operations you run

✓

 Resources scale seamlessly to meet your workload


✓

 Always-on security and backups

Create

Starting at  
**\$0.10/1M reads**

ADVANCED

 **Dedicated**

For production applications with sophisticated workload requirements. Advanced configuration controls.

✓

 Network isolation and fine-grained access controls

✓

 On-demand performance advice


✓

 Multi-region and multi-cloud options available

Create

Starting at  
**\$0.08/hr\***  
\*estimated cost \$56.94/month

FREE

 **Shared**

For learning and exploring MongoDB in a cloud environment. Basic configuration options.

✓

 No credit card required to start

✓

 Explore with sample datasets

✓

 Upgrade to dedicated clusters for full functionality

Create

Starting at  
**FREE**

[I'll do this later](#)

[View all features](#)

[Advanced Configuration Options](#)

[CLUSTERS](#) > CREATE A SHARED 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](#).

Serverless

Dedicated

FREE

Shared

For learning and exploring MongoDB in a sandbox environment. Basic configuration controls.

No credit card required to start. Upgrade to dedicated clusters for full functionality. Explore with sample datasets. Limit of one free cluster per project.

Cloud Provider & Region

AWS, Sao Paulo (sa-east-1)

Cluster Tier

M0 Sandbox (Shared RAM, 512 MB Storage)  
Encrypted

Additional Settings

MongoDB 5.0, No Backup

Cluster Name

Cluster0

FREE

Free forever! Your M0 cluster is ideal for experimenting in a limited sandbox. You can upgrade to a production cluster anytime.

[Back](#)

Create Cluster

- Além de criar um usuário e senha, adicionar o IP atual para permitir sua conexão ao banco de dados.

← → ↺

🔒 🔑 🔗 🔗 https://cloud.mongodb.com/v2/639a85c087ef38757bf78bb7#/setup/access?includeToast=true

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⋮

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Username and Password

Certificate

Create a database user using a username and password. Users will be given the *read and write to any database privilege* by default. You can update these permissions and/or create additional users later. Ensure these credentials are different to your MongoDB Cloud username and password.

**Username**

**Password** 🔑

🔑 Autogenerate Secure Password

📋 Copy

Create User

The username "alura\_challenge\_back\_end\_4@mailinator.com" is invalid. Usernames can only contain ASCII letters, numbers, hyphens, and underscores, and should begin with a letter or number

✓ Where would you like to connect from?

Enable access for any network(s) that need to read and write data to your cluster.

My Local Environment

Use this to add network IP addresses to the IP Access List. This can be modified at any time.

Cloud Environment

Use this to configure network access between Atlas and your cloud or on-premise environment. Specifically, set up IP Access Lists, Network Peering, and Private Endpoints.

Add entries to your IP Access List

Only an IP address you add to your Access List will be able to connect to your project's clusters. You can manage existing IP entries via the [Network Access Page](#).

IP Address

Description

Add My Current IP Address

- anotar username e password do banco de dados (será utilizado posteriormente)
  - clicar no botão Finish and Close
- 
- anotar o nome do cluster (será utilizado posteriormente, ex: Cluster0)

Atlas

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Database Deployments

+ Create

Load sample datasets to Cluster0.

Atlas provides sample data you can load into your Atlas clusters. You can use this data to quickly get started exploring with data in MongoDB.

Load sample datasetDismiss

Cluster0

Connect

View Monitoring

Browse Collections

...

FREE

SHARED

Enhance Your Experience

For production throughput and richer metrics, upgrade to a dedicated cluster now!

UpgradeLearn More

R 0

W 0

Last 6 minutes

100.0/s

Connections 0

Last 6 minutes

100.0

In 0.0 B/s

Out 0.0 B/s

Last 6 minutes

100.0 B/s

Data Size 0.0 B

Last 6 minutes

512.0 MB

VERSION	REGION	CLUSTER TIER	TYPE	BACKUPS	LINKED APP SERVICES	ATLAS SEARCH
5.0.14	AWS / Sao Paulo (sa-east-1)	M0 Sandbox (General)	Replica Set - 3 nodes	Inactive	None Linked	Create Index

- clicar nas opções “Browse Collections” + “Add my own data”

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Database Deployments

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...

Enhance Your Experience

For production throughput and richer metrics, upgrade to a dedicated cluster now!

Upgrade

Learn More

R 0

W 0

Last 6 minutes

100.0/s

Connections

5.0

Last 6 minutes

6.0

In 36.4 B/s

Out 369.4 B/s

Last 6 minutes

434.6 B/s

Data Size

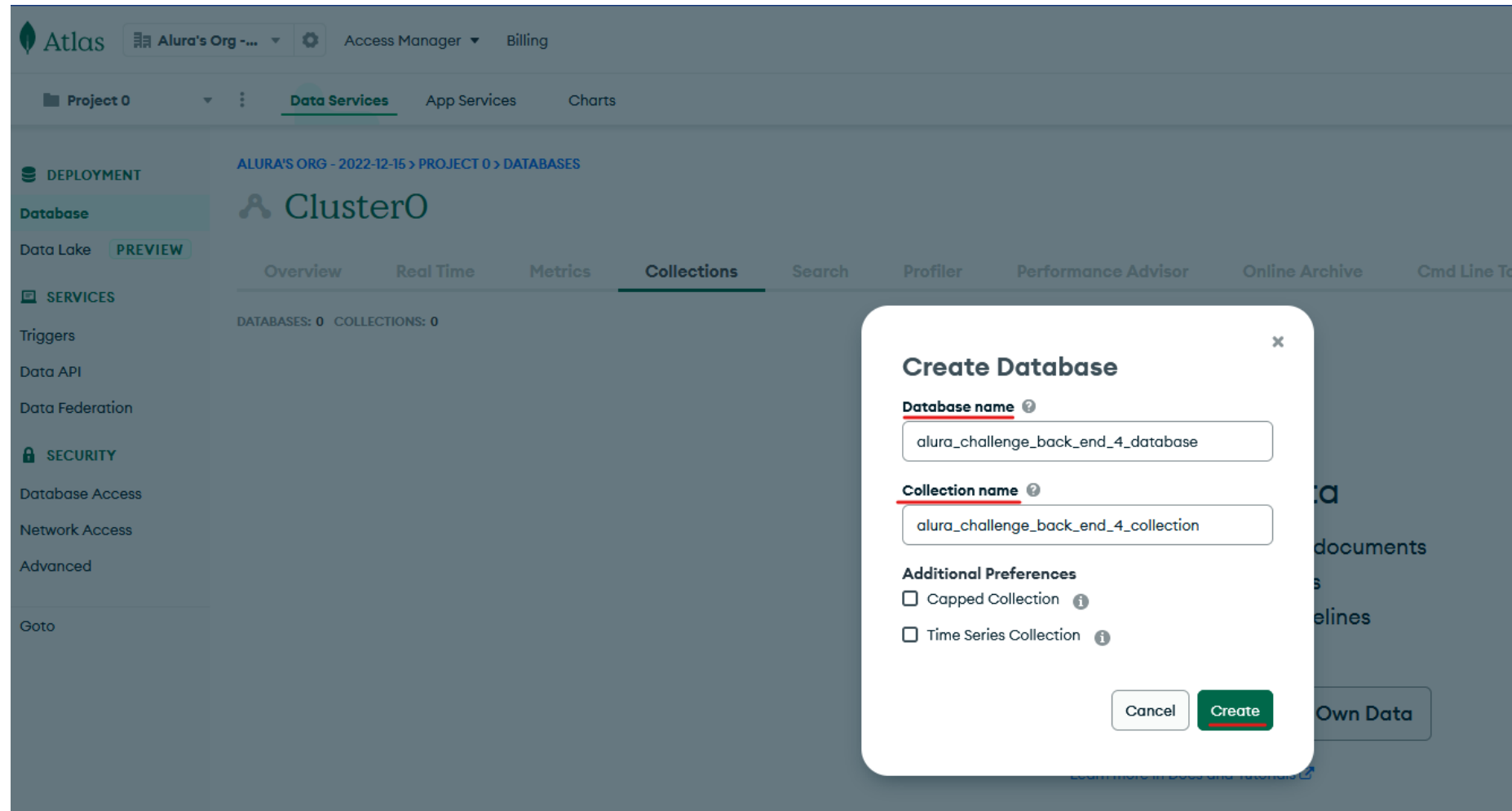
0.0 B

Last 7 days

512.0 MB

VERSION	REGION	CLUSTER TIER	TYPE	BACKUPS	LINKED APP SERVICES	ATLAS SEARCH
5.0.14	AWS / Sao Paulo (sa-east-1)	M0 Sandbox (General)	Replica Set - 3 nodes	Inactive	None Linked	Create Index

- informar um nome de banco de dados (database name) e um nome de coleção (collection name) + botão Create



- anotar o database name (será utilizado posteriormente, por ex: alura\_challenge\_back\_end\_4\_database)

- acessar as opções Database + Connect + “Connect your application”

The screenshot shows the MongoDB Atlas console interface. On the left, the navigation menu includes 'Database', 'Data Lake', 'SERVICES', 'Triggers', 'Data API', 'Data Federation', 'SECURITY', 'Database Access', 'Network Access', 'Advanced', 'New On Atlas', and 'Goto'. The main panel displays 'Database Deployments' for 'ALURA'S ORG - 2022-12-15 > PROJECT 0'. A deployment named 'alura-challenge-back-end-4-cluster' is listed with a 'Connect' button. A modal dialog titled 'Connect to alura-challenge-back-end-4-cluster' is open, showing a progress bar with 'Setup connection security' completed and 'Choose a connection method' in progress. The dialog offers four connection methods: 'Connect with the MongoDB Shell', 'Connect your application' (highlighted with a red underline), 'Connect using MongoDB Compass', and 'Connect using VS Code'. The 'Connect your application' option is described as 'Connect your application to your cluster using MongoDB's native drivers'. The dialog also includes 'Go Back' and 'Close' buttons.

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alura-challenge-back-end-4-cluster Connect View

Enhance Your Experience

For production throughput and richer metrics, upgrade to a dedicated cluster now!

Upgrade Learn More

VERSION REGION CLUSTER TIER

5.0.14 AWS / Sao Paulo (sa-east-1) M0 Sandbox (General)

Connect to alura-challenge-back-end-4-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 MongoDB 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

Connect using VS Code  
Connect to a MongoDB host in Visual Studio Code

Go Back Close

- na janela exibida, anotar o subdomínio (será utilizado posteriormente, ex: pcbycpe)

×

## Connect to alura-challenge-back-end-4-cluster

✓ Setup connection security

✓ Choose a connection method

Connect

1

Select your driver and version

DRIVER	VERSION
Node.js	4.1 or later

2

Add your connection string into your application code

☐ Include full driver code example

mongodb+srv://alura\_challenge\_back\_end\_4\_user:<password>@alura-challenge-back-en.pcbycpe.mongodb.net/?retryWrites=true&w=majority

Replace **<password>** with the password for the **alura\_challenge\_back\_end\_4\_user** user. Ensure any option params are [URL encoded](#).

Having trouble connecting? [View our troubleshooting documentation](#)

Go Back

Close

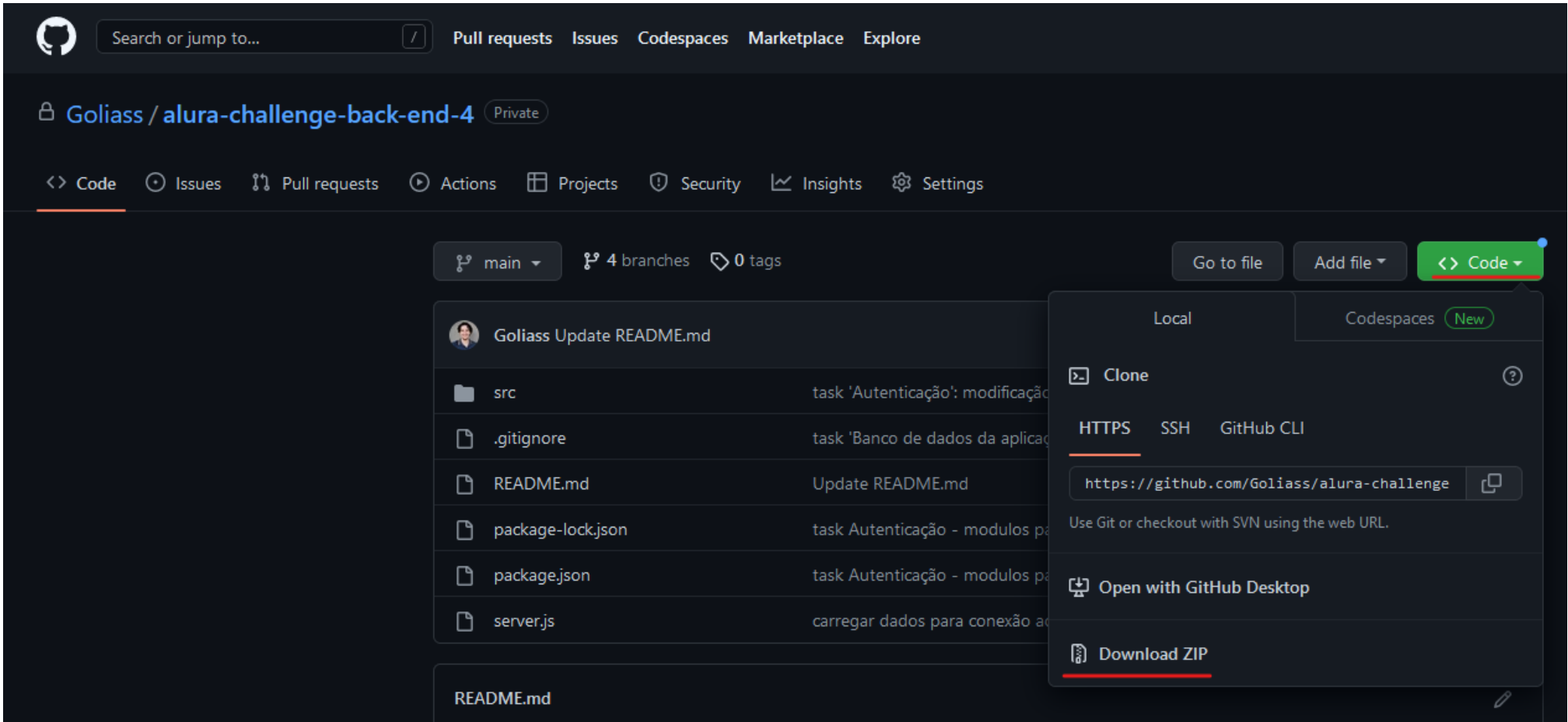
nodejs / npm

- nodejs e npm  
[instalar](#) a versão 6.14.11 do **npm** ou outra compatível  
[instalar](#) a versão v14.16.0 do **nodejs** ou outra compatível



projeto

- baixar o projeto (repositório) e extraí-lo:



- abrir o terminal (cmd / bash), acessar a pasta raiz do repositório/projeto (ex: alura-challenge-back-end-4) e executar (comando a seguir + enter) **npm install**
- criar arquivo .env na raiz do [diretório do] projeto com as seguintes variáveis de ambiente, fazendo algumas substituições conforme indicado:

```
# database
DBUSER="alura_challenge_back_end_4_user" # substituir pelo NOME/USERNAME do usuário do banco de dados (anotado anteriormente)
DBPASS="password" # substituir pela SENHA/PASSWORD do usuário do banco de dados (anotado anteriormente)
DBCLUSTER="Cluster0" # substituir pelo NOME do cluster (anotado anteriormente)
DBNAME="alura_challenge_back_end_4_database" # substituir pelo NOME do banco de dados (anotado anteriormente)
SUBDOMAIN="pcbycpe" # substituir pelo subdomínio (anotado anteriormente)

# authentication
saltRounds=12
jwtKey="strlngAleatori@" # substituir por uma string aleatória
jwtExpirationTimeSpan="15m" # exs 1s 15m
```

- pelo terminal (cmd / bash), na pasta raiz do repositório/projeto (ex: alura-challenge-back-end-4), executar **npm run dev**
  - se execução com sucesso, será exibida informação parecida com a seguinte:

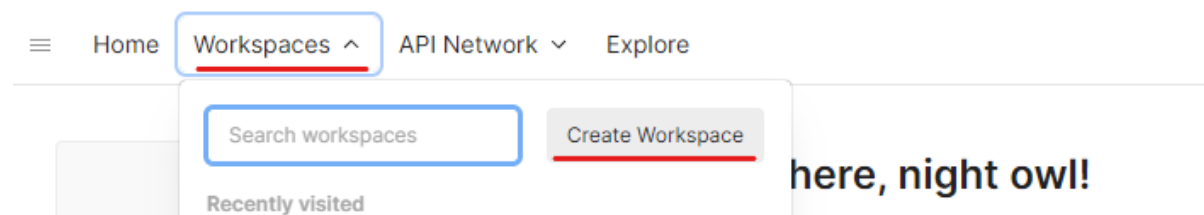
```
> nodemon server.js

[nodemon] 2.0.19
[nodemon] to restart at any time, enter `rs`
[nodemon] watching path(s): *.*
[nodemon] watching extensions: js,mjs,json
[nodemon] starting `node server.js`
Servidor escutando em http://localhost:3001
Database connection succeed
```

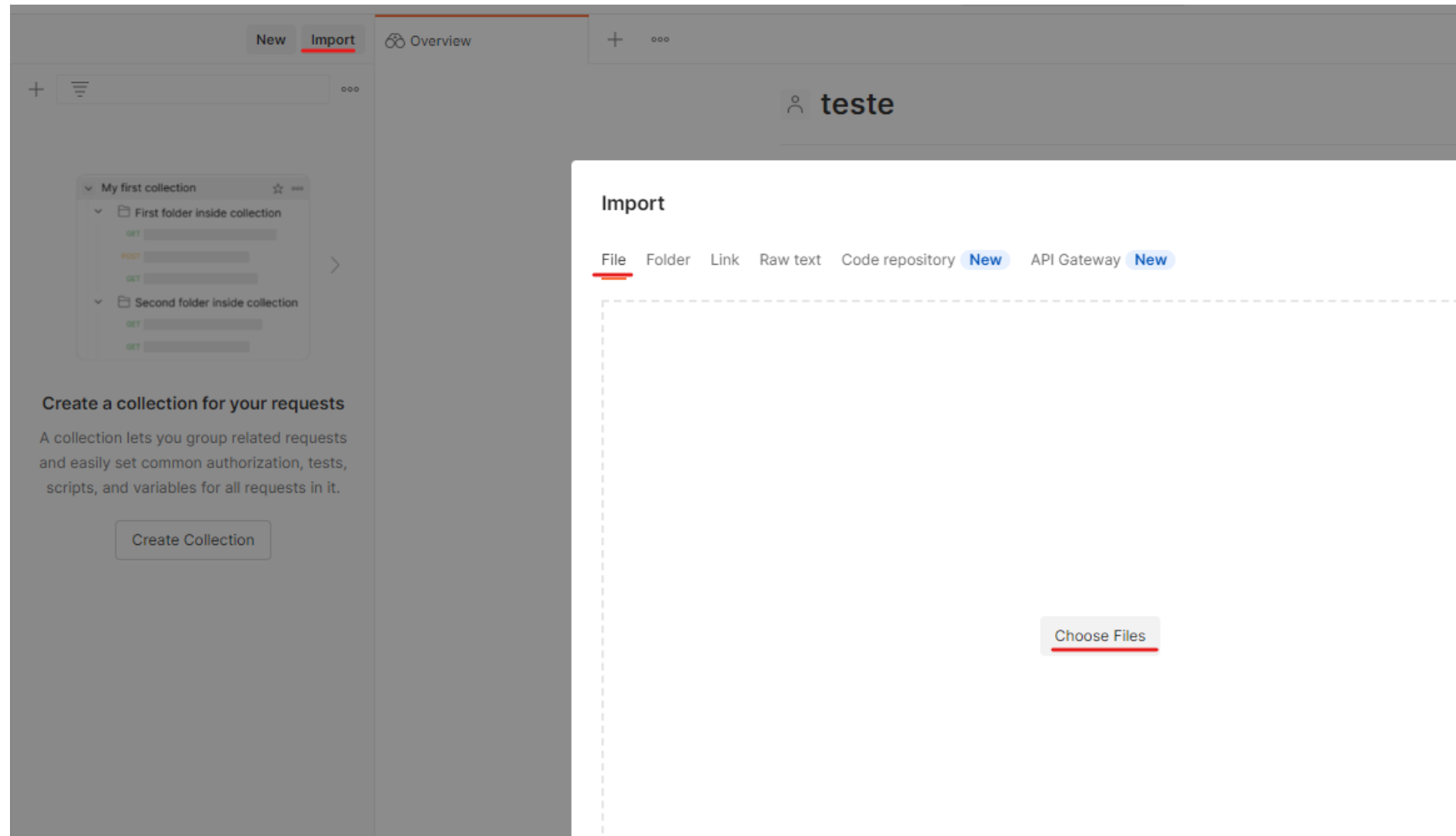
- Se erro, atualizar o IP na interface (pode ter expirado), para permitir/considerar o IP atual do computador (ver mais acima o tópico “*Além de criar um usuário e senha, adicionar o IP atual para permitir sua conexão ao banco de dados*”) e seguir o passo anterior novamente.

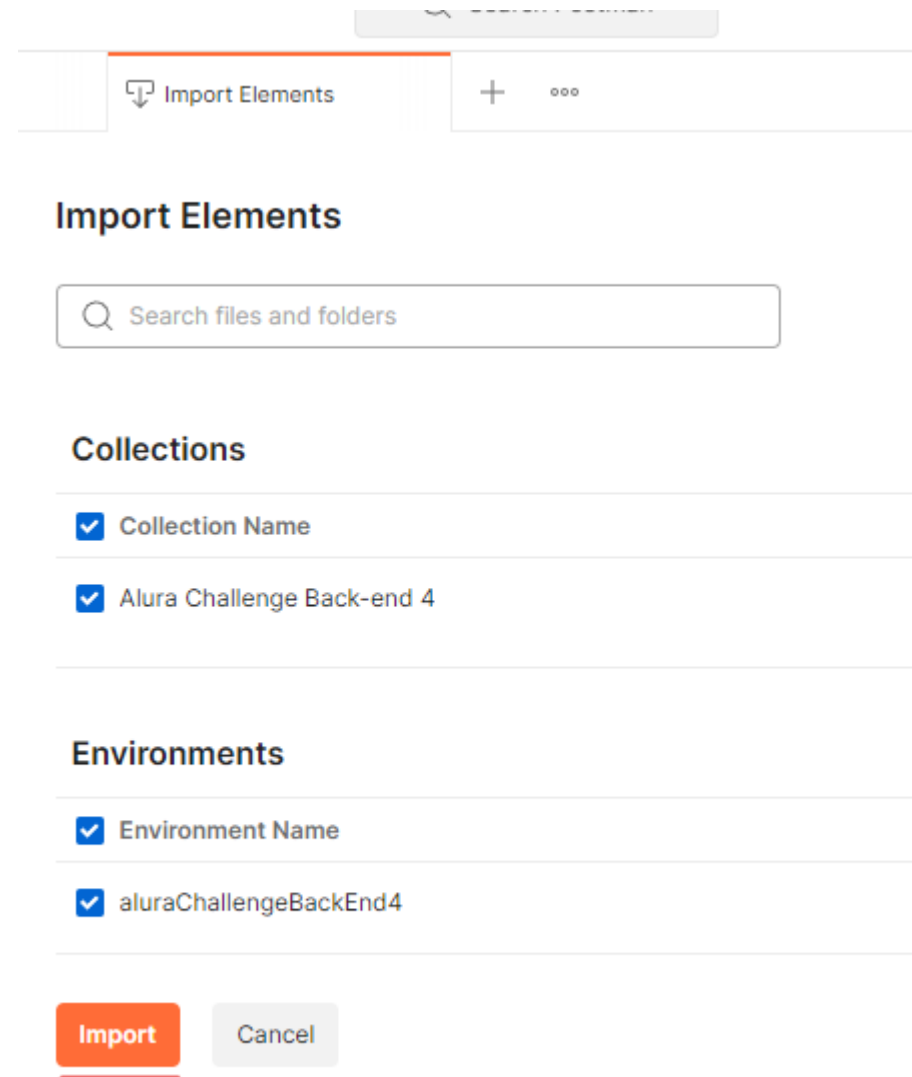
Postman (requisições)

- instalar/abrir o [Postman](#)
- se não existir nenhum workspace, criar uma

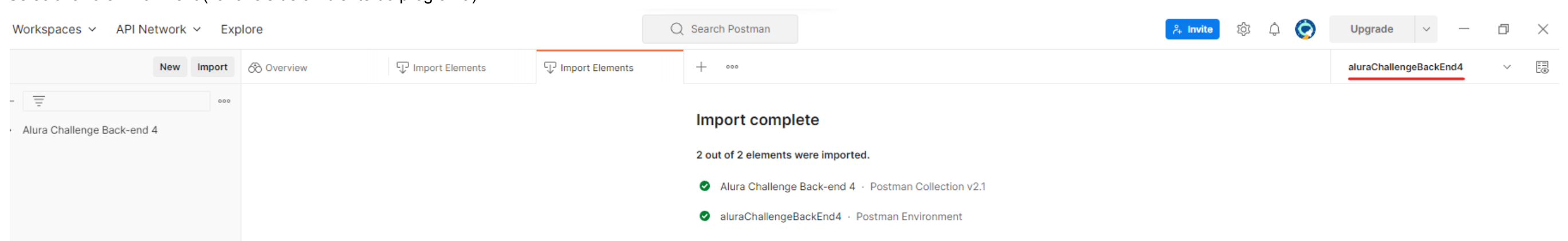


- importar os arquivos “Alura Challenge Back-end 4.postman\_collection.json” e “aluraChallengeBackEnd4.postman\_environment.json” (pasta postman do projeto)





- Selecionar o environment (variáveis de ambiente do programa)



- Editar o environment, informando uma senha no respectivo campo + botão Salvar

The screenshot shows the environment configuration for 'aluraChallengeBackEnd4'. On the left, a sidebar lists the environment name. The main area displays a table of variables:

VARIABLE	TYPE	INITIAL VALUE
<input checked="" type="checkbox"/> jsonWebToken	default	
<input checked="" type="checkbox"/> userPassword	default	
Add a new variable		

On the right, a detailed view of the 'aluraChallengeBackEnd4' environment is shown, including an 'Edit' button and a table of variables:

VARIABLE	INITIAL VALUE	CURRENT VALUE
jsonWebToken		
userPassword		<u>informe uma senha</u>

At the bottom, there is a 'Globals' section with an 'Add' button.

- Executar a rota de cadastro de usuário (se execução com sucesso, o status/resposta será “201 Created”)

The screenshot shows the REST client interface for the 'Alura Challenge Back-end 4 / users / Add user' endpoint. The request is a POST to 'http://localhost:3001/users' with a JSON body:

```

1 {
2   "name": "nome",
3   "email": "email@domain.com",
4   "password": "{{userPassword}}"
5 }

```

The response is a 201 Created status with a 257 ms response time and 426 B of data. The response body is shown in JSON format:

```

1 {
2   "name": "nome",
3   "email": "email@domain.com",
4   "passwordHash": "$2b$12$kITxY865mx82JNRZHeyqp0RHpZht/N8x1A0b5/7/RPHf9edyh7i7u",
5   "loginAuthorized": false,
6   "_id": "63aa4e8785304ae2a9498602",
7   "__v": 0
8 }

```

- Após a criação do usuário com sucesso, na página (site) do MongoDB, acessar as opções Database + “Browse Collections”:

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Enhance Your Experience

For production throughput and richer metrics, upgrade to a dedicated cluster now!

Upgrade

Learn More

R 0.003

W 0.007

Last 3 hours

0.08/s

Connections 8.0

Last 3 hours

13.0

VERSION	REGION	CLUSTER TIER	TYPE	BACKUPS	LINKED AP
5.0.14	AWS / Sao Paulo (sa-east-1)	M0 Sandbox (General)	Replica Set - 3 nodes	Inactive	None Lir

- Clicar na coleção users + botão editar + alterar o valor do campo loginAuthorized para “true” + botão UPDATE

The screenshot shows the MongoDB Compass interface. The left sidebar displays the database structure with the 'users' collection selected. The main panel shows the 'alura\_challenge\_back\_end\_4\_database.users' collection. A filter is applied: `{ field: 'value' }`. The query results show one document with the following fields: `_id`, `name`, `email`, `passwordHash`, `loginAuthorized` (highlighted in red and set to `true`), and `__v`.

- sem essa configuração não será possível executar com sucesso as demais rotas/requisições do Postman.
- De volta ao programa Postman, executar a rota “Login with VALID pass” (se execução com sucesso, o status/resposta será “204 No Content”)

The screenshot shows the Postman interface. The left sidebar shows the collection 'Alura Challenge Back-end 4' with the 'login' folder expanded. The 'POST Login with VALID pass' request is selected. The request body is a JSON object: `{ "email": "email@domain.com", "password": "{{userPassword}}" }`. The response is '204 No Content' with a status of 204 and a message of 'No Content'.

- Executar as demais requisições (essas não tem ordem / obrigatoriedade de execução):

The screenshot displays the Postman interface for the 'Alura Challenge Back-end 4' API collection. The left sidebar shows a tree view of the collection's folders and endpoints. The 'expenses' folder is currently selected and highlighted. The right pane shows the 'Authorization' tab for this folder, which is set to 'Inherit auth from parent'. Below this, a message states: 'This folder is using No Auth from collection [Alura Challenge Back-end 4](#).'

**Alura Challenge Back-end 4 / expenses**

**Authorization** Pre-request Script Tests

This authorization method will be used for every request in this folder. You can override this by specifying one in the request.

**Type** Inherit auth from parent

The authorization header will be automatically generated when you send the request. Learn more about [authorization](#)

This folder is using No Auth from collection [Alura Challenge Back-end 4](#).

**Endpoints listed in the sidebar:**

- login**
  - POST Login with VALID pass
  - POST Login with INVALID pass
- expenses**
  - GET List expenses
  - GET Find expense by Id
  - GET Find expenses by description
  - GET Find expenses by year and ...
  - POST Add expense
  - PUT Update expense
  - DEL Delete expense by Id
- expensesCategories**
  - GET List expenses categories
  - POST Add expense category
- receipts**
  - GET List receipts
  - GET Find receipt by Id
  - GET Find receipts by description
  - GET Find receipts by year and m...
  - POST Add receipt
  - PUT Update receipt
  - DEL Delete receipt by Id
- users**
  - GET List users
  - GET Find a user by Email
  - GET Find a user by Id
  - POST Add user
  - DEL Delete user by id
- extracts**
  - GET Extract by year and month

- **Observações:**
  - Após 15 minutos o usuário deixa de ter permissão de execução das requisições (o status/resposta da requisição será 401 Unauthorized). Para ser possível executá-las novamente, executar a rota "Login with VALID pass" (ver acima)



GET http://localhost:3001/expenses Send

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

Query Params

	KEY	VALUE	DESCRIPTION	...	Bulk Edit
	Key	Value	Description		

Body 401 Unauthorized 16 ms 268 B Save Response

Pretty Raw Preview Visualize JSON

```
1  
2 "error": "jwt expired"  
3
```

- Caso ocorra o erro “500 Internal Server Error”, com uma mensagem parecida com a da imagem a seguir,

Params Authorization Headers (10) Body Pre-request Script Tests Settings Cookies Beautify

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

```
1  
2 ... "email": "email@domain.com",  
3 ... "password": "{{userPassword}}"  
4
```

Body 500 Internal Server Error 30.07 s 555 B Save Response

Pretty Raw Preview Visualize JSON

```
1  
2 "error": "Could not connect to any servers in your MongoDB Atlas  
cluster. One common reason is that you're trying to access the  
database from an IP that isn't whitelisted. Make sure your current  
IP address is on your Atlas cluster's IP whitelist: https://docs.  
atlas.mongodb.com/security-whitelist/"  
3
```

- na página do MongoDB, adicionar o IP atual para permitir sua conexão ao banco de dados (“Network Access” + “Add IP Address”)

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## Network Access

IP Access List Peering Private Endpoint

### Add IP Access List Entry

Atlas only allows client connections to a cluster from entries in the project's IP Access List. Each entry should either be a single IP address or a CIDR-notated range of addresses. [Learn more.](#)

**ADD CURRENT IP ADDRESS** ALLOW ACCESS FROM ANYWHERE

**Access List Entry:**

**Comment:** Optional comment describing this entry

☐ This entry is temporary and will be deleted in 6 hours

Cancel **Confirm**

## Add an IP address

Configure which IP addresses can access your cluster.

**Add IP Address**

[Learn more](#)

- pelo terminal (cmd / bash), na pasta raiz do repositório/projeto (ex: alura-challenge-back-end-4):
  - desativar o servidor (teclas Ctrl + C )
  - ativar o servidor novamente (**npm run dev**)