Back-End Development

Exploring

#5 Loopback Module

Purwadhika

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Loopback

LoopBack is a highly-extensible, open-source Node.js framework that enables you to create dynamic end-to-end REST APIs with little or no coding, access databases and also Incorporate model relationships and access controls for complex APIs (*http://loopback.io*).

- **Installation**

```
$ npm install -g loopback-cli
```

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Create App ★

- On terminal, type:

  $ lb

➢ *What's the name of your application?*
lin_loopback
➢ *Enter name of the directory to contain the project:*
lin_loopback
➢ *Which version of LoopBack would you like to use?*
3.x (current)
➢ *What kind of application do you have in mind?*
api-server

- Go to project directory:

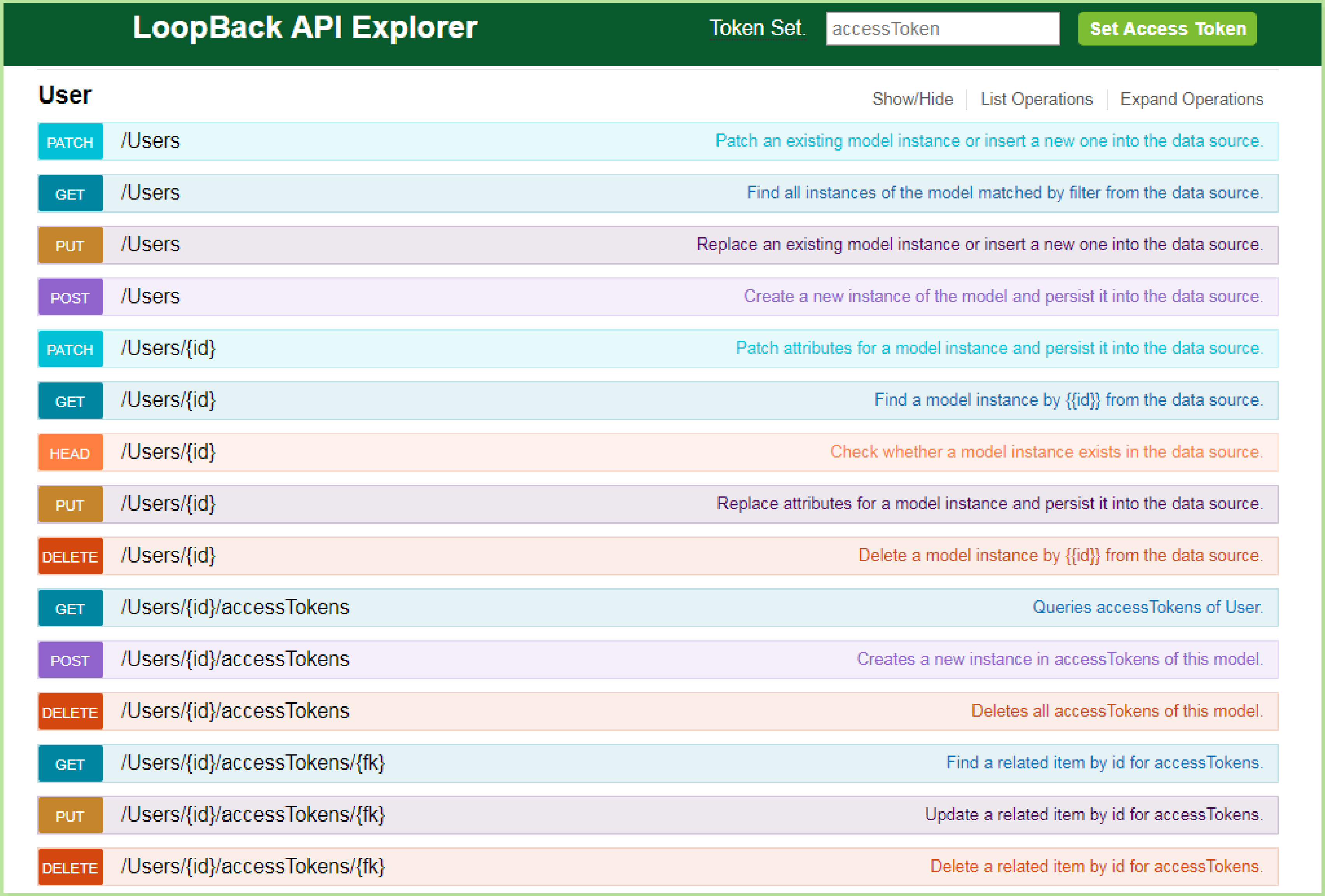
  $ cd lin_loopback

- Run the application:

  $ node .

➢ *Web server listening at: http://localhost:3000*
➢ *Browse your REST API at http://localhost:3000/explorer*

http://localhost:3000/explorer


LoopBack API Explorer

Token Set. accessToken Set Access Token

User

Show/Hide | List Operations | Expand Operations

PATCH	/Users	Patch an existing model instance or insert a new one into the data source.
GET	/Users	Find all instances of the model matched by filter from the data source.
PUT	/Users	Replace an existing model instance or insert a new one into the data source.
POST	/Users	Create a new instance of the model and persist it into the data source.
PATCH	/Users/{id}	Patch attributes for a model instance and persist it into the data source.
GET	/Users/{id}	Find a model instance by {{id}} from the data source.
HEAD	/Users/{id}	Check whether a model instance exists in the data source.
PUT	/Users/{id}	Replace attributes for a model instance and persist it into the data source.
DELETE	/Users/{id}	Delete a model instance by {{id}} from the data source.
GET	/Users/{id}/accessTokens	Queries accessTokens of User.
POST	/Users/{id}/accessTokens	Creates a new instance in accessTokens of this model.
DELETE	/Users/{id}/accessTokens	Deletes all accessTokens of this model.
GET	/Users/{id}/accessTokens/{fk}	Find a related item by id for accessTokens.
PUT	/Users/{id}/accessTokens/{fk}	Update a related item by id for accessTokens.
DELETE	/Users/{id}/accessTokens/{fk}	Delete a related item by id for accessTokens.

Set App ★

- By default, we must set token for accessing loopback API. To use its API without any authentication, do these steps:

  Go to ***projectDir****/server/boot/authentication.js*
  Comment this line: *server.enableAuth();*

- Try to ***POST*** at ***POST/Users!***

```
{
    "email" : "lintang@purwadhika.com",
    "password" : "123456"
}
```

- Try to post custom data, then ***GET*** at ***GET/Users!***

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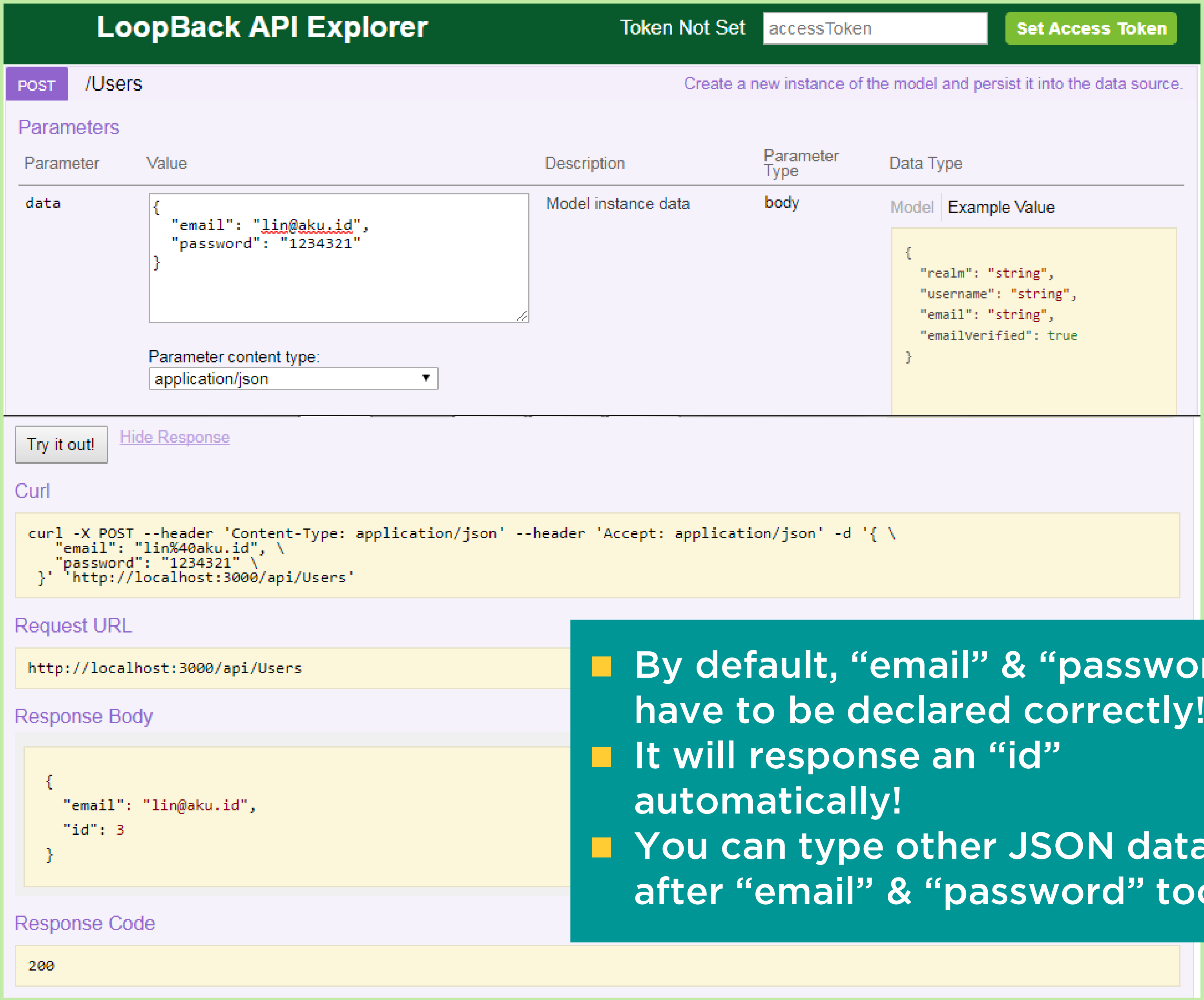
POST



LoopBack API Explorer

Token Not Set accessToken Set Access Token

POST /Users Create a new instance of the model and persist it into the data source.

Parameters

Parameter	Value	Description	Parameter Type	Data Type
data	{ "email": "lin@aku.id", "password": "1234321" }	Model instance data	body	Model Example Value

```
{
  "email": "lin@aku.id",
  "password": "1234321"
}
```

Parameter content type: application/json

```
{
  "realm": "string",
  "username": "string",
  "email": "string",
  "emailVerified": true
}
```

Try it out! Hide Response

Curl

```
curl -X POST --header 'Content-Type: application/json' --header 'Accept: application/json' -d '{ \
   "email": "lin%40aku.id", \
   "password": "1234321" \
 }' 'http://localhost:3000/api/Users'
```

Request URL

```
http://localhost:3000/api/Users
```

Response Body

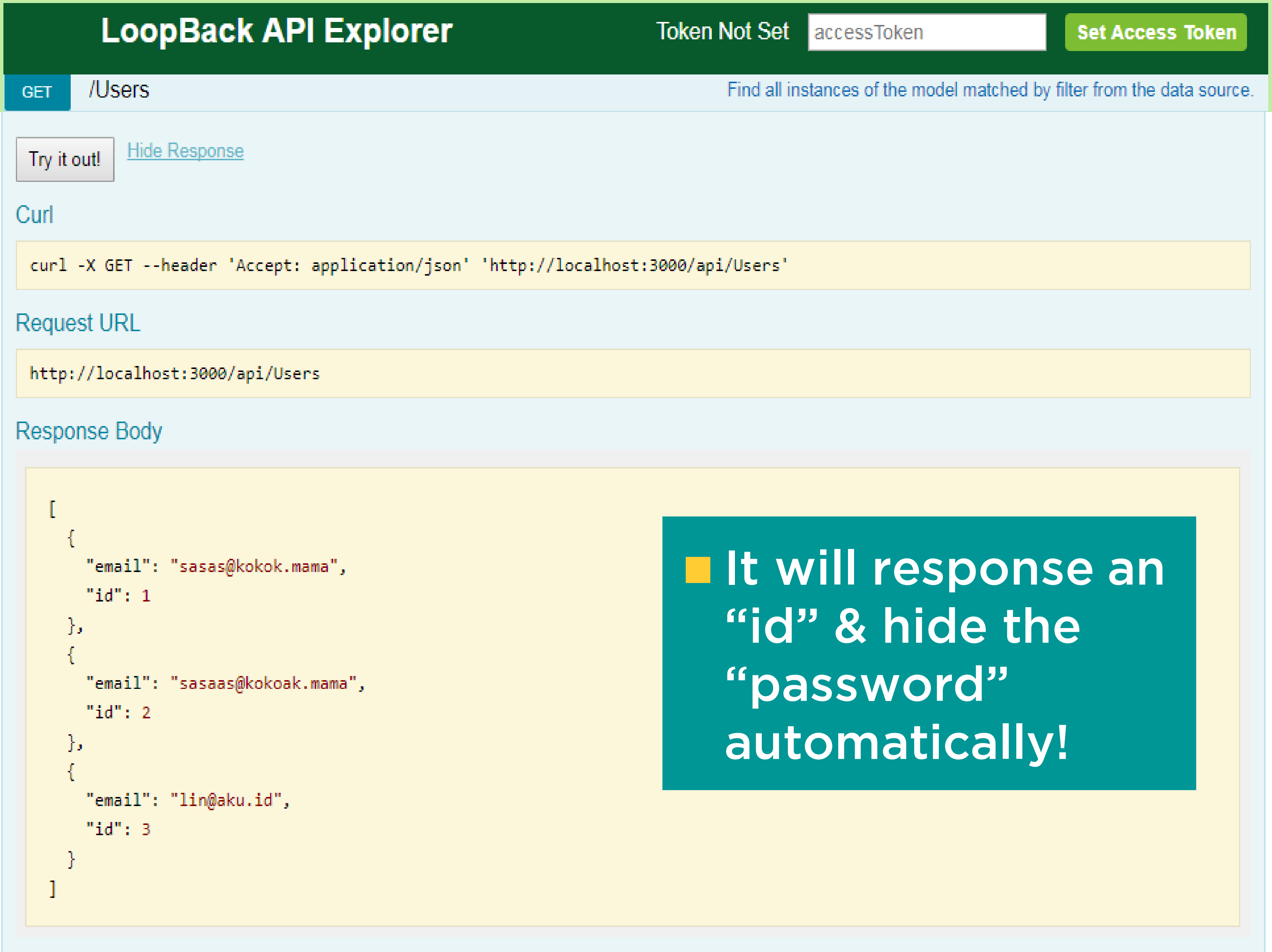
```
{
  "email": "lin@aku.id",
  "id": 3
}
```

Response Code

```
200
```

- By default, “email” & “password” have to be declared correctly!
- It will response an “id” automatically!
- You can type other JSON data after “email” & “password” too.

GET



Curl

```
curl -X GET --header 'Accept: application/json' 'http://localhost:3000/api/Users'
```

Request URL

```
http://localhost:3000/api/Users
```

Response Body

```
[
  {
    "email": "sasas@kokok.mama",
    "id": 1
  },
  {
    "email": "sasaas@kokoak.mama",
    "id": 2
  },
  {
    "email": "lin@aku.id",
    "id": 3
  }
]
```

- It will response an “id” & hide the “password” automatically!

POSTMAN

- A powerful GUI platform to make API development faster & easier, from building API requests through testing, documentation & sharing.
- Postman has features for every API developer: request building, tests & pre-request scripts, variables, environments & request descriptions, designed to work seamlessly together.
- Download from *getpostman.com*

Try to POST & GET with POSTMAN!

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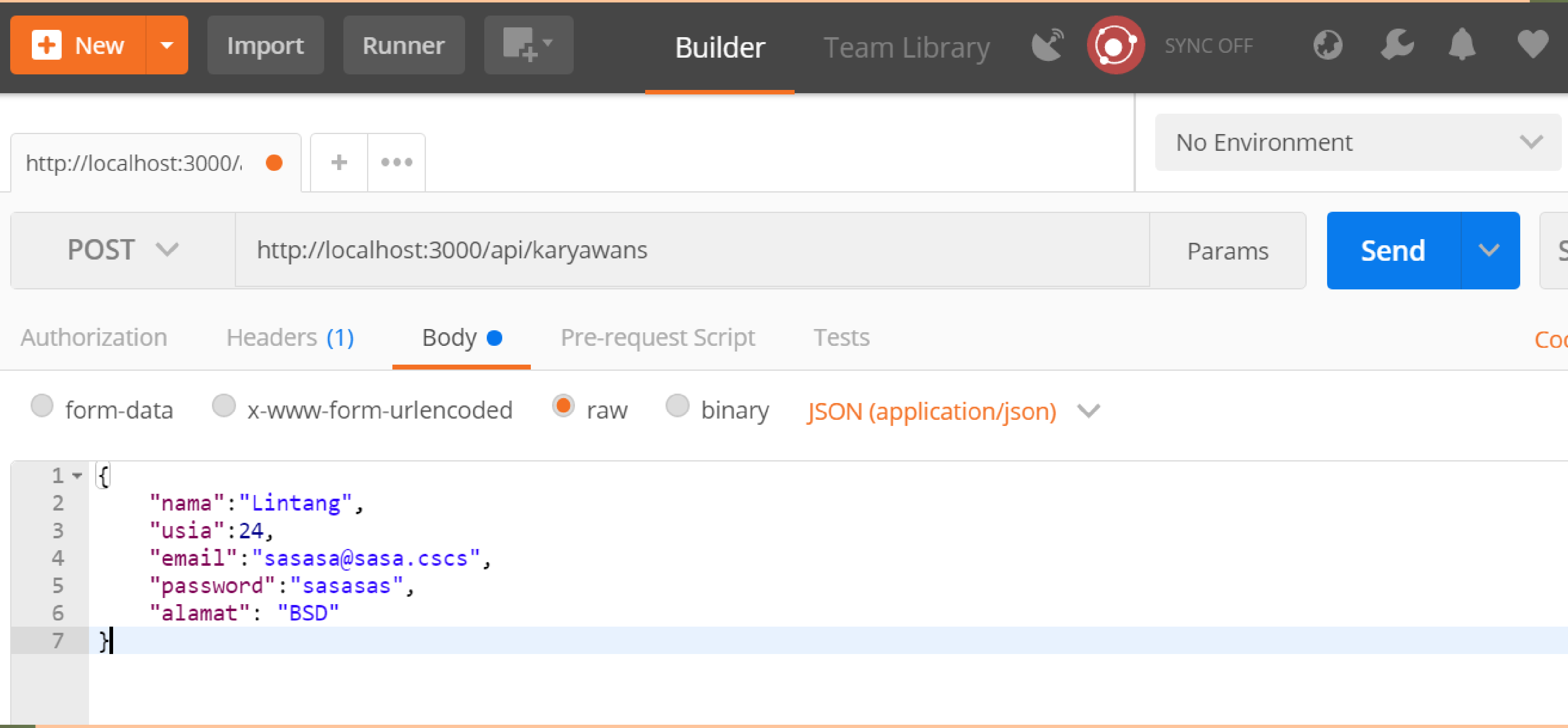
POST with POSTMAN



POST http://localhost:3000/api/karyawans

Body: form-data, x-www-form-urlencoded, [✓ raw], binary — JSON (application/json)

```
{
    "nama":"Lintang",
    "usia":24,
    "email":"sasasa@sasa.cscs",
    "password":"sasasas",
    "alamat": "BSD"
}
```

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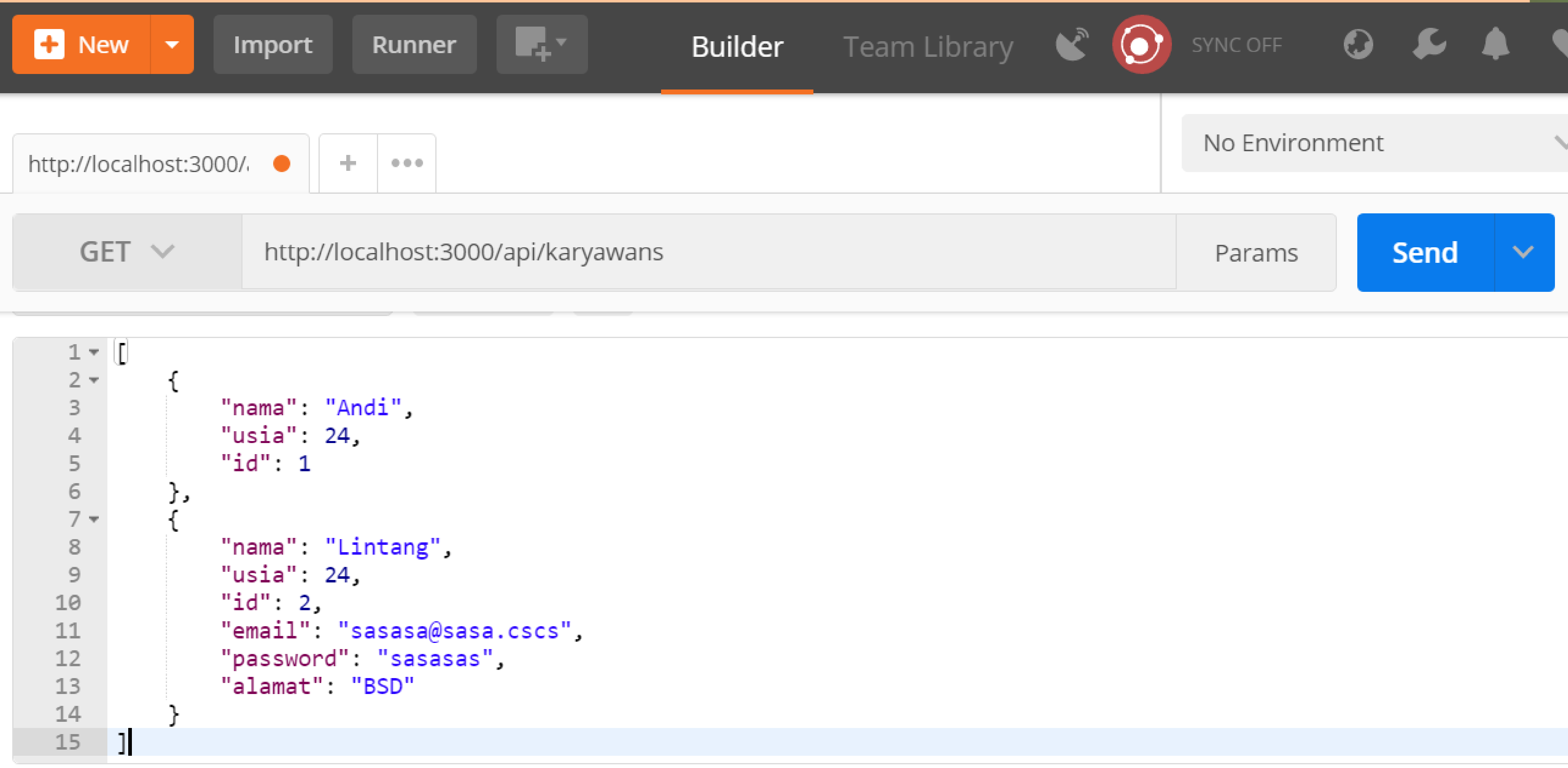
GET with POSTMAN



GET http://localhost:3000/api/karyawans

```
[
    {
        "nama": "Andi",
        "usia": 24,
        "id": 1
    },
    {
        "nama": "Lintang",
        "usia": 24,
        "id": 2,
        "email": "sasasa@sasa.cscs",
        "password": "sasasas",
        "alamat": "BSD"
    }
]
```

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Create Model ★

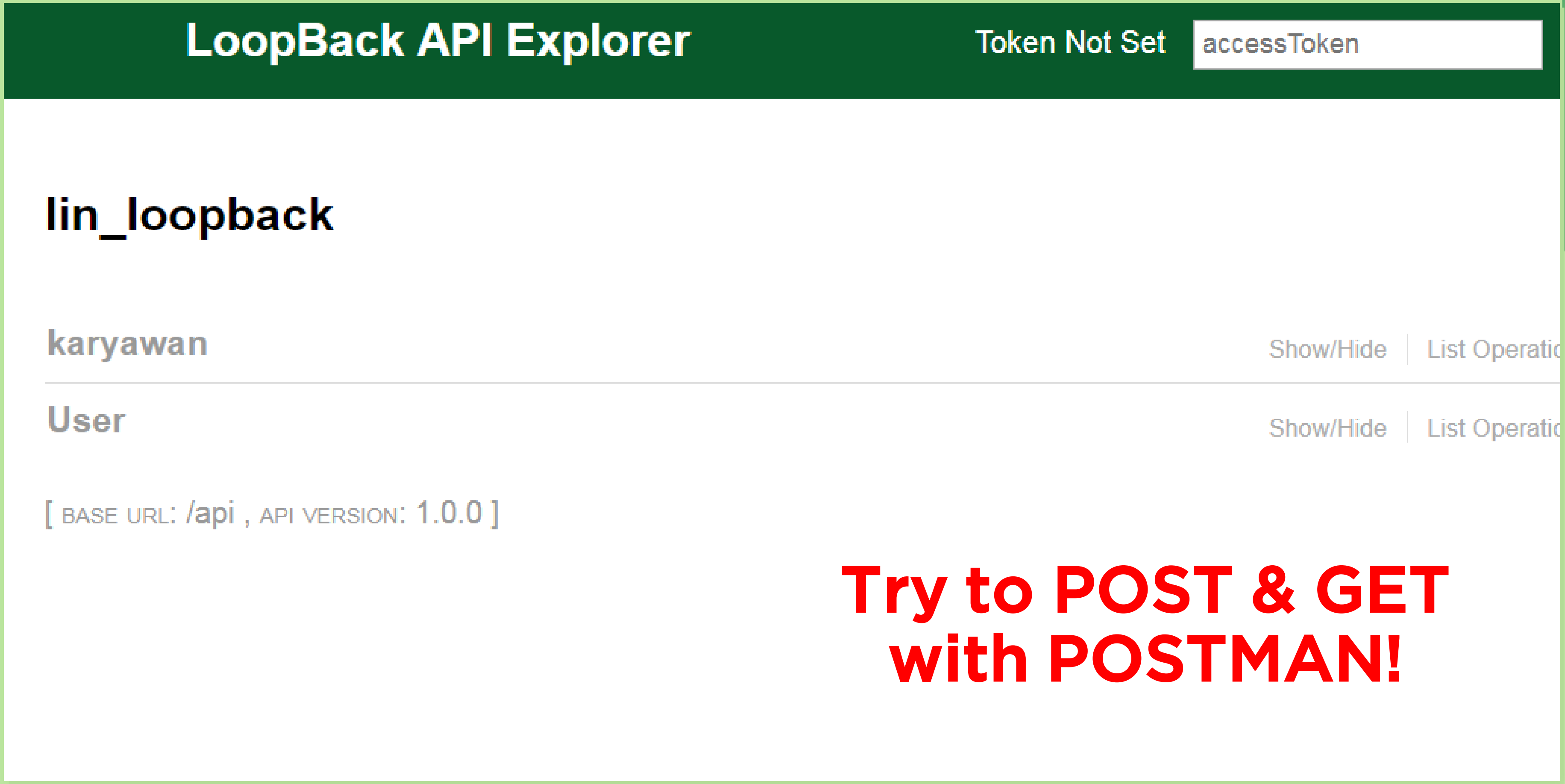
- On directory project, type:
  $ lb model

```
➢ [?] Enter the model name: karyawan
➢ [?] Select the data-source to attach person to: db
➢ [?] Select model`s base class (PersistedModel)
➢ [?] Expose person via the REST API? Yes
➢ [?] Custom plural form (used to build REST URL):
➢ [?] Common model or server only? Common
Let's add some person properties now.

Enter an empty property name when done.
➢ [?] Property name: nama
➢ [?] Property type: (Use arrow keys) string
➢ [?] Required? (y/N) y
```

- **After done, there is model folder including js & json files. Try to run its app: $ node .**

Create Model



LoopBack API Explorer

Token Not Set

accessToken

lin_loopback

karyawan

Show/Hide | List Operatio

User

Show/Hide | List Operatio

[BASE URL: /api , API VERSION: 1.0.0]

Try to POST & GET with POSTMAN!

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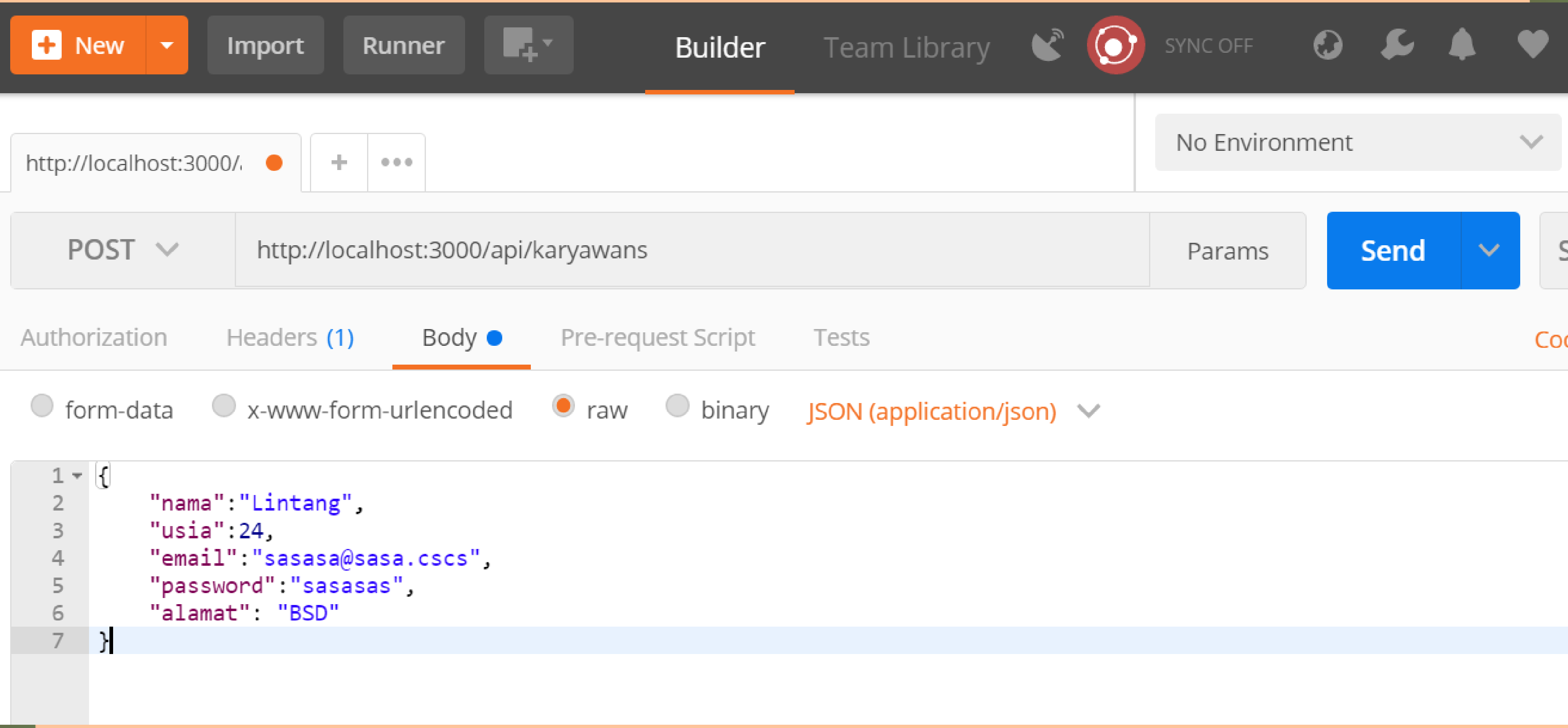
POST with POSTMAN



http://localhost:3000/

POST http://localhost:3000/api/karyawans

Body: [✓ raw] JSON (application/json)

```
{
    "nama":"Lintang",
    "usia":24,
    "email":"sasasa@sasa.cscs",
    "password":"sasasas",
    "alamat": "BSD"
}
```

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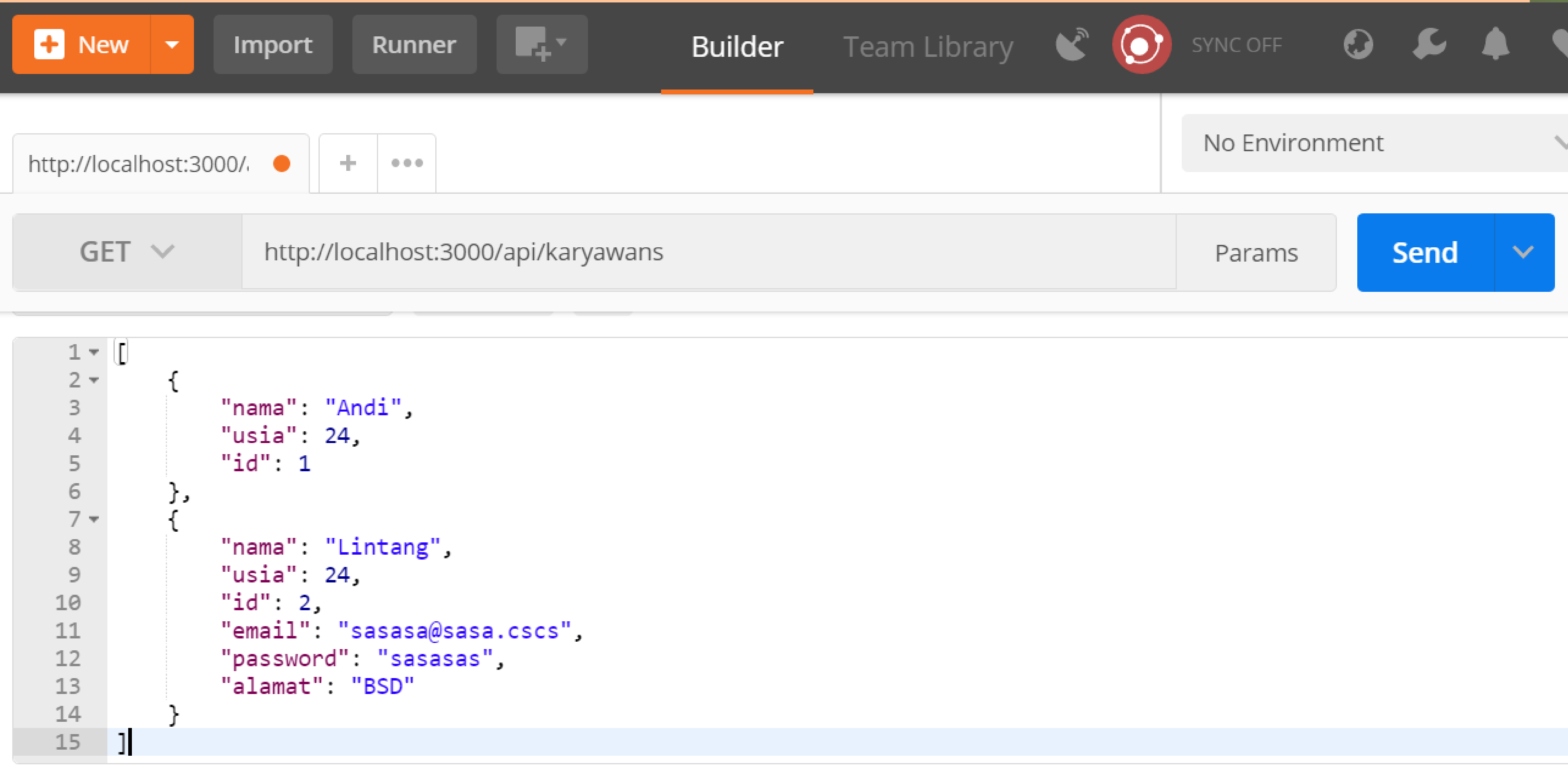
GET with POSTMAN



GET http://localhost:3000/api/karyawans

```
[
    {
        "nama": "Andi",
        "usia": 24,
        "id": 1
    },
    {
        "nama": "Lintang",
        "usia": 24,
        "id": 2,
        "email": "sasasa@sasa.cscs",
        "password": "sasasas",
        "alamat": "BSD"
    }
]
```

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