

keyvalue-db library

This library contains functions as below. We can use both synchronous and asynchronous way

setpath() - (optional) to set the path of the db file, default is ./db.json

readkey() - to read the key-value pair from the db file. Argument: key

createkey() - to create new key-value pair and adds to the db file. Argument: key, value, timeout(default: 0)

deletekey() - to delete the existing key-value pair from the db file. Argument: key

Created a CLI app for synchronous way and Web app for asynchronous way. Attached the screenshot below.

- git clone https://github.com/thephenomenal10/key-value_dataStore
- npm install
- npm run start-web - to start the web app
- npm run start-cli - to start the cli

```
Press ^C to abort current expression, ^D to exit the repl
> .editor
// Entering editor mode (^D to finish, ^C to cancel)
db
{
  async: {
    setpath: [Function: setpath],
    readkey: [Function: readkey],
    createkey: [Function: createkey],
    deletekey: [Function: deletekey]
  },
  setpath: [Function: setpath],
  readkey: [Function: readkey],
  createkey: [Function: createkey],
  deletekey: [Function: deletekey]
}
>
>
```

Using keyvalue-db library in node shell

Here we are adding apple with default timeout value (0). This value we can read at any time.

Next we are including number in the key which gives us the error.

Then we are a key: grape with 15 sec as timeout value. Reading grape within 15 secs.

Reading the key: grape after 15 secs gives us the error as below.

```
$ node
Welcome to Node.js v12.13.0.
Type ".help" for more information.
> let db = require("./keyvalue-db")
undefined
> db.createkey("apple",30)
'key-value pair created'
> db.readkey("apple")
'{"apple":30}'
>
> db.readkey("grape")
{ error: 'key does not exists' }
>
> db.createkey("grape12",30)
{
  error: 'key must contain only alphabets and must not exceed 32 characters'
}
>
> db.createkey("grape",30,15)
'key-value pair created'
> db.readkey("grape")
'{"grape":30}'
>
> db.readkey("grape")
{ error: 'time-to-live of key: grape has expired' }
> |
```

Here we creating new key-value pair with key lemon having timeout as 40 sec.

Again creating key: banana with timeout 0.

Next deleting banana is successful since timeout is 0.

While deleting lemon after 40 sec gives us the time-to-live expired error

Creating key which exceeds 32 characters gives us error.

```
$ node
Welcome to Node.js v12.13.0.
Type ".help" for more information.
> let db = require("./keyvalue-db")
undefined
> db.createkey("lemon",100,40)
'key-value pair created'
> db.readkey("lemon")
'{"lemon":100}'
>
> db.createkey("banana",50)
'key-value pair created'
> db.readkey("banana")
'{"banana":50}'
>
> db.deletekey("banana")
'key deleted'
> db.deletekey("lemon")
{ error: 'time-to-live of key: lemon has expired' }
>
> db.createkey("reallyloooooooooooooooooooooooooooooooooongkey",40)
{ error: 'key must contain only alphabets and must not exceed 32 characters' }
> |
```

Here we can use setpath() to set a new path for the json file. Default path ./db.json

If we need to set a different path we can do that using setpath() like below.

If we give filename other than json file it gives us error. Also if the file name contains invalid characters it gives us error.

```
$ node
Welcome to Node.js v12.13.0.
Type ".help" for more information.
> let db = require("./keyvalue-db")
undefined
> db.setpath("./diff-db.json")
'diff-db.json path set'
>
>
> db.setpath("./diff-db")
{ error: 'invalid file name: should be a json file' }
> db.setpath("./diff-db?>,[.json")
{ error: 'given path is invalid' }
>
>
> db.setpath("./diff.json")
'diff.json path set'
> |
```

Key=Value DB

```
? Please enter the file path ./db.json
success: ./db.json path set
? Please choose the option create
? Please enter the "key" apple
? Please enter the "value" 30
? Please enter the "timeout" in sec.
If not input given default value 0 is assigned 0
key-value pair created
? Please choose the option read
? Please enter the "key" apple
{"apple":30}
? Please choose the option (Use arrow keys)
> read
  create
  delete
  exit
```

Errors:

Key=Value DB

```
? Please enter the file path ./db.json
success: ./db.json path set
? Please choose the option read
? Please enter the "key" banana
error: key does not exists
? Please choose the option create
? Please enter the "key" orange34
? Please enter the "value" 12
? Please enter the "timeout" in sec.
If not input given default value 0 is assigned 0
error: key must contain only alphabets and must not exceed 32 characters
? Please choose the option delete
? Please enter the "key" banana
{"error":"key does not exists"}
? Please choose the option (Use arrow keys)
> read
  create
  delete
  exit
```

Error: time to live expired

Key=Value DB

```
? Please enter the file path ./db.json
success: ./db.json path set
? Please choose the option create
? Please enter the "key" orange
? Please enter the "value" 35
? Please enter the "timeout" in sec.
If not input given default value 0 is assigned 25
key-value pair created
? Please choose the option read
? Please enter the "key" orange
{"orange":35}
? Please choose the option read
? Please enter the "key" orange
error: time-to-live of key: orange has expired
? Please choose the option (Use arrow keys)
> read
  create
  delete
  exit
```

Web app using keyvalue-db library (asynchronous way)

```
sahyog@DESKTOP-IA5VVES MINGW64 /f/keyvalue-db (main)
$ npm run start-web

> keyvalue-db-app@1.0.0 start-web F:\keyvalue-db
> node ./app-web.js

Server is running!!: 3000
```

POST localhost:3000/create?key=apple&value=5&timeout=0

<input checked="" type="checkbox"/>	key	apple
<input checked="" type="checkbox"/>	value	5
<input checked="" type="checkbox"/>	timeout	0
	Key	Value

Body Cookies Headers (6) Test Results Status: 201 Created

Pretty Raw Preview Visualize **BETA** HTML

1 key-value pair created

GET localhost:3000/read?key=apple

Params **●** Authorization Headers (7) Body Pre-request Script

Query Params

	KEY	VALUE
<input checked="" type="checkbox"/>	key	apple
	Key	Value

Body Cookies Headers (6) Test Results Status: 200 OK

Pretty Raw Preview Visualize **BETA** JSON

```
1 {
2   "apple": 5
3 }
```

GET localhost:3000/delete?key=apple

Params **●** Authorization Headers (7) Body Pre-request Script

Query Params

	KEY	VALUE
<input checked="" type="checkbox"/>	key	apple
	Key	Value

Body Cookies Headers (6) Test Results Status: 200 OK

Pretty Raw Preview Visualize **BETA** HTML

1 key deleted

POST

localhost:3000/create?key=grape&value=50&timeout=15

<input checked="" type="checkbox"/>	key	grape
<input checked="" type="checkbox"/>	value	50
<input checked="" type="checkbox"/>	timeout	15
	Key	Value

BodyCookiesHeaders (6)Test ResultsStatus: 201 Created

PrettyRawPreviewVisualize BETAHTML

1key-value pair created

GET

localhost:3000/setpath?key=diff.json

ParamsAuthorizationHeaders (7)BodyPre-request Script

Query Params

	KEY	VALUE
<input checked="" type="checkbox"/>	key	diff.json
	Key	Value

BodyCookiesHeaders (6)Test ResultsStatus: 200 OK

PrettyRawPreviewVisualize BETAHTML

1diff.json path set

Errors:

GET

localhost:3000/read?key=grape

ParamsAuthorizationHeaders (7)BodyPre-request Script

Query Params

	KEY	VALUE
<input checked="" type="checkbox"/>	key	grape
	Key	Value

BodyCookiesHeaders (6)Test ResultsStatus: 400 Bad Request

PrettyRawPreviewVisualize BETAJSON

1{
2 "error": "time-to-live of key: grape has expired"
3 }

GET

localhost:3000/delete?key=grape

Params

Authorization

Headers (7)

Body

Pre-request Script

Query Params

	KEY	VALUE
<input checked="" type="checkbox"/>	key	grape
	Key	Value

Body

Cookies

Headers (6)

Test Results

Status: 400 Bad Request

Pretty

Raw

Preview

Visualize BETA

JSON

```
1 {
2   "error": "time-to-live of key: grape has expired"
3 }
```

POST

localhost:3000/create?key=grape12&value=50&timeout=15

Send

<input checked="" type="checkbox"/>	key	grape12	
<input checked="" type="checkbox"/>	value	50	
<input checked="" type="checkbox"/>	timeout	15	
	Key	Value	Description

Body

Cookies

Headers (6)

Test Results

Status: 400 Bad Request

Time: 16ms

Size: 298 B

Pretty

Raw

Preview

Visualize BETA

JSON

```
1 {
2   "error": "key must contain only alphabets and must not exceed 32 characters"
3 }
```

POST

localhost:3000/create?key=loooooooooooooooooongggggggggggggkey...

Send

Params

Authorization

Headers (8)

Body

Pre-request Script

Tests

Settings

Query Params

	KEY	VALUE	DESCRIPTION
<input checked="" type="checkbox"/>	key	loooooooooooooooooonggggggggggggg...	
<input checked="" type="checkbox"/>	value	50	
<input checked="" type="checkbox"/>	timeout	15	
	Key	Value	Description

Body

Cookies

Headers (6)

Test Results

Status: 400 Bad Request

Time: 14ms

Size: 298 B

Pretty

Raw

Preview

Visualize BETA

JSON

```
1 {
2   "error": "key must contain only alphabets and must not exceed 32 characters"
3 }
```

GET

localhost:3000/read?key=grap

Params

Authorization

Headers (7)

Body

Pre-request Script

Query Params

	KEY	VALUE
<input checked="" type="checkbox"/>	key	grap
	Key	Value

Body

Cookies

Headers (6)

Test Results

Status: 400 Bad Request

Pretty

Raw

Preview

Visualize BETA

JSON

1

2

3

{

"error": "key does not exists"

}

GET

localhost:3000/delete?key=grap

Params

Authorization

Headers (7)

Body

Pre-request Script

Query Params

	KEY	VALUE
<input checked="" type="checkbox"/>	key	grap
	Key	Value

Body

Cookies

Headers (6)

Test Results

Status: 400 Bad Request

Pretty

Raw

Preview

Visualize BETA

JSON

1

2

3

{

"error": "key does not exists"

}