

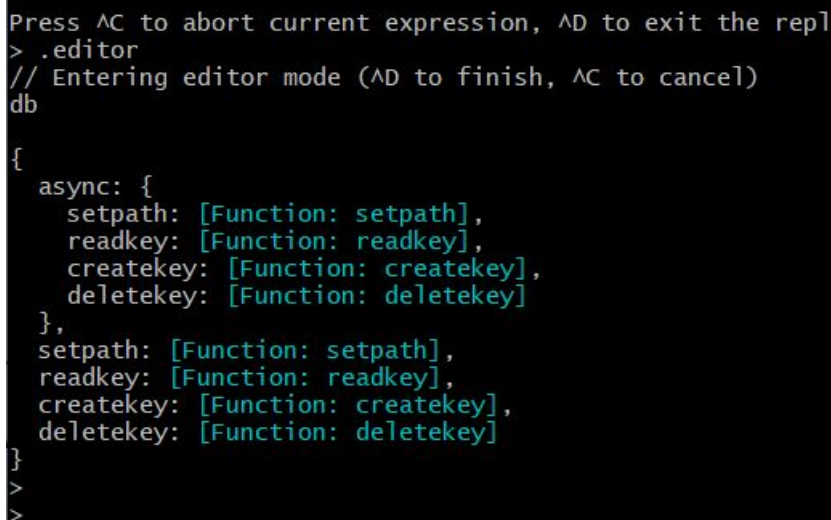
## keyvalue-db library

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

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

A Command Line Interface app for synchronous way and a Web application for asynchronous way. These can be understood by following screenshots.

- git clone [https://github.com/ShobhitVishnoi30/Key\\_Value\\_DataStore.git](https://github.com/ShobhitVishnoi30/Key_Value_DataStore.git)
- 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

We will add Shobhit with default timeout value (0). This value we can read at any time that will give the value of it's key.

Next we are creating number as the key which gives us the error.

After that we are a hello key with 10 sec as timeout value and Reading within 10 secs.

After 10 seconds , reading hello gives us error.

```
C:\Windows\System32\cmd.exe - node
C:\Users\vishn\OneDrive\Desktop\new\Key_Value_DataStore\lib>node
Welcome to Node.js v12.18.3.
Type ".help" for more information.
> let db=require("./keyvalue-db")
undefined
> db.createkey("Shobhit",30)
'key-value pair created'
> db.createkey("12",2)
{
  error: 'key must contain only alphabets and must not exceed 32 characters'
}
> db.readkey("Shobhit")
'{"Shobhit":30}'
> db.readkey("hello")
{
  error: 'key does not exists' }
> db.createkey("hello",50,10)
'key-value pair created'
> db.readkey("hello")
'{"hello":50}'
> db.readkey("hello")
'{"hello":50}'
> db.readkey("hello")
{
  error: 'time-to-live of key: hello has expired' }
> db.readkey("hello")
{
  error: 'time-to-live of key: hello has expired' }
> db.readkey("hello")
{
  error: 'time-to-live of key: hello has expired' }
> db.readkey("hello")
{
  error: 'time-to-live of key: hello has expired' }
```

Creating key which exceeds 32 characters gives us error.

Now we will create new key-value pair with key : Vege and value : 34.

and Vege can not be deleted as it's give time-to-live error..

Next creating key : Potat is successful with timeout timeout is 10.

and Potat within 10 sec can be successfully deleted.

```
C:\Windows\System32\cmd.exe - node
> db.createkey("Vege",34)
'key-value pair created'
> db.readkey("Vege")
'{"Vege":34}'
> db.deletekey("Vege")
{
  error: 'time-to-live of key: Vege has not expired' }

> db.createkey()
Uncaught TypeError: Cannot read property 'trim' of undefined
    at Object.createkey (C:\Users\vishn\OneDrive\Desktop\new\Key_Value_DataStore\lib\keyvalue-db.js:118:18)

> db.createkey("Potat",23,10)
'key-value pair created'
> db.deletekey("Potat")
'key deleted'
> db.createkey("aaaaaaaaaaaaaaaaaaaaaaaaaaaaaaaaaaaaaaaaaaaaaaaaaaaa",23)
{
  error: 'key must contain only alphabets and must not exceed 32 characters'
}
```

Now we will use `setpath()` to set a new path for the json file. Default path `./db.json`

If we add filename other than json file , it will give us error.

also if the file name contains invalid characters it gives us error.

```
C:\Windows\System32\cmd.exe - node
Microsoft Windows [Version 10.0.19042.685]
(c) 2020 Microsoft Corporation. All rights reserved.

C:\Users\vishn\OneDrive\Desktop\new\Key_Value_DataStore>cd lib
C:\Users\vishn\OneDrive\Desktop\new\Key_Value_DataStore\lib>node
Welcome to Node.js v12.18.3.
Type ".help" for more information.
> let db=require("./keyvalue-db")
undefined
> db.setpath("./db.json")
'db.json path set'
>
> db.setpath("ssh")
{ error: 'invalid file name: should be a json file' }
>
> db.setpath("./ndj-ddnjd.json")
'ndj-ddnjd.json path set'
>
> db.setpath("./db.json")
'db.json path set'
>
```

### CLI app using keyvalue-db library (synchronous way)

```
npm
Key-Value DB
? Please enter the file path ./db.json
success: ./db.json path set
? Please choose the option create
? Please enter the "key" Hey
? Please enter the "value" 23
? 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" Hey
{"Hey":23}
? Please choose the option (Use arrow keys)
> read
create
delete
exit
```

Set Path:

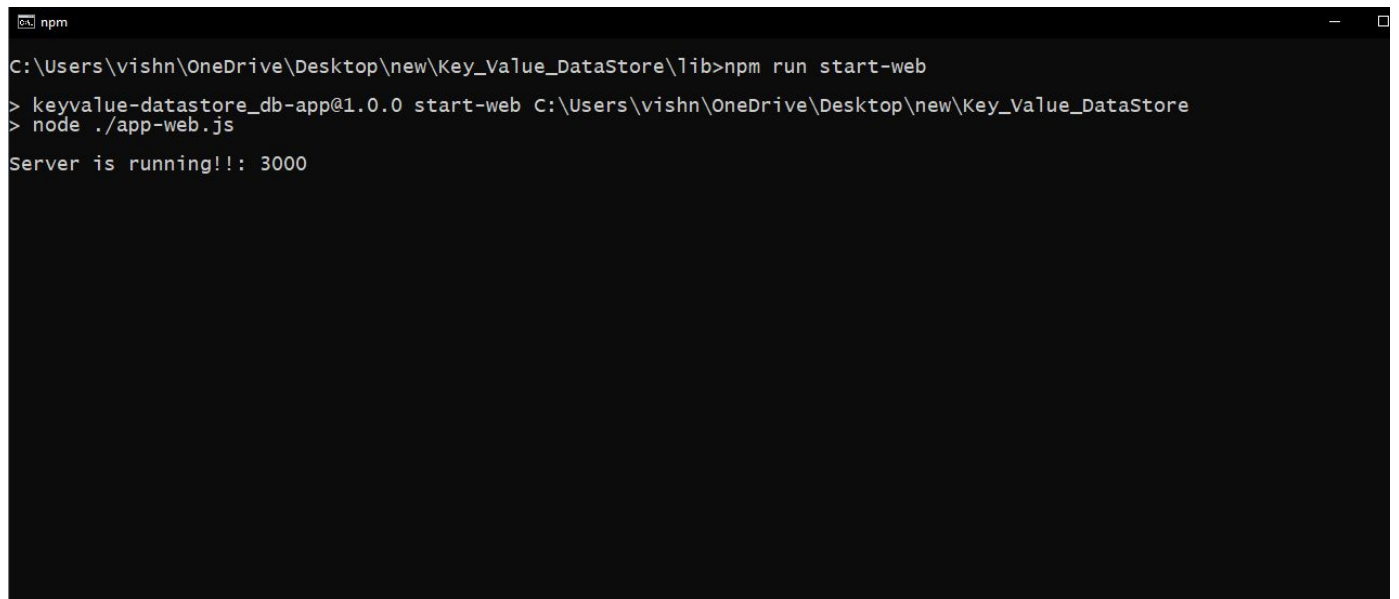
```
npm
Key-Value DB
? Please enter the file path C:\Users\vishn\OneDrive\Desktop\new\Key_Value_DataStore\db.json
success: C:\Users\vishn\OneDrive\Desktop\new\Key_Value_DataStore\db.json path set
? Please choose the option (Use arrow keys)
> read
  create
  delete
  exit
```

Errors: Created a key Dettol with 10 seconds timeout. Reading Dettol key value within 10 seconds gives the value but after that it gives us error of time-to-live of key: Dettol has expired.

And if a key does not exist and we try to access it, it gives us key does not exist error.

```
npm
Key-Value DB
? Please enter the file path C:\Users\vishn\OneDrive\Desktop\new\Key_Value_DataStore\db.json
success: C:\Users\vishn\OneDrive\Desktop\new\Key_Value_DataStore\db.json path set
? Please choose the option create
? Please enter the "key" Dettol
? Please enter the "value" 34
? Please enter the "timeout" in sec.
If not input given default value 0 is assigned 10
key-value pair created
? Please choose the option read
? Please enter the "key" Dettol
{"Dettol":34}
? Please choose the option read
? Please enter the "key" Dettol
error: time-to-live of key: Dettol has expired
? Please choose the option read
? Please enter the "key" Hk
error: key does not exists
? Please choose the option (Use arrow keys)
> read
  create
  delete
  exit
```

Web app using keyvalue-db library (asynchronous way)

A terminal window with a dark background and light gray text. The title bar at the top shows a small icon and the text 'npm'. The terminal content shows a command prompt at a specific file path, followed by an npm run command. The output shows the command being executed and a confirmation message.

```
npm
C:\Users\vishn\OneDrive\Desktop\new\Key_Value_DataStore\lib>npm run start-web
> keyvalue-datastore_db-app@1.0.0 start-web C:\Users\vishn\OneDrive\Desktop\new\Key_Value_DataStore
> node ./app-web.js
Server is running!/: 3000
```

and can use the web app in the same way.