

# NEAR Lake indexer basic tutorial

Source code for the tutorial [near-examples/near-lake-raw-printer-js](#) : source code for the tutorial on how to create an indexer that prints block height and number of shards Recently we have [published a JavaScript version of the NEAR Lake Framework](#) on npmjs.org

We want to empower you with a basic tutorial on how to use the JavaScript Library. Let's get started!

## Requirements

Before we get started, please, ensure you have:

- [nodejs](#)
- installed

## Create a project

Create an indexer project:

`mkdir near-lake-raw-printer-js && cd near-lake-raw-printer-js` Now we're going to call `npm init`, we can continue with the default values pressing Enter on every question in the interactive mode:

`npm init` version: (1.0.0) description: entry point: (index.js) test command: git repository: keywords: author: license: (ISC)  
About to write to `/Users/near/projects/near-lake-raw-printer-js/package.json`:

```
{ "name": "near-lake-raw-printer-js", "version": "1.0.0", "description": "", "main": "index.js", "scripts": { "test": "echo \"Error: no test specified\" && exit 1" }, "author": "", "license": "ISC" }
```

Is this OK? (yes) package.json is ready. Let's install `near-lake-framework`

## Install dependencies

`Install near-lake-framework`

`npm install near-lake-framework --save` Install `typescript` as dev dependency

`npm install typescript --save-dev`

## Setup TypeScript

Now we can create `tsconfig.json` for TypeScript settings:

`touch tsconfig.json` Paste the content to the file:

```
{ "compilerOptions": { "lib": [ "ES2018", "dom" ] } }
```

 Now let's add the `scripts` section to the `package.json`

`"scripts": { "start": "tsc && node index.js" }` After that your `package.json` should look similar to:

```
{ "name": "near-lake-raw-printer", "version": "1.0.0", "description": "", "main": "index.js", "scripts": { "start": "tsc && node index.js" }, "dependencies": { "near-lake-framework": "^1.0.1" }, "devDependencies": { "typescript": "^4.6.4" } }
```

 Now let's create `index.ts`

`touch index.ts` Open `index.ts` in your favorite editor to start coding.

## Import near-lake-framework

In the `index.ts` file let's import the necessary dependencies:

```
import
```

```
{ startStream, types }
```

```
from
```

`'near-lake-framework'`; We've imported the main function `startStream` which will be called to actually run the indexer, and `types` that hold the `LakeConfig` type we need to construct.

## Create a config

To get indexer running we need to start it with a config. We need to create an instance of `LakeConfig`

```
const lakeConfig : types . LakeConfig
=
{ s3BucketName :
  "near-lake-data-mainnet" , s3RegionName :
  "eu-central-1" , startBlockHeight :
  63804051 , } ;
```

## Create indexer handler

Indexer will be streaming the [StreamerMessage](#) instances we need to handle according to our needs.

In `near-lake-framework` JS library the handler have to be presented as a callback function. This function have to:

- be asynchronous
- accept an argument of type [StreamerMessage](#)
- return nothing (void)
- )

Creating the callback:

```
async
function
handleStreamerMessage ( streamerMessage : types . StreamerMessage ) :
Promise < void
{ // } For this tutorial our requirement is to log the block height and the numer of shards. That's simple:
async
function
handleStreamerMessage ( streamerMessage : types . StreamerMessage ) :
Promise < void
{ console . log (Block # { streamerMessage . block . header . height } Shards: { streamerMessage . shards . length } ) ; }
```

## Starting the stream

And the last thing to write is the call `startStream` with the config and pass the callback function.

```
( async
( )
=>
{ await
startStream ( lakeConfig , handleStreamerMessage ) ; } ) ( ) ; That's it. Now we can compile the code and run it
```

## Compile and run

Credentials To be able to access the data from [NEAR Lake](#) you need to provide credentials. Please, see the [Credentials](#) article We've added the `start` command to the scripts , so the compilation and run should as easy as

`npm run start` You should see something like the following:

Block #63804051 Shards: 4 Block #63804052 Shards: 4 Block #63804053 Shards: 4 Block #63804054 Shards: 4 Block #63804055 Shards: 4 Block #63804056 Shards: 4 Block #63804057 Shards: 4 Block #63804058 Shards: 4 Block #63804059 Shards: 4 Block #63804060 Shards: 4 You can stop the indexer by pressing CTRL+C

## What's next?

You can play around and change the content of the callback function [handleStreamerMessage](#) to handle the data differently.

You can find the [source code for this tutorial on the GitHub](#) . [Edit this page](#) Last updated on Nov 17, 2023 by Damian Parrino

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