

NodeJS Assignment + Notes - Typescript Initial Setup

CENTRALOGIC

2/5/24

Assignment

1. Create a basic server using **NodeJS** , **Express**, **TypeScript** and do the following in separate apis respectively in same app.ts

(Take reference from Notes section for creating basic server)

Note: Use a separate file (logic.ts). Logic.ts will be exporting all functions and those will be imported(required) in app.ts

- a. **GET** request →

Develop an api that will return

Request → *localhost:8000/split/CentraLogic_Employee*

Response → JSON

```
{ "revisedString" : "CentraLogic Employee";  
}
```

Hint : Use predefined function for splitting words

- b. GET request → Get two parameters from path(route) and concatenate them into one

Response → JSON

```
{ "revisedString" : "CentraLogicEmployee";  
}
```

Hint : Make use of **req.params** or **req.query** (Try both for knowing better use of both).

- c. Create another api in same app.ts to solve a question

<https://exercism.org/tracks/typescript/exercises/leap>

- d. Create another api in same app.ts to solve a question

<https://exercism.org/tracks/typescript/exercises/secret-handshake>

(Below questions are not for submission, just find answers)

2. Are there any other http methods ? POST, PUT , PATCH, DELETE
3. Why TypeScript is preferred in Bank Industry over Traditional Javascript?
4. If there's already npm init , then why tsc --init ?
5. How to check UI is calling which API on deployed screen?
6. Why tsconfig was edited in first session, Isn't it possible to run your code without changing tsconfig(Check differences between auto generated older tsconfig and newer tsconfig)
7. After npm run build, a dist folder is generated, What difference it make : What is contained in the dist folder
8. In notes section , you saw something like /:datatype, What it is ? Significance of routes . How can you check from in screens on deployed portals?
9. Do you need to everytime build the project before running, Any other alternative?
10. Why added scripts in package.json, Can it not work if we dont add scripts (Check notes section)?

11. My Postgres is running on local port 8000, will the (notes section) api run?
12. Is Express only framework for creating server, Was NodeJS alone not sufficient?

Notes

Setting up directory and all

(Creating **project** directory, Creating a **src** directory, creating an **app.ts** in it) And then running below commands in terminal

```
npm init -y
```

Install TypeScript as a development dependency:

```
npm install --save-dev typescript
```

Create a tsConfig.ts —in your directory using command

```
npx tsc --init
```

Configure tsconfig.json

```
{
  "compilerOptions": {
    "target": "es6",
    "module": "commonjs",
    "outDir": "./dist",
    "rootDir": "./src",
    "strict": true,
    "sourceMap": true,
    "experimentalDecorators": true,
    "emitDecoratorMetadata": true,
    "moduleResolution": "node",
    "esModuleInterop": true,
  },
  "include": [
    "src/**/*.ts"
  ],
  "exclude": [
    "node_modules"
  ]
}
```

Install the Node.js type declarations:

```
npm install --save-dev @types/node
npm install ts-node --save-dev
```

Open your `package.json` file and add the following scripts:

```
"scripts": {
  "start": "node dist/app.js",
  "build": "tsc"
},
```

```
npm run build
```

```
npm start
```

Add your app.ts code here in app.ts

1. Install dependencies (Express for TypeScript)
2. Initiate dependency
3. Listen to the required port
4. Add Functionality

```
//1. -----Install dependencies (Express for TypeScript)
import express, {Request, Response} from 'express';

//2.-----Initiate dependency (Instance of Express -- app)
const app = express();
const port = 8000; //

//4.-----Add Functionality using Express instance i.e app
app.get('/:datatype', (req: Request, res: Response) => {
    var variable: any = req.params.datatype;

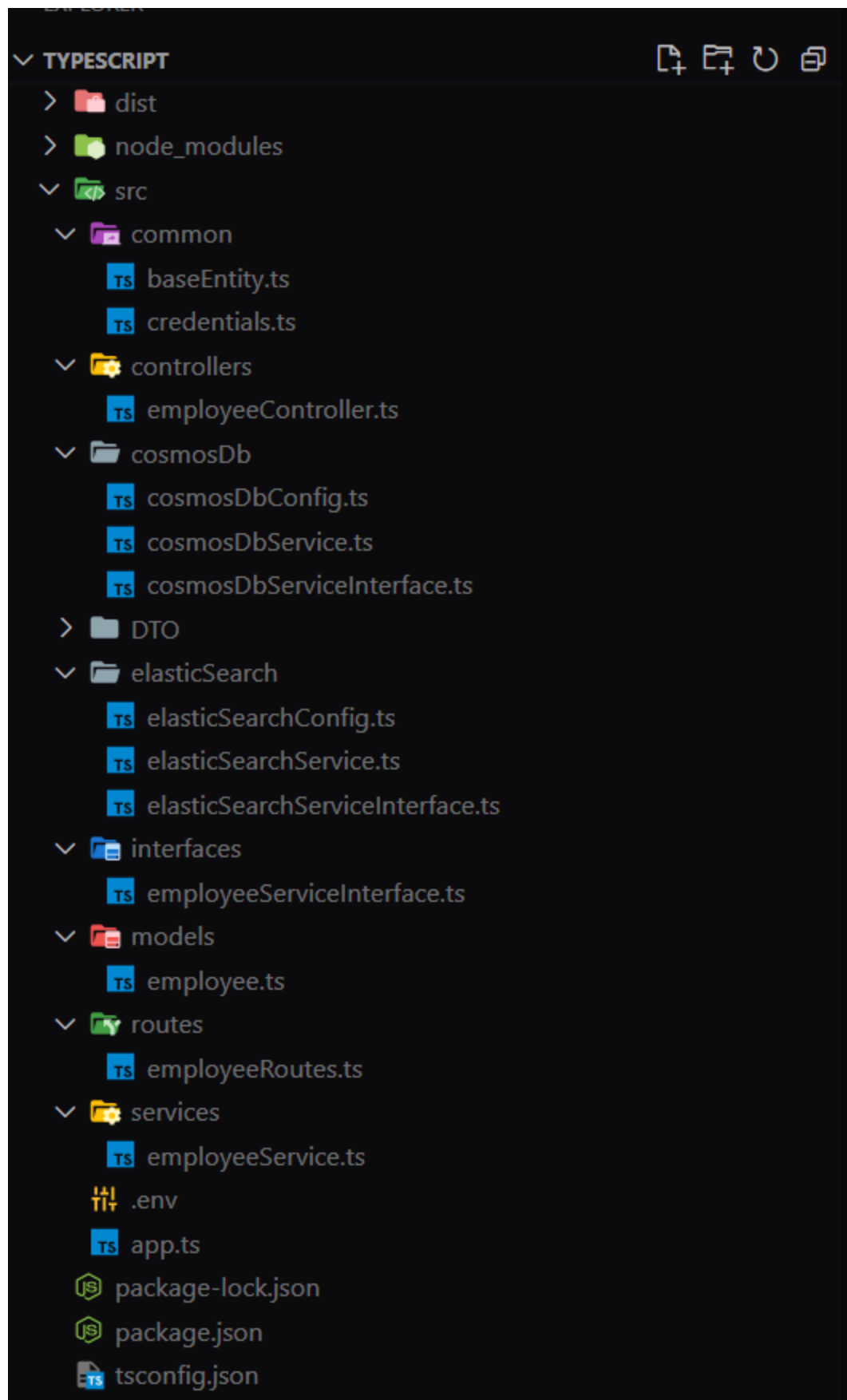
    res.json({
        message: variable,
        source : typeof(variable)
    })
})

//3.-----Listen to the required port using Express instance i.e app
app.listen(port, () => {
    console.log(` Hii we are comfortable in NodeJS `);
})
```

To run the code (again **npm run build** , **npm run start**)

.

Gradually we will be **heading** to this architecture



JavaScript basics

(variables, datatypes, loops, conditionals, inputs, outputs)

<https://www.w3schools.com/js/default.asp>

To have grip over JavaScript language:

I refer solving atleast one question every day-

<https://exercism.org/tracks/javascript>

<https://javascript.info/>

How to submit assignment?

Theoretical questions are not to be submitted, Check documentations for finding answers to them

For 1. Coding question to be sent in reply to this mail, in zipped format . **Exclude Node_Modules befre zipping**

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Documentation is the key, Happy Learning---



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