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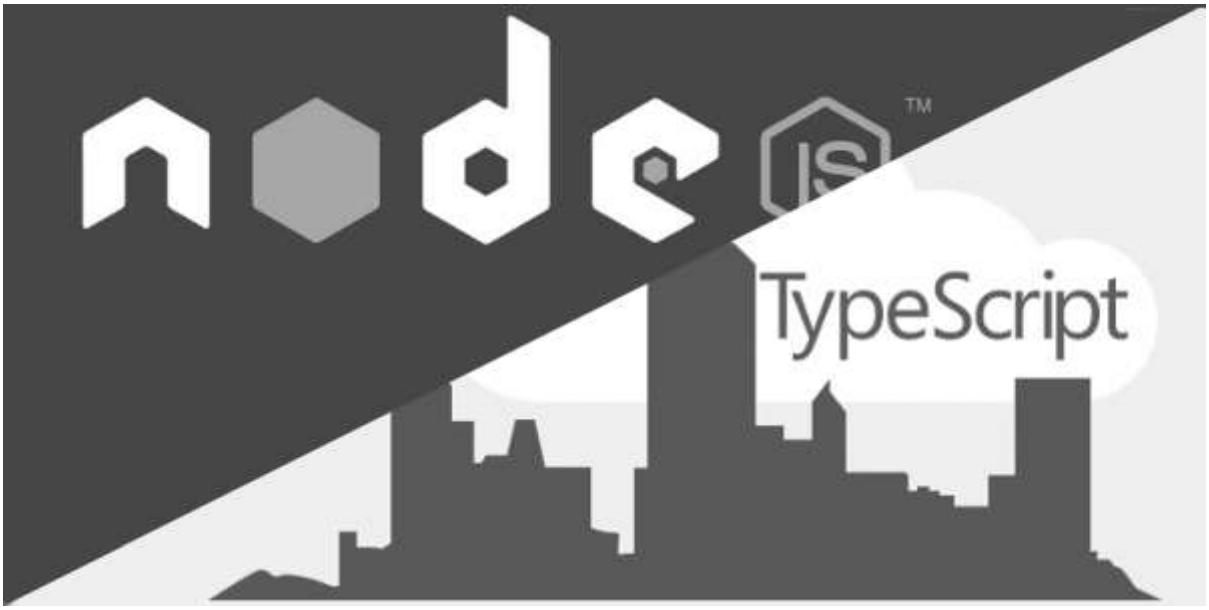
Building RESTful Web APIs with Node.js, Express, MongoDB and TypeScript — Part 4

Dale Nguyen
May 21, 2018 · 4 min read



(Image from OctoPerf)

There is a course about how to build a Web APIs on Lynda, but they didn't use TypeScript. So I decided to make one with TypeScript. There are lots of things that need to improve in this project. If you find one, please leave a comment. I'm appreciated that ;)

Part 1: Setting Up Project

Part 2: Implement routing and CRUD

Part 3: Using Controller and Model for Web APIs

Part 4: Connect Web APIs to MongoDB or others

Part 5: Security for our Web APIs

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In this part, we will connect the RESTful API application to local MongoDB, but you can connect to any other database services. Please read Part 1 to install the MongoDB to your machine.

All that you need to do is to import **mongoose package**, and declare **URL** for your MongoDB in the **app.ts** file. After that you will connect your app with your database through **mongoose**.

```
// lib/app.ts

...
import * as mongoose from "mongoose";

class App {

    ...
    public mongoUrl: string = 'mongodb://localhost/CRMdb';

    constructor() {
        ...
        this.mongoSetup();
    }

    private mongoSetup(): void{
        mongoose.Promise = global.Promise;
        mongoose.connect(this.mongoUrl);
    }

}

export default new App().app;
```

After this, your application is ready to launch (*npm run dev*)

```
D:\Dale's Projects\node-express-api\crm [master +0 ~1 -0 !]> npm run dev

> crm@1.0.0 dev D:\Dale's Projects\node-express-api\crm
> ts-node ./lib/server.ts

Express server listening on port 3000
```

You can test your first route (GET /) through web browser (*http://127.0.0.1:3000*)

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Remember that all the routes that we set is in **lib/routes/crmRoutes.ts** file.

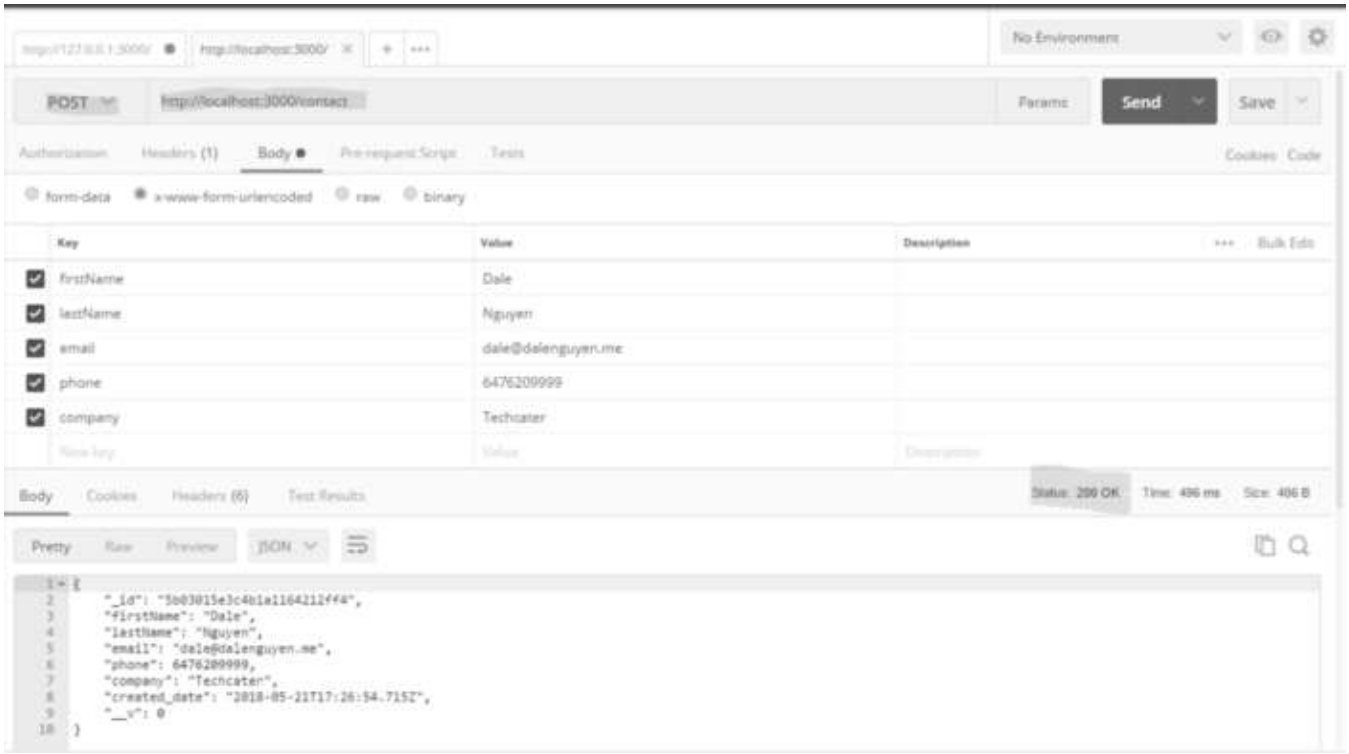
Now, we will test the **C**reate-**R**ead-**U**pdate-**D**elete feature though Postman.

1. **Create your first contact**

I will send a **POST** request to *http://127.0.0.1:3000/contact* with the information of a contact in the body.

Remember to set the content-type in Headers

```
Content-Type: application/x-www-form-urlencoded
```



After sending, the server return the status 200 with contact information in the database.

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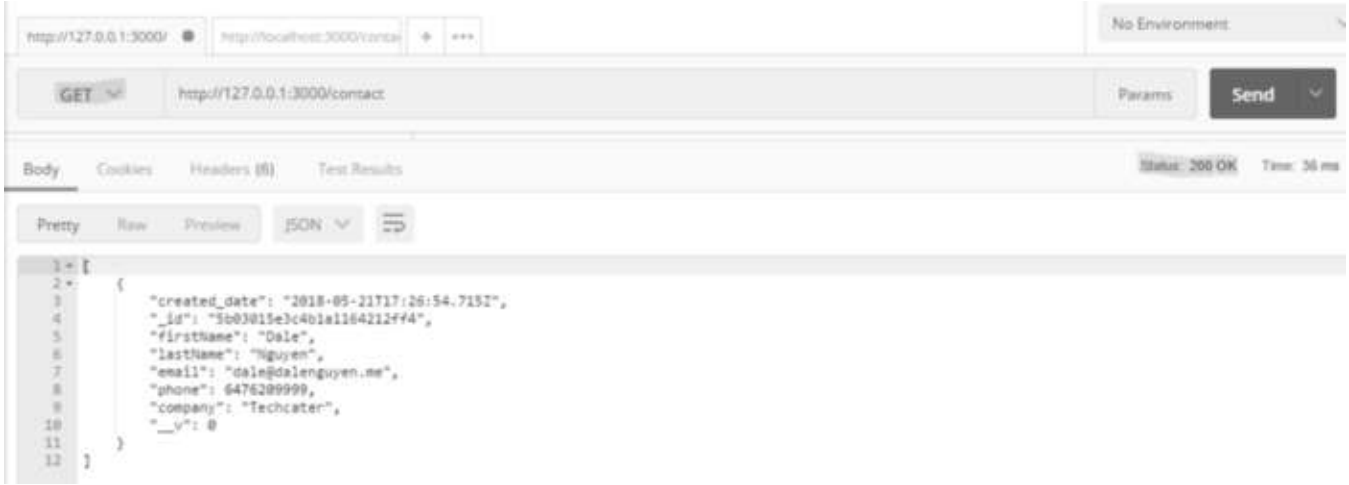
Now there is only one contact that I just created.



3. Get contact by Id

If we want to get a single contact by Id, we will send a **GET** request to *http://127.0.0.1:3000/contact/:contactId*. It will return an Object of your contact. Remember that the ID that we passed to the URL is the **_id** of the contact.

4. Update an existing contact

In case we want to update an existing contact, we will send a **PUT** request to the *http://127.0.0.1:3000/contact/:contactId* together with the detail. For example, I will update the phone number of the contact with **_id: 5b03015e3c4b1a1164212ff4**

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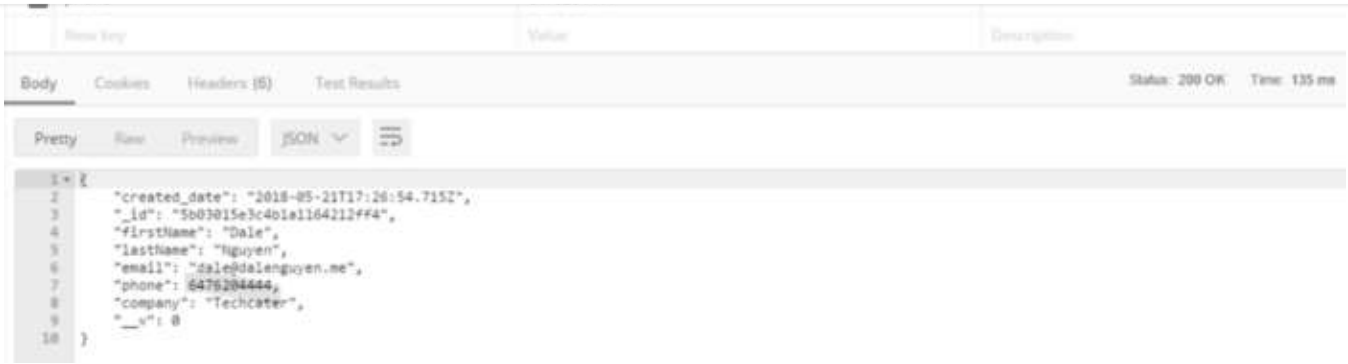
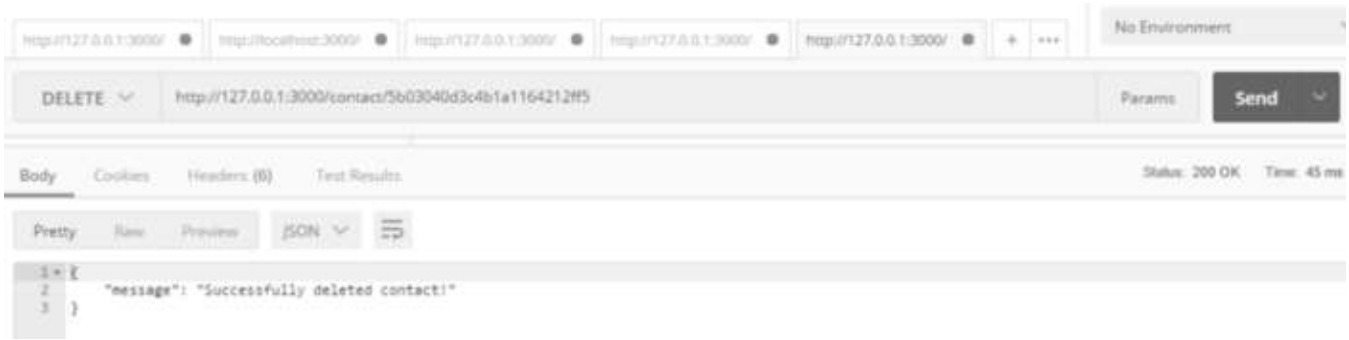


5. Delete a contact

To delete a contact, we will send a **DELETE** request to *http://127.0.0.1:3000/contact/:contactId*. It will return a message saying that "Successfully deleted contact!"



After this, now we have a fully working RESTful Web APIs application with TypeScript and Nodejs. In **part 5**, I will add some extra security for this project. In case you need to jump a head. Please visit my github repository for the full code.

https://github.com/dalenguyen/rest-api-node-typescript

Nodejs API Expressjs Typescript Mongodb

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