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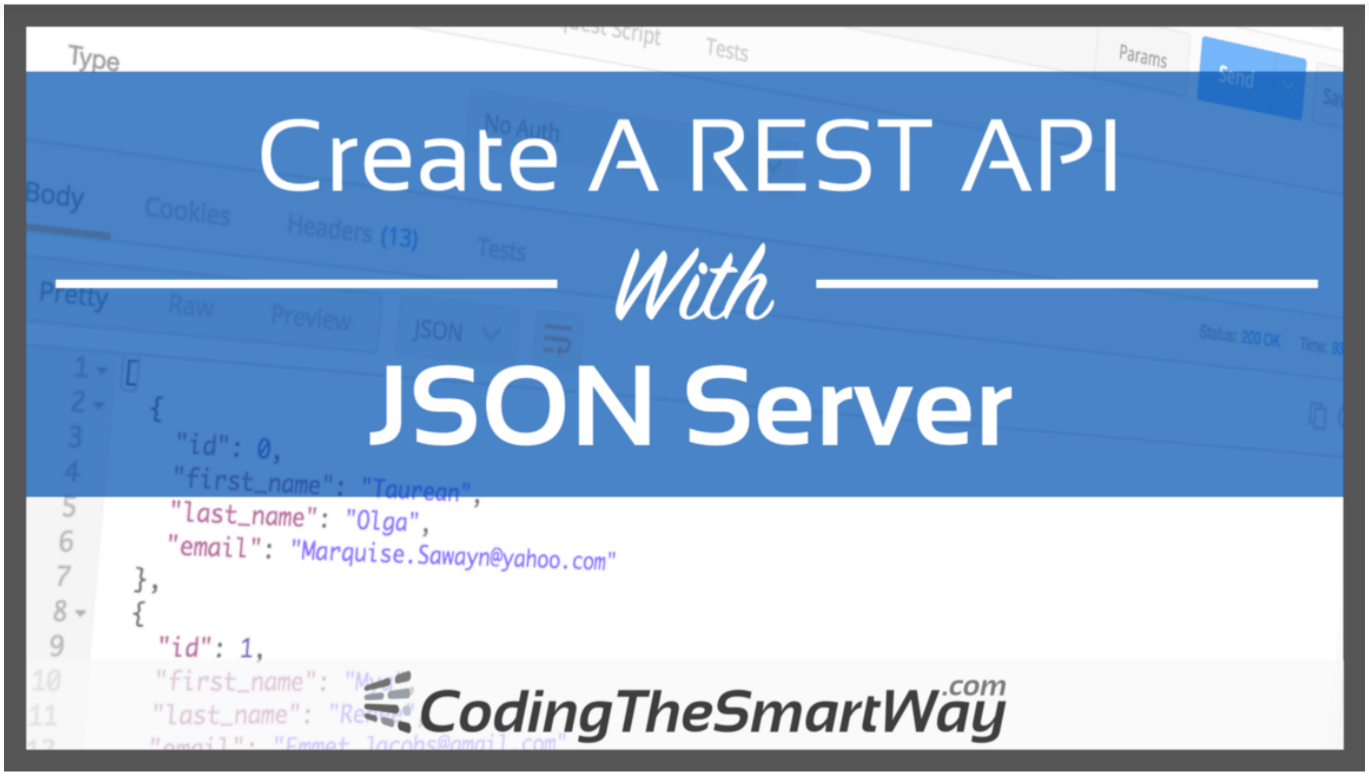

Create A REST API With JSON Server

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Feb 26, 2017 · 6 min read

This post has been published first on CodingTheSmartWay.com.

A common task for front-end developers is to simulate a backend REST service to deliver some data in JSON format to the front-end application and make sure everything is working as expected. Of course you can setup a full backend server, e.g. by using Node.js, Express and MongoDB. However this takes some time and a much simpler approach can help to speed up front-end development time. JSON Server is a simple project that helps you to setup a REST API with CRUD operations very fast. The project website can be found at https://github.com/typicode/json-server. In the following you'll lean how to setup JSON server and publish a sample REST API. Furthermore you'll see how to use another library, Faker.js, to generate fake data for the REST API which is exposed by using JSON server.

Installing JSON Server

```
$ npm install -g json-server
```

By adding the `-g` option we make sure that the package is installed globally on your system.

JSON File

Now let's create a new JSON file with name *db.json*. This file contains the data which should be exposed by the REST API. For objects contained in the JSON structure CRUD entpoints are created automatically. Take a look at the following sample *db.json* file:

```
{
  "employees": [
    {
      "id": 1,
      "first_name": "Sebastian",
      "last_name": "Eschweiler",
      "email": "sebastian@codingthesmartway.com"
    },
    {
      "id": 2,
      "first_name": "Steve",
      "last_name": "Palmer",
      "email": "steve@codingthesmartway.com"
    },
    {
      "id": 3,
      "first_name": "Ann",
      "last_name": "Smith",
      "email": "ann@codingthesmartway.com"
    }
  ]
}
```

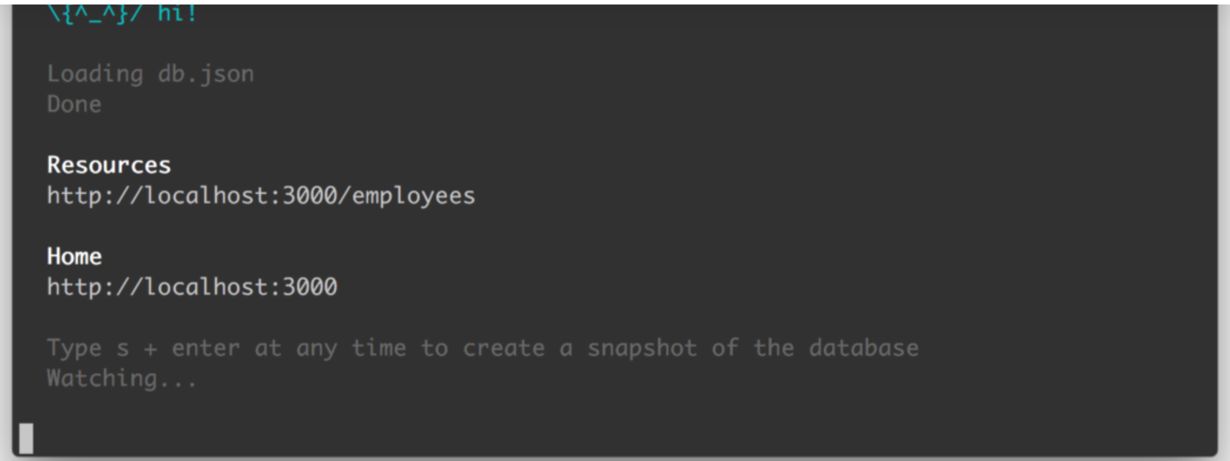
The JSON structure consists of one employee object which has three data sets assigned. Each employee object is consisting of four properties: *id*, *first_name*, *last_name* and *email*.

Running The Server

Let's start JSON server by executing the following command:

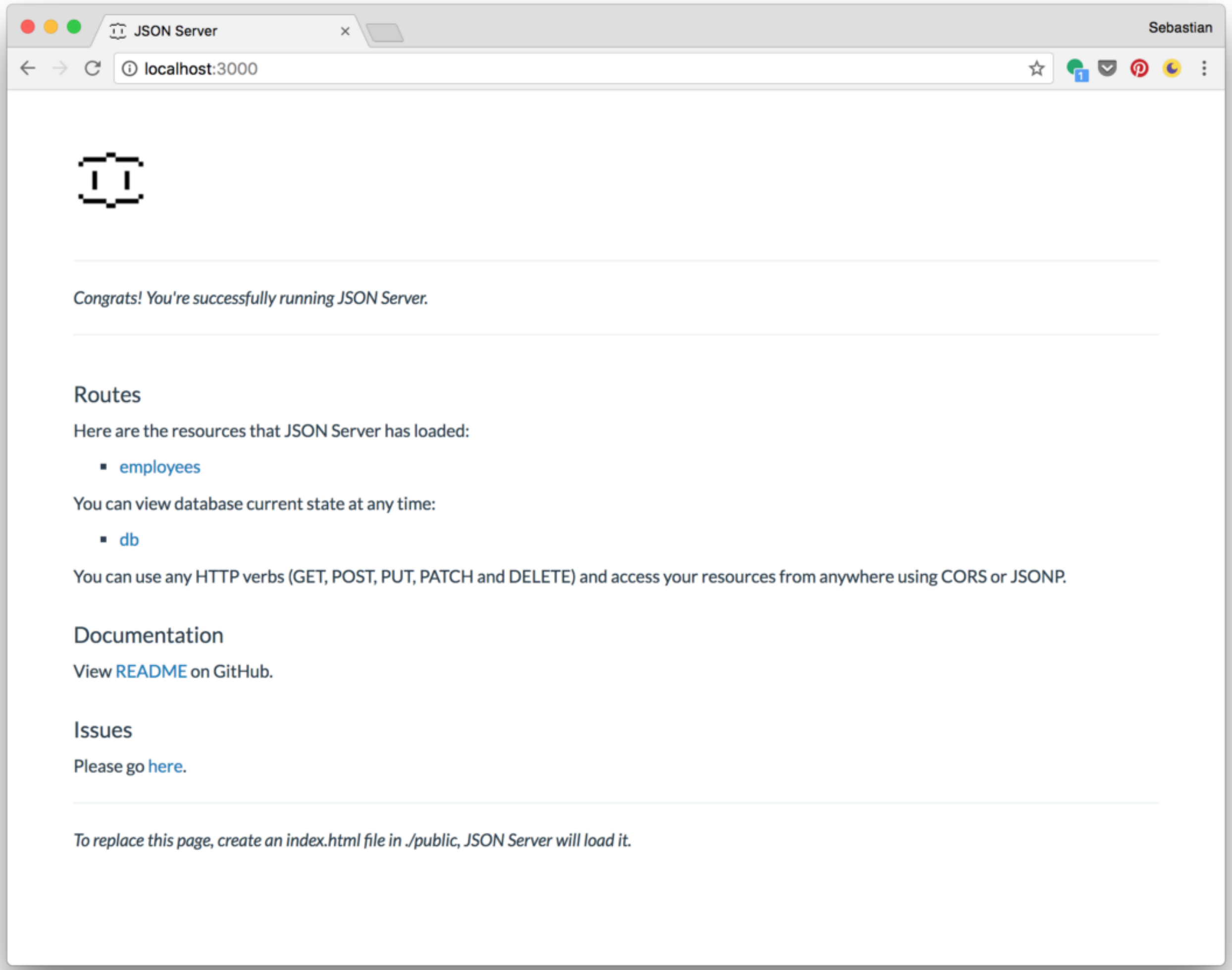
```
$ json-server --watch db.json
```

As a parameter we need to pass over the file containing our JSON structure (db.json). Furthermore we're using the — *watch* parameter. By using this parameter we're making sure that the server is started in watch mode which means that it watches for file changes and updates the exposed API accordingly.



```
\{^_^}/ hi!

Loading db.json
Done

Resources
http://localhost:3000/employees

Home
http://localhost:3000

Type s + enter at any time to create a snapshot of the database
Watching...
```

Now we can open URL http://localhost:3000/employees in the browser and we'll get the following result:



Congrats! You're successfully running JSON Server.

Routes

Here are the resources that JSON Server has loaded:

- employees

You can view database current state at any time:

- db

You can use any HTTP verbs (GET, POST, PUT, PATCH and DELETE) and access your resources from anywhere using CORS or JSONP.

Documentation

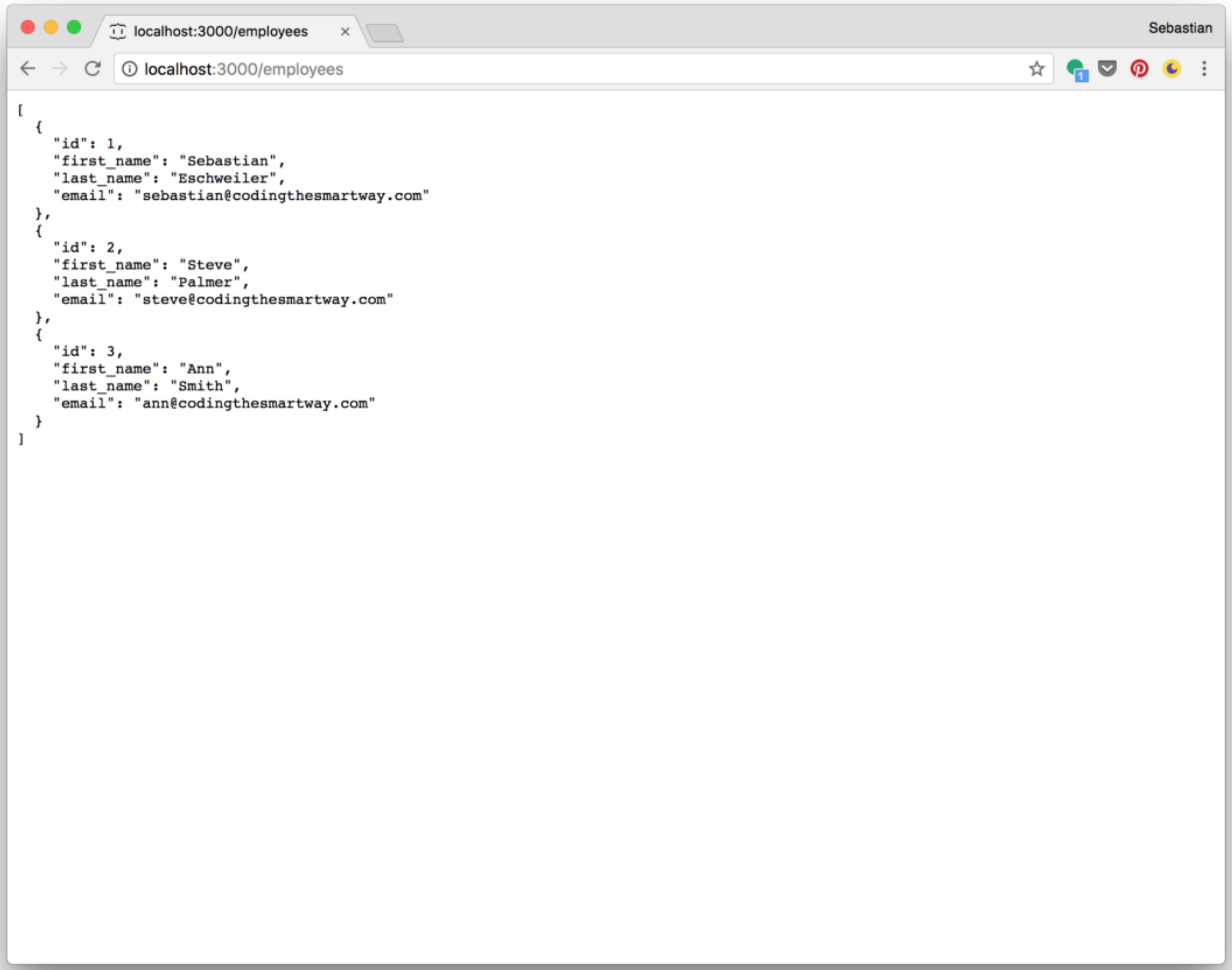
View README on GitHub.

Issues

Please go here.

To replace this page, create an index.html file in ./public, JSON Server will load it.

http://localhost:3000/employees shows the following result:



```
[
  {
    "id": 1,
    "first_name": "Sebastian",
    "last_name": "Eschweiler",
    "email": "sebastian@codingthesmartway.com"
  },
  {
    "id": 2,
    "first_name": "Steve",
    "last_name": "Palmer",
    "email": "steve@codingthesmartway.com"
  },
  {
    "id": 3,
    "first_name": "Ann",
    "last_name": "Smith",
    "email": "ann@codingthesmartway.com"
  }
]
```

The following HTTP endpoints are created automatically by JSON server:

```
 GET    /employees
GET    /employees/{id}
POST   /employees
PUT    /employees/{id}
PATCH  /employees/{id}
DELETE /employees/{id}
```

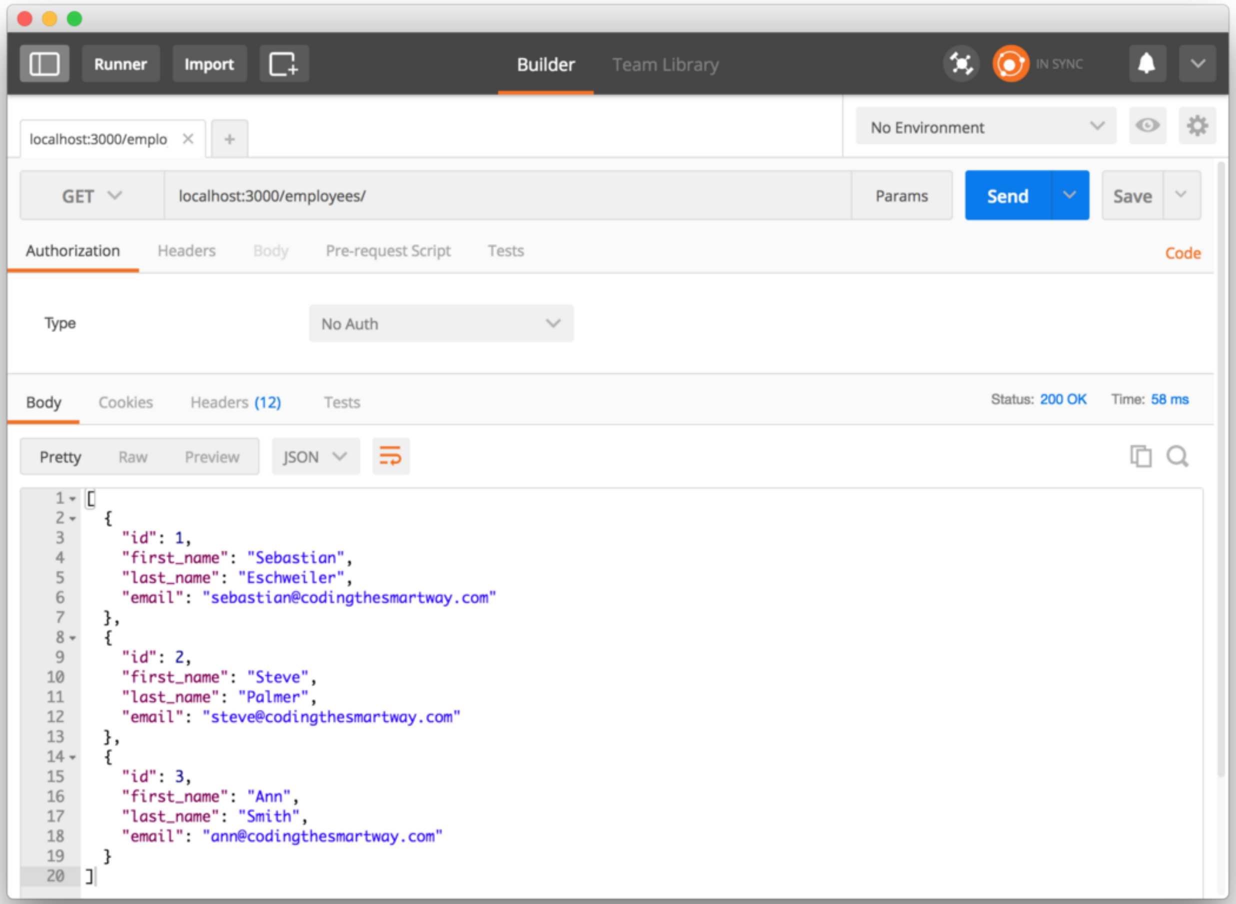
If you make POST, PUT, PATCH or DELETE requests, changes will be automatically saved to *db.json*. A POST, PUT or PATCH request should include a `Content-Type: application/json` header to use the JSON in the request body. Otherwise it will result in a 200 OK but without changes being made to the data. It's possible to extend URLs with further parameter. E.g. you can apply employee object as a result. Or just perform a full text over all properties: http://localhost:3000/employees?q=codingthesmartway For a full list of available URL parameters take a look at the JSON server documentation: https://github.com/typicode/json-server

Testing API Endpoints With POSTman

Initiating a GET request is easy by simply using the browser. For initiating other types of HTTP requests you can make use of an HTTP client tool like Postman (https://www.getpostman.com). Postman is available for MacOS, Windows and Linux. Furthermore Postman is available as a Chrome App.

Get Request

The Postman user interface is easy to use. To initiate a GET request fill out the form as you can see in the following screenshot. Click the *Send* button and you'll receive the response in JSON format:



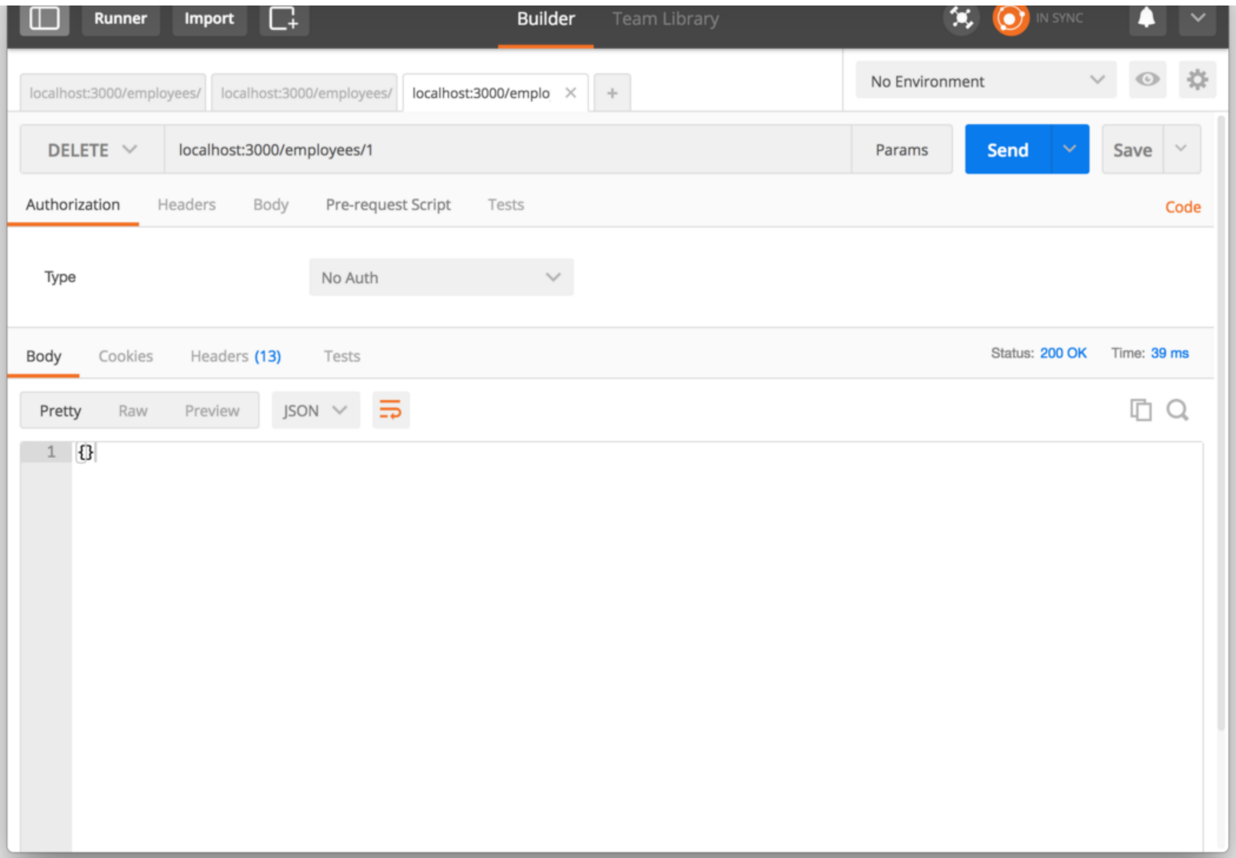
GET localhost:3000/employees/

Type: No Auth

Status: 200 OK Time: 58 ms

```
[
  {
    "id": 1,
    "first_name": "Sebastian",
    "last_name": "Eschweiler",
    "email": "sebastian@codingthesmartway.com"
  },
  {
    "id": 2,
    "first_name": "Steve",
    "last_name": "Palmer",
    "email": "steve@codingthesmartway.com"
  },
  {
    "id": 3,
    "first_name": "Ann",
    "last_name": "Smith",
    "email": "ann@codingthesmartway.com"
  }
]
```

DELETE REQUEST



DELETE localhost:3000/employees/1

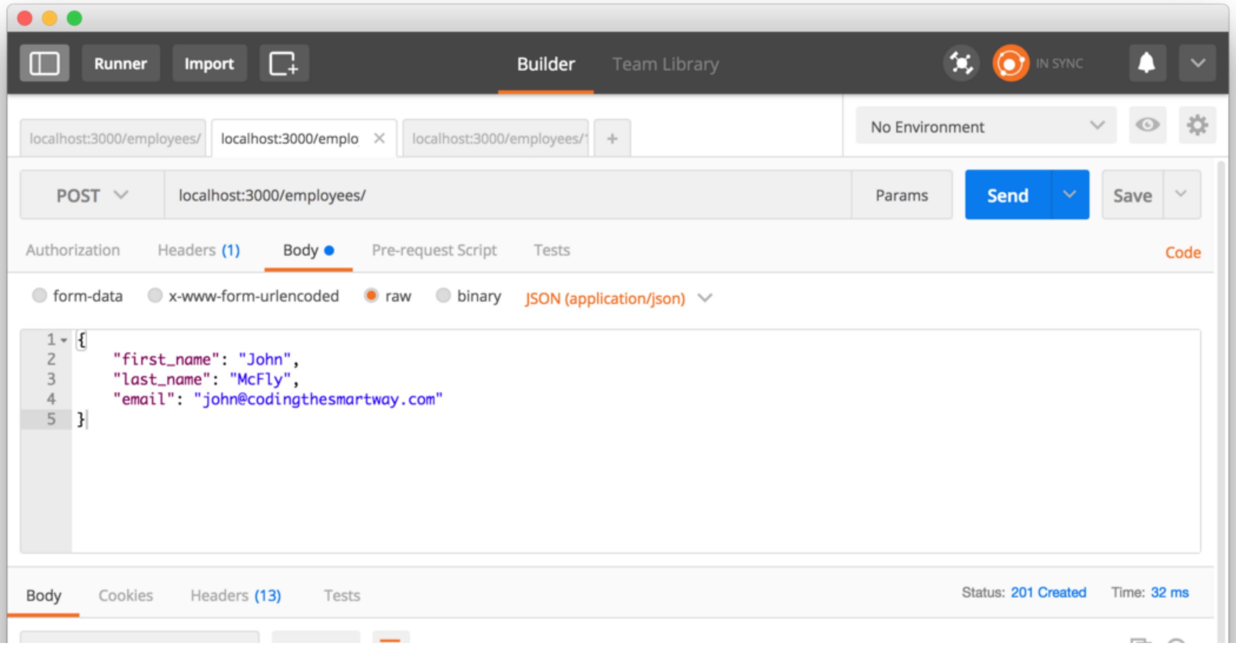
Type No Auth

Status: 200 OK Time: 39 ms

```
{}
```

POST REQUEST

To create a new employee we need to perform a post request and set the body content type to JSON (application/json). The new employee object is entered in JSON format in the body data section:



POST localhost:3000/employees/

Body: raw, JSON (application/json)

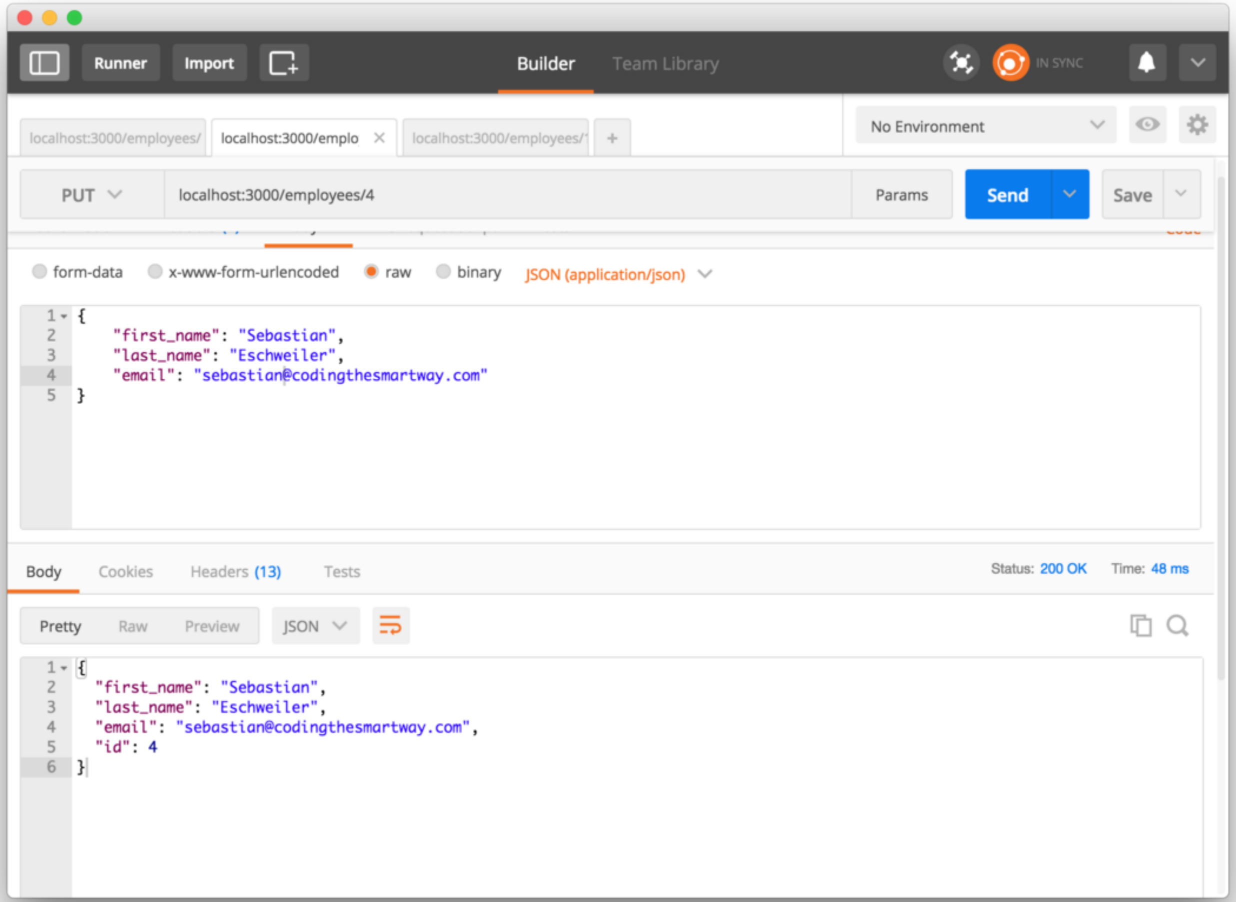
```
{
    "first_name": "John",
    "last_name": "McFly",
    "email": "john@codingthesmartway.com"
}
```

Status: 201 Created Time: 32 ms

```
}
```

PUT REQUEST

If you want to update or change an existing employee record you can use a HTTP PUT request:



PUT localhost:3000/employees/4

raw JSON (application/json)

```
{
    "first_name": "Sebastian",
    "last_name": "Eschweiler",
    "email": "sebastian@codingthesmartway.com"
}
```

Status: 200 OK Time: 48 ms

```
{
  "first_name": "Sebastian",
  "last_name": "Eschweiler",
  "email": "sebastian@codingthesmartway.com",
  "id": 4
}
```

Mocking Data with Faker.js

So far we've entered data exposed by the API manually in a JSON file. However, if you need a larger amount of data the manual way can be cumbersome. An easy solution to this problem is to use the Faker.js (https://github.com/marak/Faker.js/) library to generate fake data. Integration of Faker.js into JSON server is easy. Just follow the steps below: First, let's initialize a new NPM project in the current repository: `$ npm init` an insert the following JavaScript code:

```
// employees.js
var faker = require('faker')
function generateEmployees () {
  var employees = []
  for (var id = 0; id < 50; id++) {
    var firstName = faker.name.firstName()
    var lastName = faker.name.lastName()
    var email = faker.internet.email()
    employees.push({
      "id": id,
      "first_name": firstName,
      "last_name": lastName,
      "email": email
    })
  }
  return { "employees": employees }
}
module.exports = generateEmployees
```

We’re implementing the function *generateEmployees()* to generate a JSON object containing 50 employees. To obtain the fake data for first name, last name and email we’re using the following methods from the Faker.js library:

- faker.name.firstName()
- faker.name.lastName()
- faker.internet.email()

JSON server requires that we finally export the *generateEmploees()* function which is responsible for fake data generation. This is done by using the following line of code: `module.exports = generateEmployees` Having added that export, we're able to pass file employee.js directly to the json-server command:

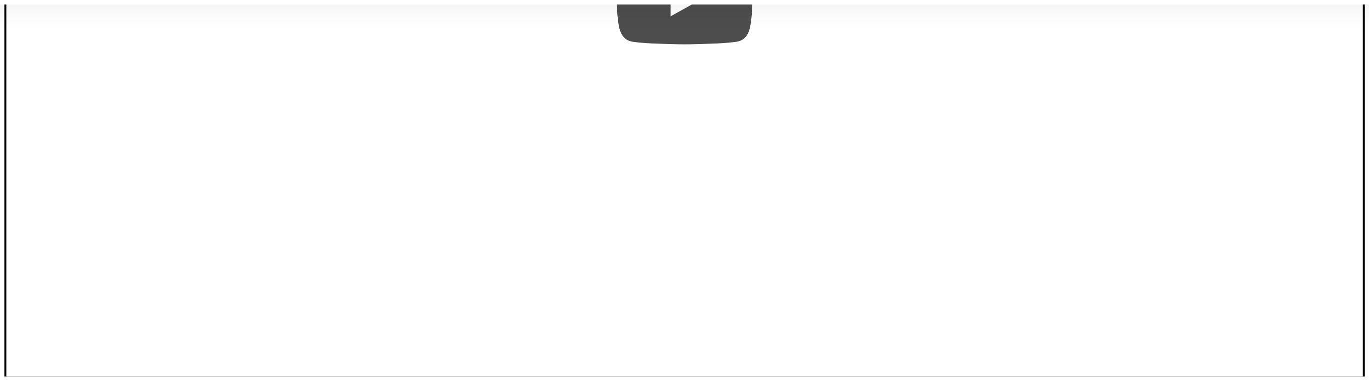
```
$ json-server employees.js
```

Now the exposed REST API gives you access to all 50 employee data sets created with Faker.js.

Video Tutorial

This video tutorial contains the steps described in the text above:

Create A REST API With JSON Server



Also check out the great online course: The Complete Web Developer Bootcamp
The only course you need to learn web development — HTML, CSS, JS, Node, and More!

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Nodejs JavaScript Rest Api Json Web Services

2K claps

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