# Build a REST API

NODE | EXPRESS | MONGO

### What is HTTP...

HyperText Transfer Protocol

- Application Layer Protocol
- Built on top of TCP/IP protocol
- Rules for transferring resources
- Every HTTP Request is executed independently without the knowledge of requests that came before it

### ...What is HTTP

HyperText Transfer Protocol

- HTTP is stateless
- TCP/IP is not stateless
- Payload (body/data) can be anything as long as it is defined in header

#### ...What is HTTP

HyperText Transfer Protocol

- HTTP is stateless
- TCP/IP is not stateless
- Payload (body/data) can be anything as long as it is defined in header

### What is REST...

Representational State Transfer

- Architectural Pattern with design guidelines
- HTTP is usually the underlying protocol
- Use HTTP methods explicitly
- Every RESTful resource has a unique ID

#### ...What is REST

Representational State Transfer

- Client state is not persisted between requests
- Caching Policy for responses
- Separation of concerns between clients and servers
- Layered system

#### What is an API...

Application Programming Interface

- Defines server-side functions that are supported
- Where requests should be made
- Format of the request and response

#### ...What is an API

Application Programming Interface

- No standard way of writing APIs
- REST provides guidelines
- CRUD Operations
- Create | Read | Update | Delete

### IDE

Integrated Development Environment

- VS Code
- Atom
- Webstorm (Paid / Trial)

### Node.js

Javascript Runtime

- Node.js 8.9.3+
- NPM (Node Package Manager)
- Using natively supported ES6/7
- https://node.green

# MongoDB

NoSQL Database

- Local Installation
- mLab Cloud
- Docker

### REST Client

**API Testing** 

- Insomnia
- Postman

### REST Client

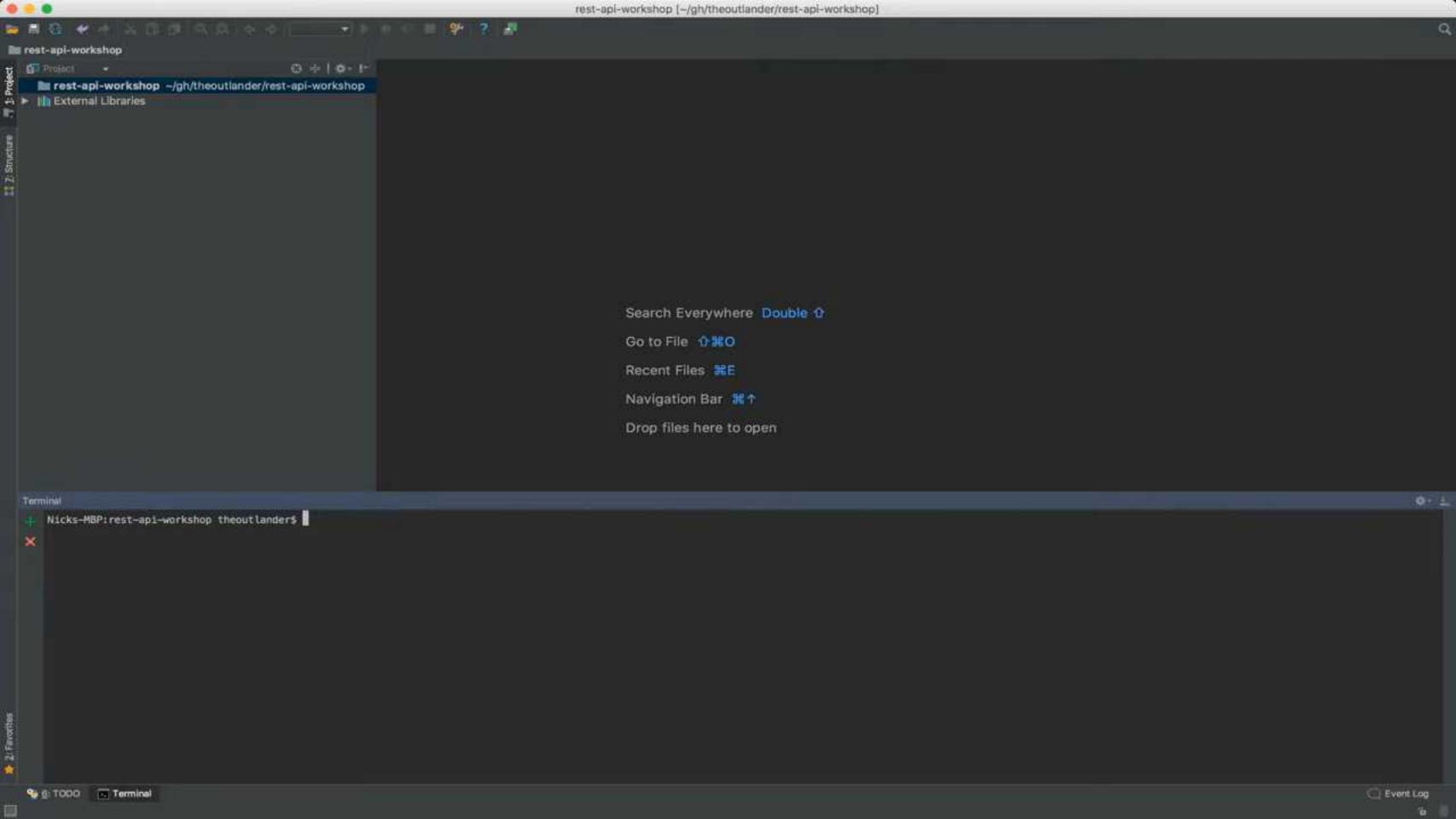
**API Testing** 

- Insomnia
- Postman

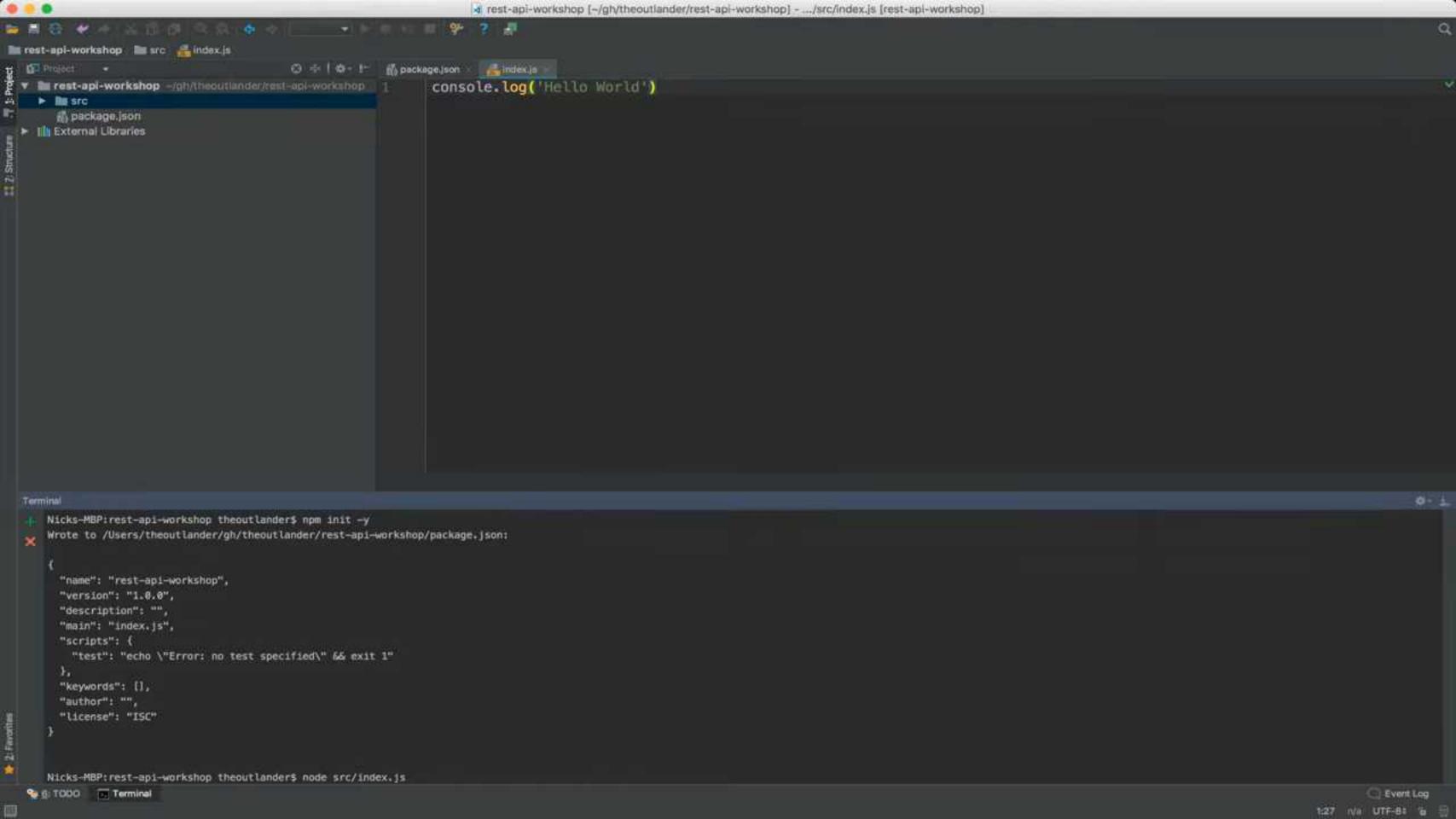
## Application Setup

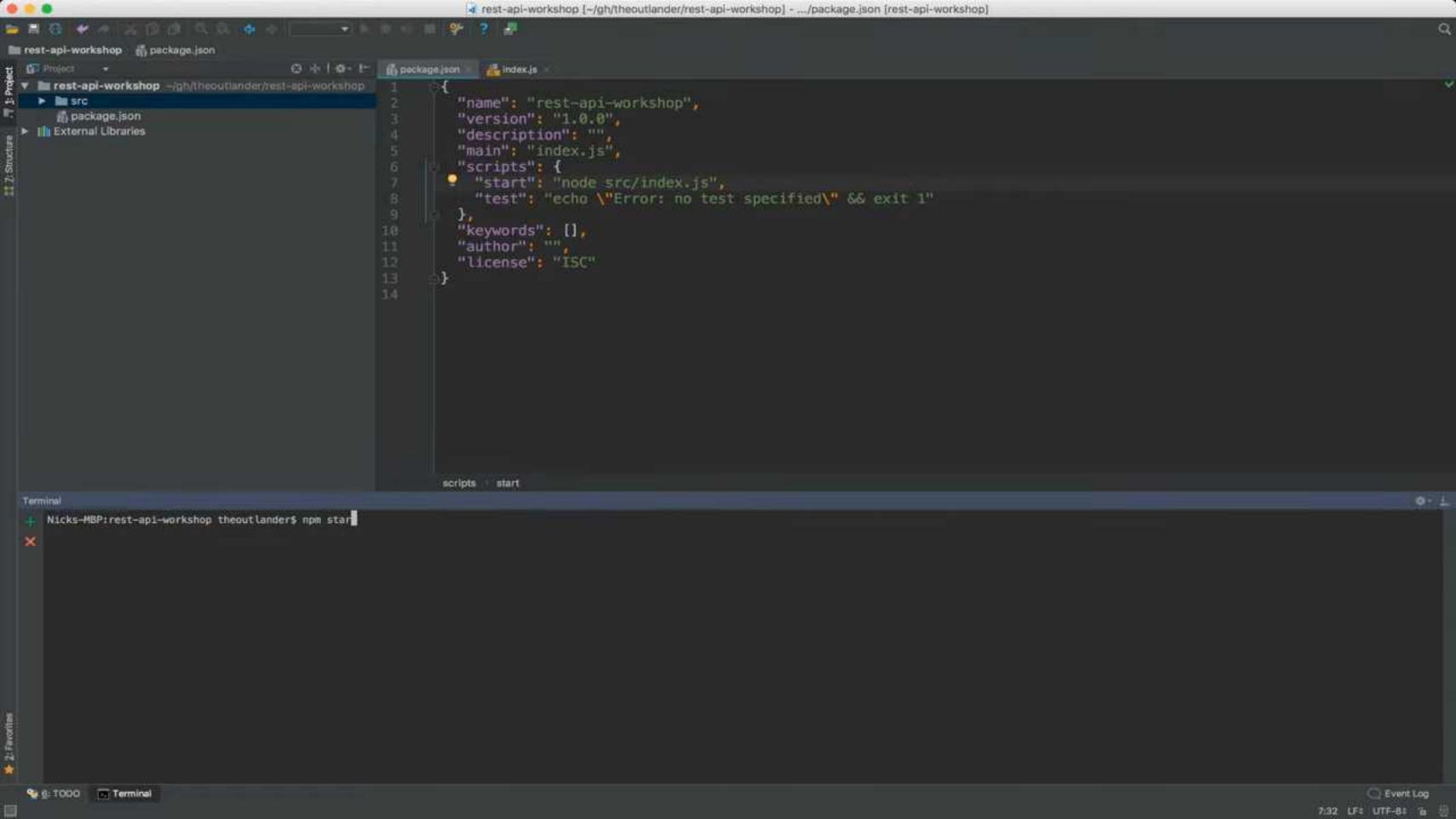
**Getting Started** 

- Project Folder
- Initialize Node.js Project
- Hello World
- Startup Scripts



```
rest-api-workshop [-/gh/theoutlander/rest-api-workshop] - .../package.json [rest-api-workshop]
m rest-api-workshop ackago json
                                         ⊕ + | Ø - | - | f peckage json
B Project *
▼ Im rest-api-workshop =/gh/theoutlandor/rest-api-workshop
       in package son
                                                                  "name": "rest-api-workshop";
External Libraries
                                                                  "version": "1.0.0",
                                                                  "description": "",
                                                                  "main": "index.js",
                                                                  "scripts": {
                                                                 "test": "echo \"Error: no test specified\" δδ exit 1"
                                                                  "keywords": [],
                                                                  "author": "",
                                                                  "license": "ISC"
     Nicks-MBP:rest-api-workshop theoutlander$ npm init -y
     Wrote to /Users/theoutlander/gh/theoutlander/rest-api-workshop/package.json:
       "name": "rest-api-workshop",
       "version": "1.0.0",
       "description": "",
       "main": "index.js",
       "scripts": {
         "test": "echo \"Error: no test specified\" 66 exit 1"
       "keywords": [],
       "author": "",
       "license": "ISC"
     Nicks-MBP:rest-api-workshop theoutlanders
  Section Terminal
                                                                                                                                                                                                         ○ Event Log
                                                                                                                                                                                                  8:5 LF: UTF-8: 6
```

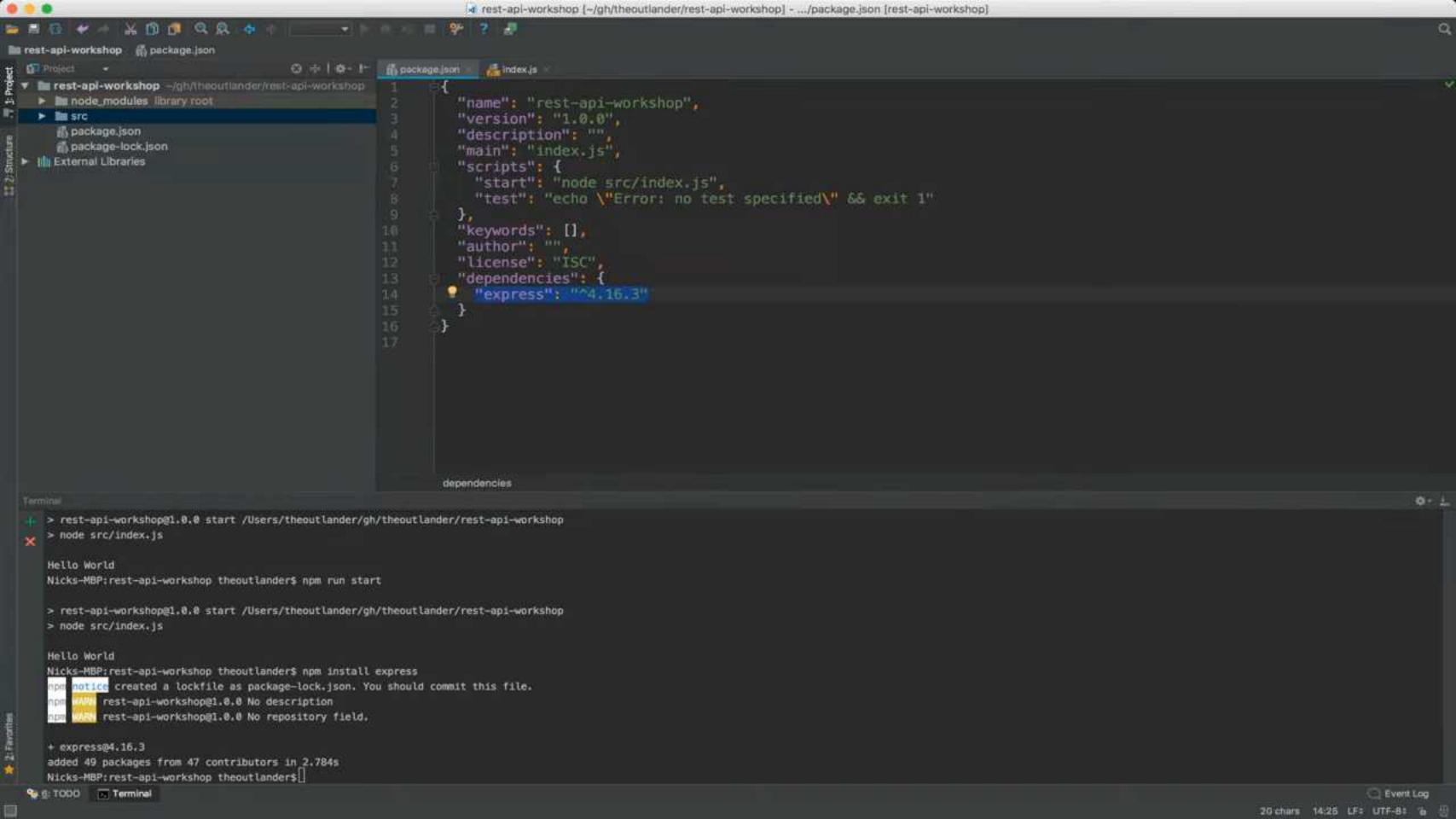


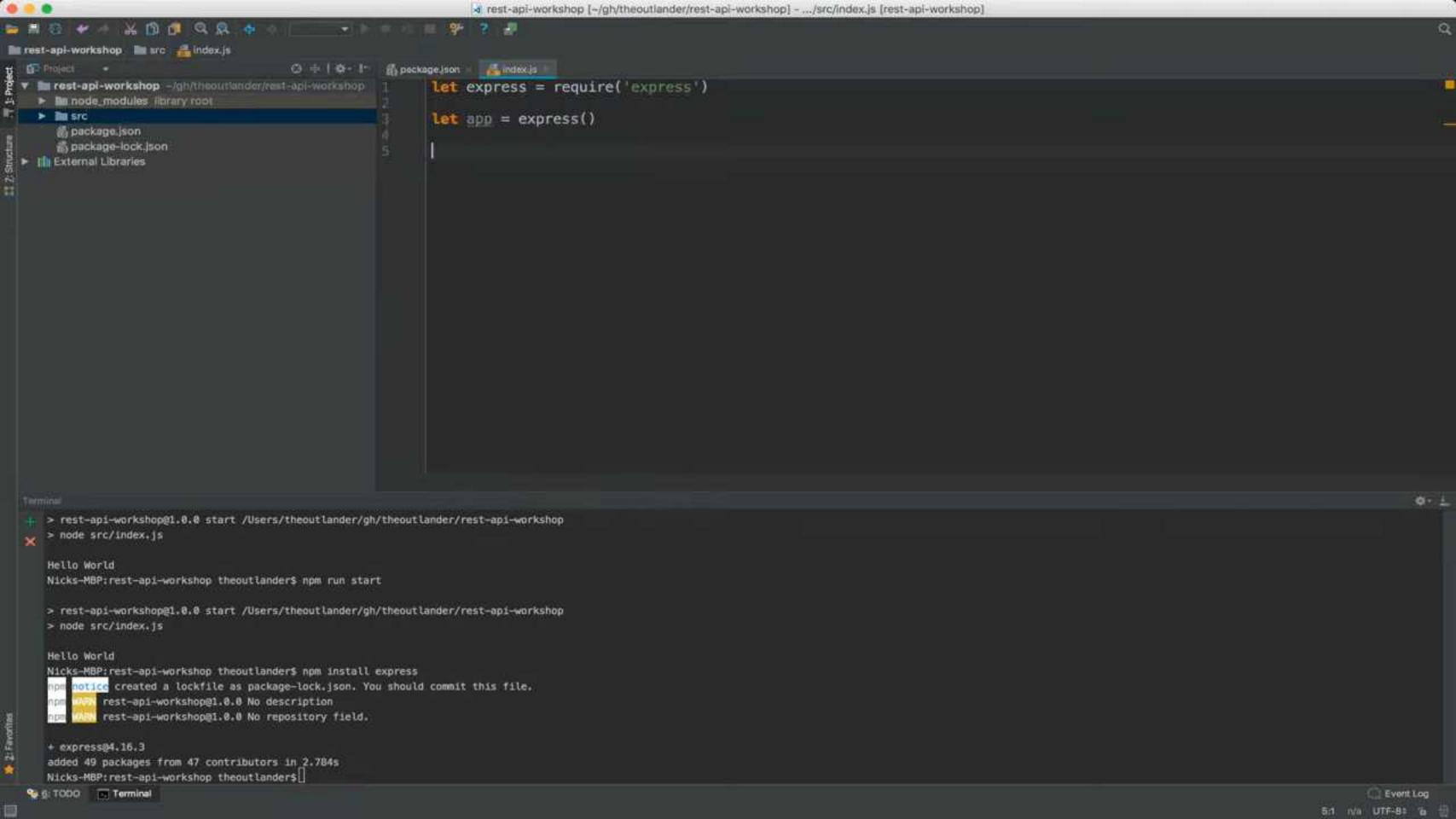


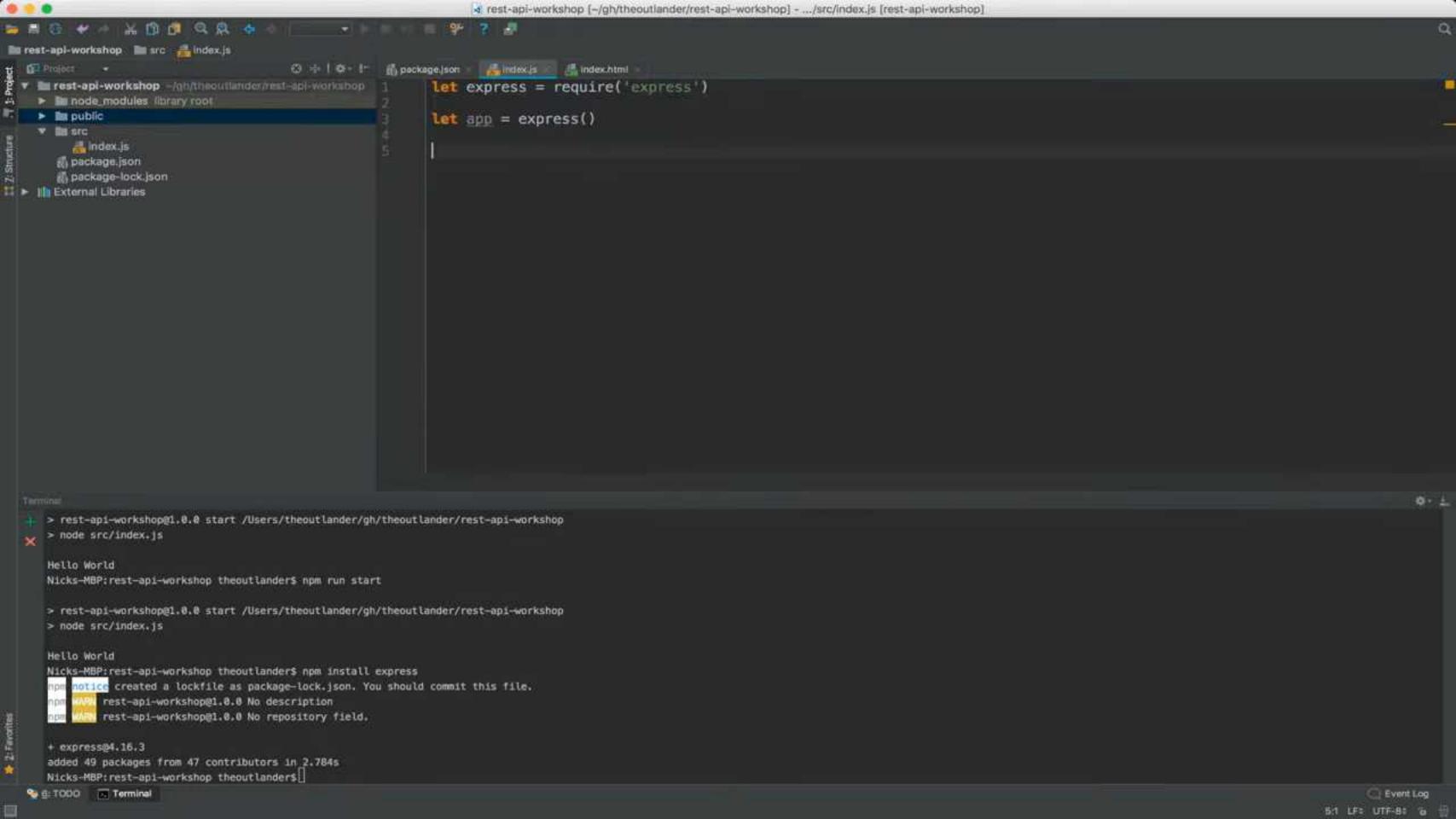
# Express

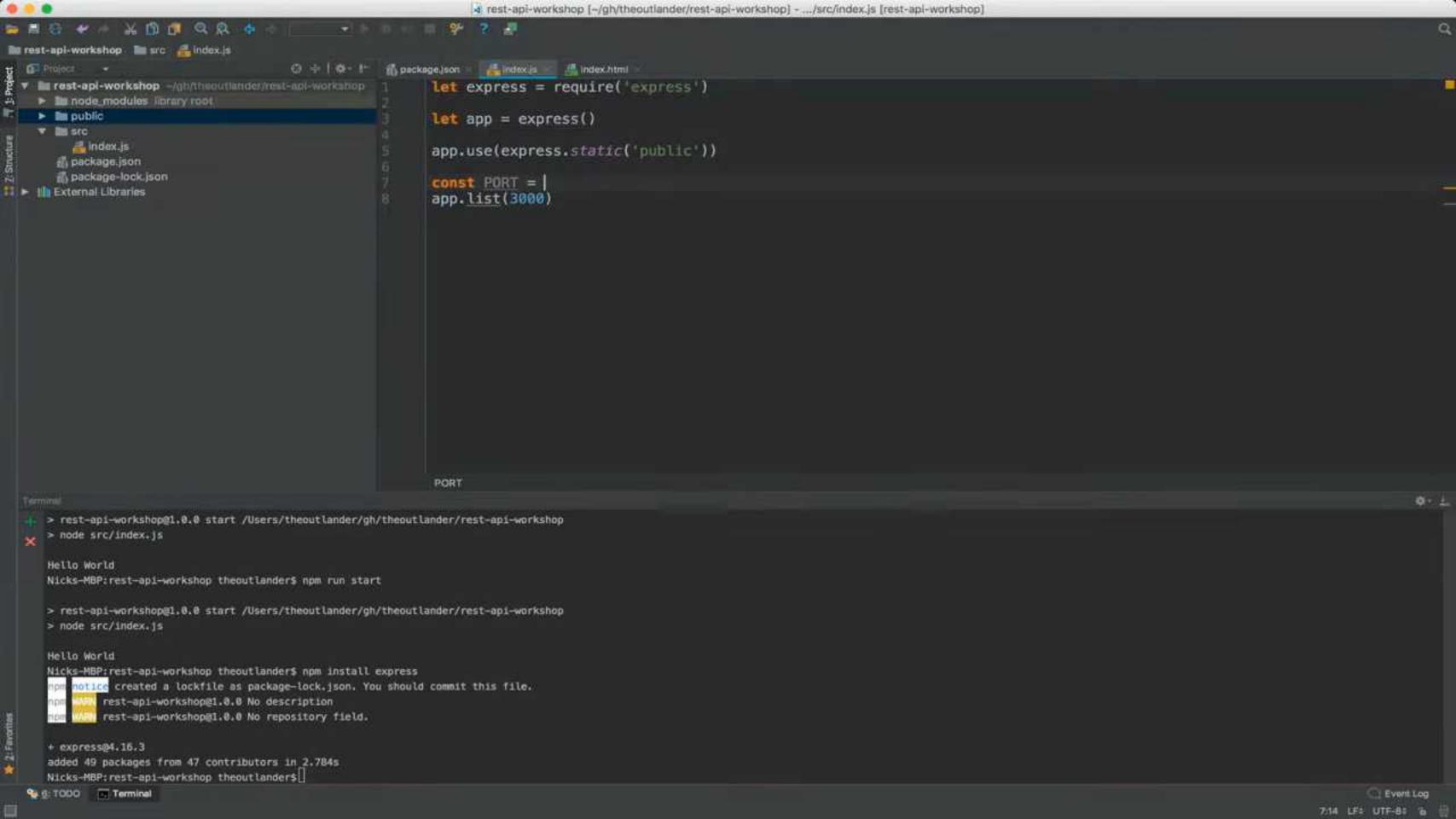
Web Server

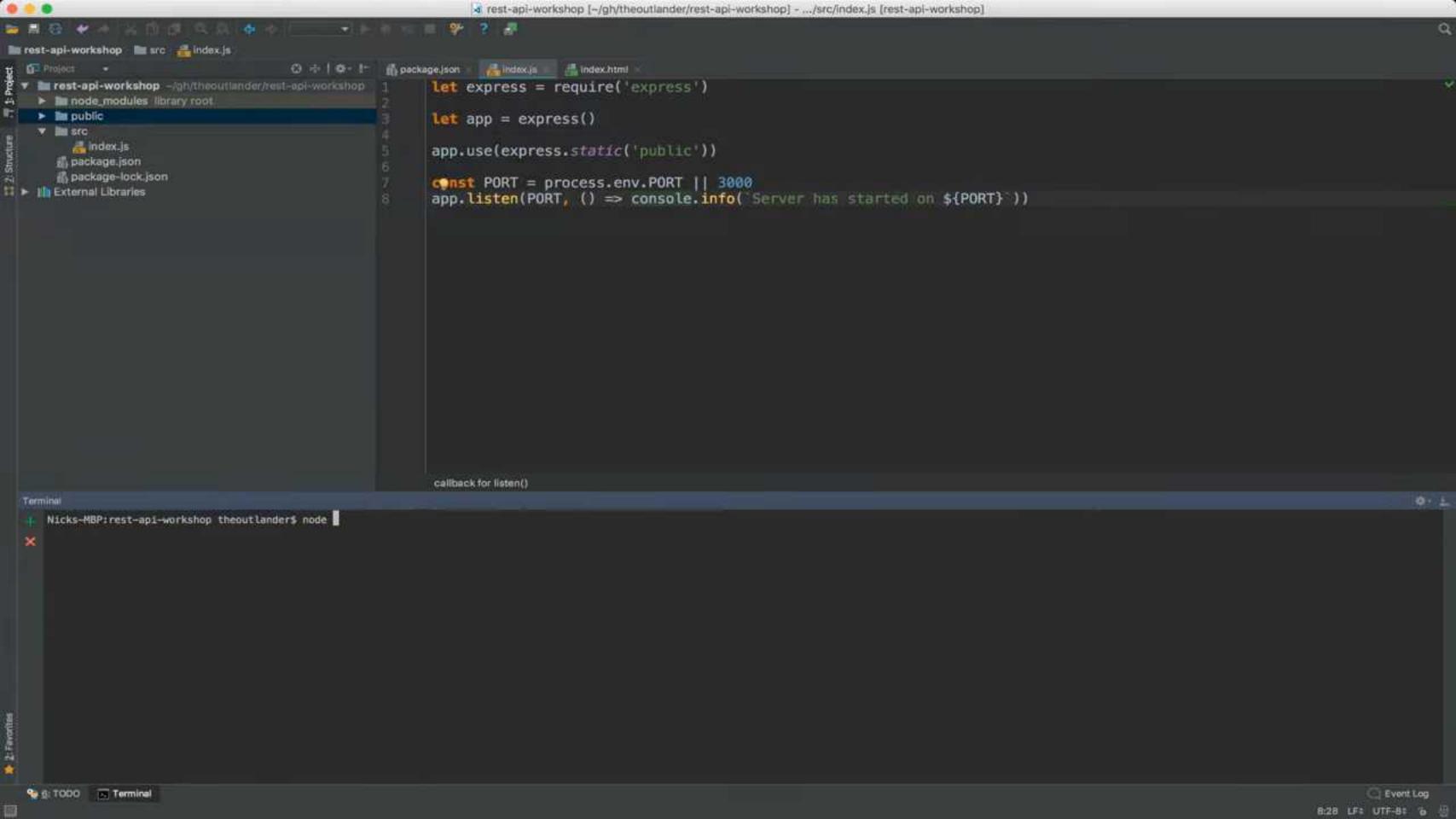
- Install Dependency
- Reference the express library
- Create express application instance











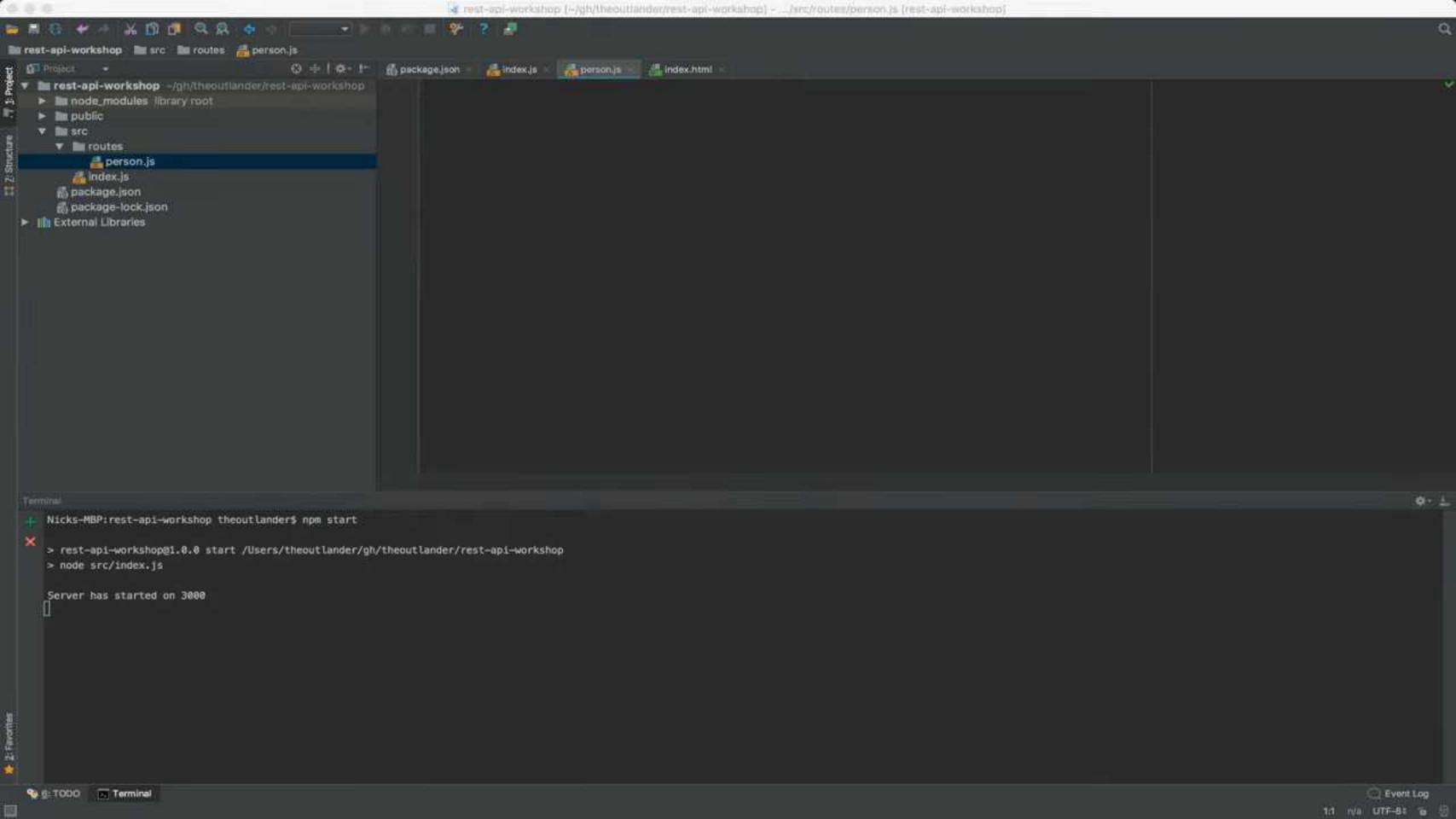


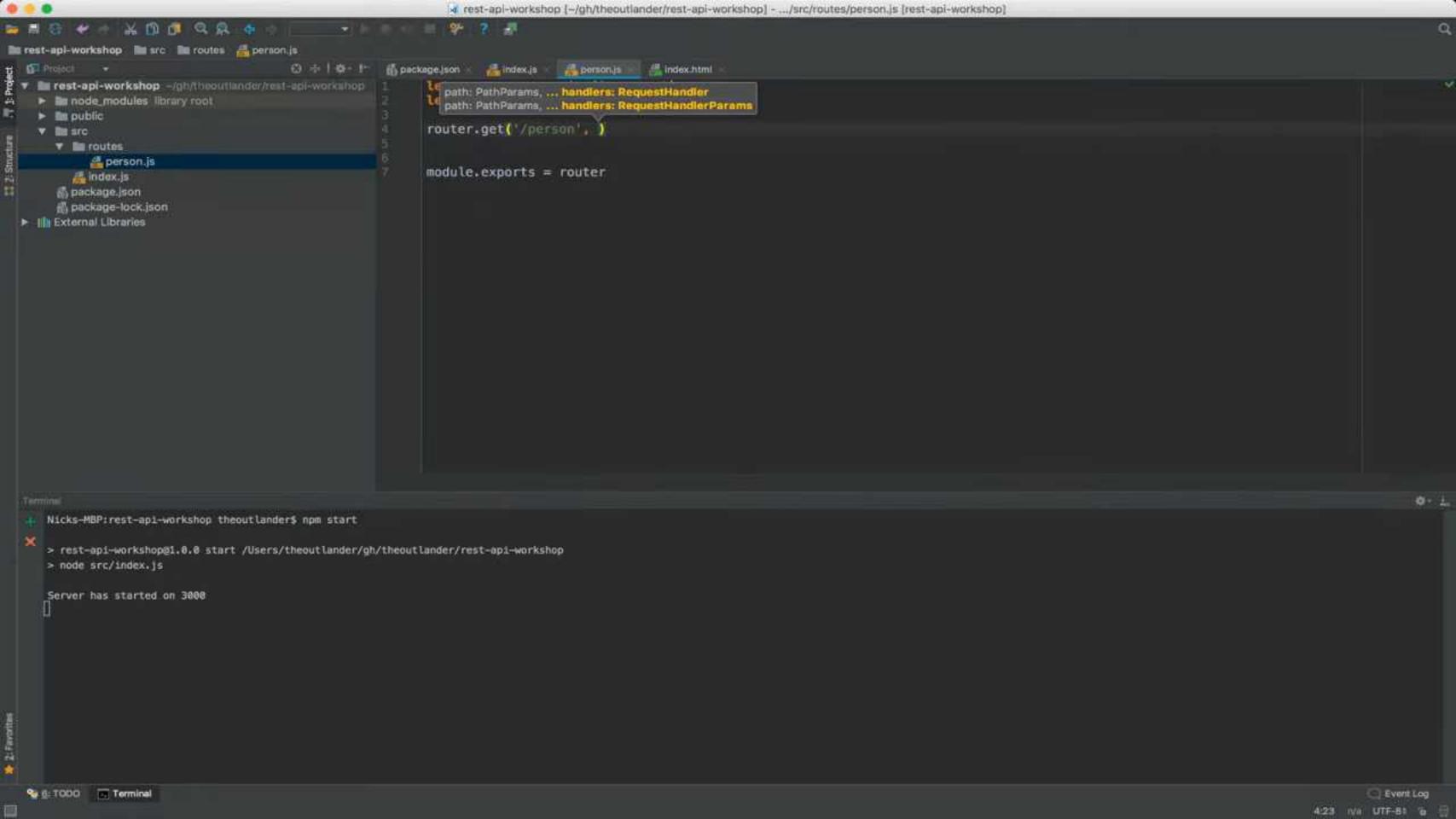
Welcome to express!

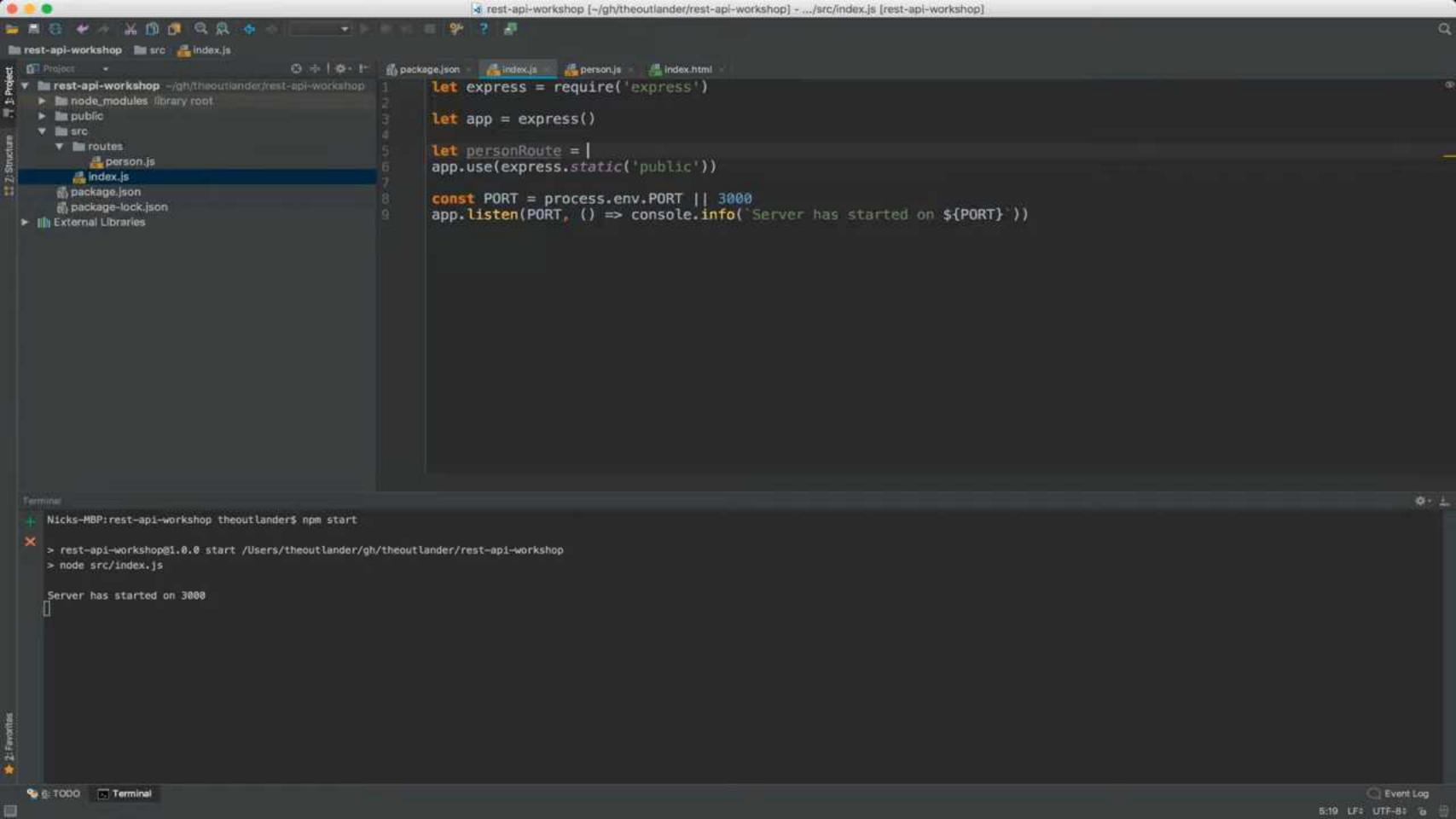
### Route

Mount to Express

- GET Request
- Request Parameters
- Query Parameters

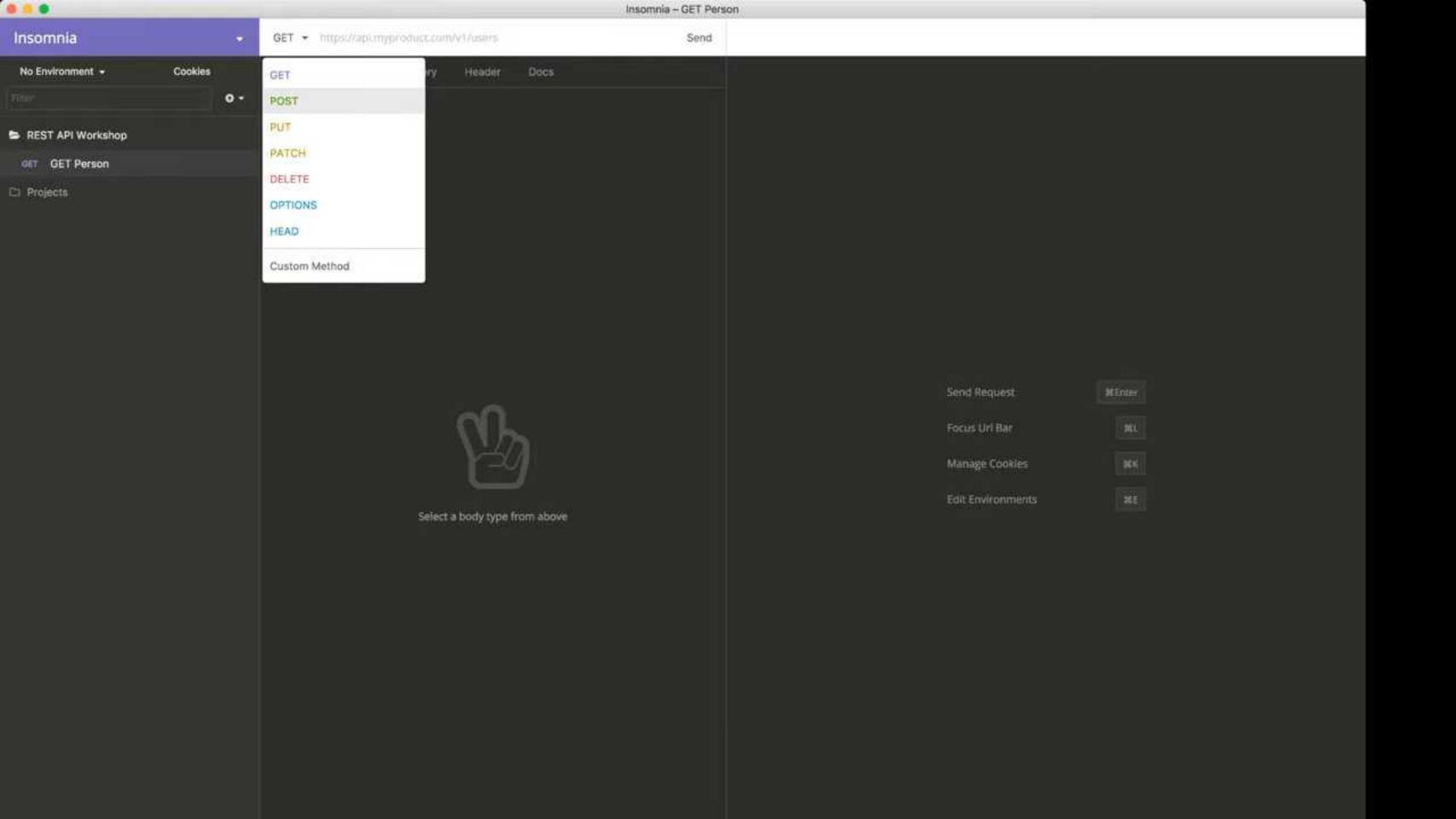


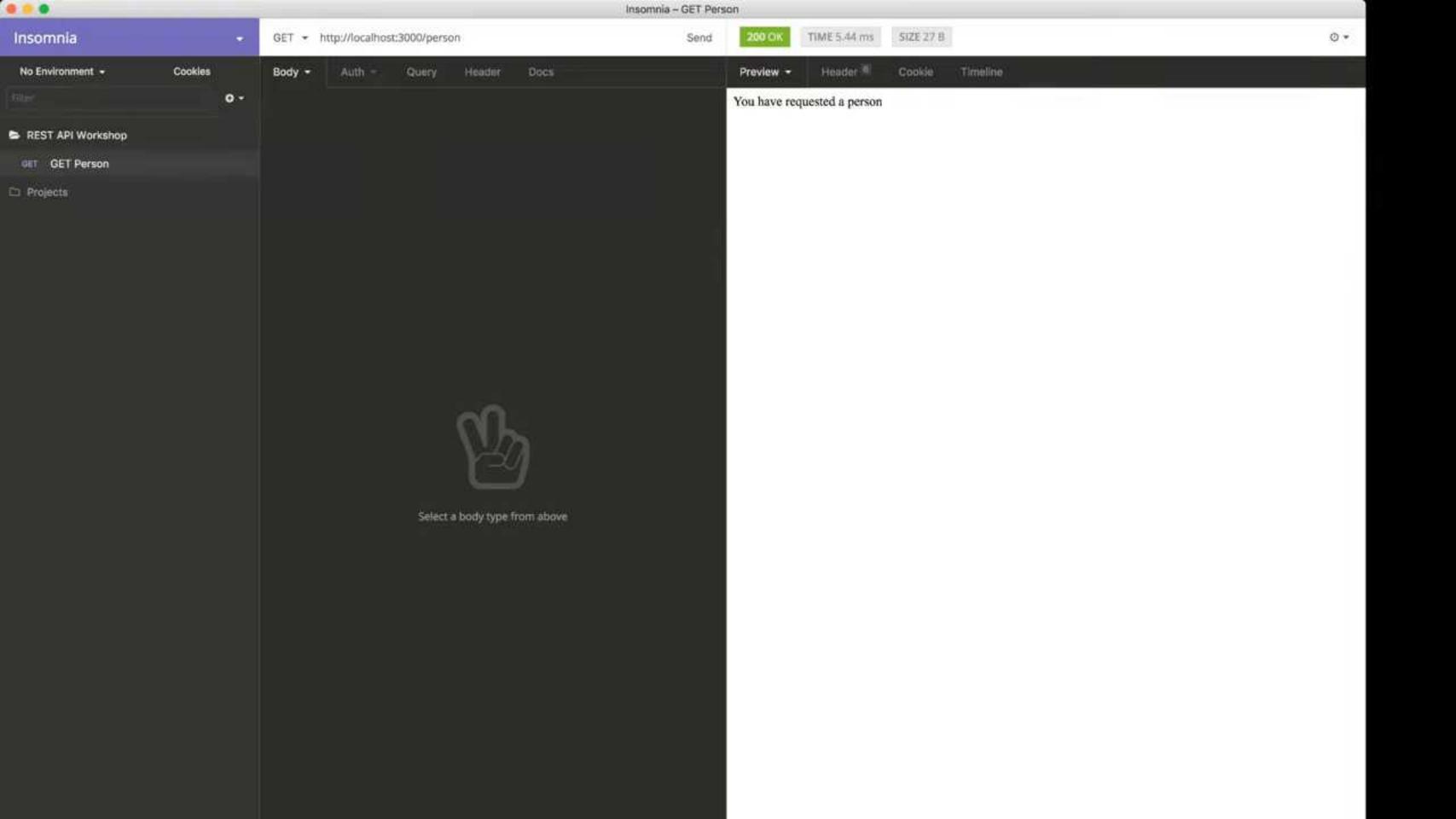






Welcome to express!





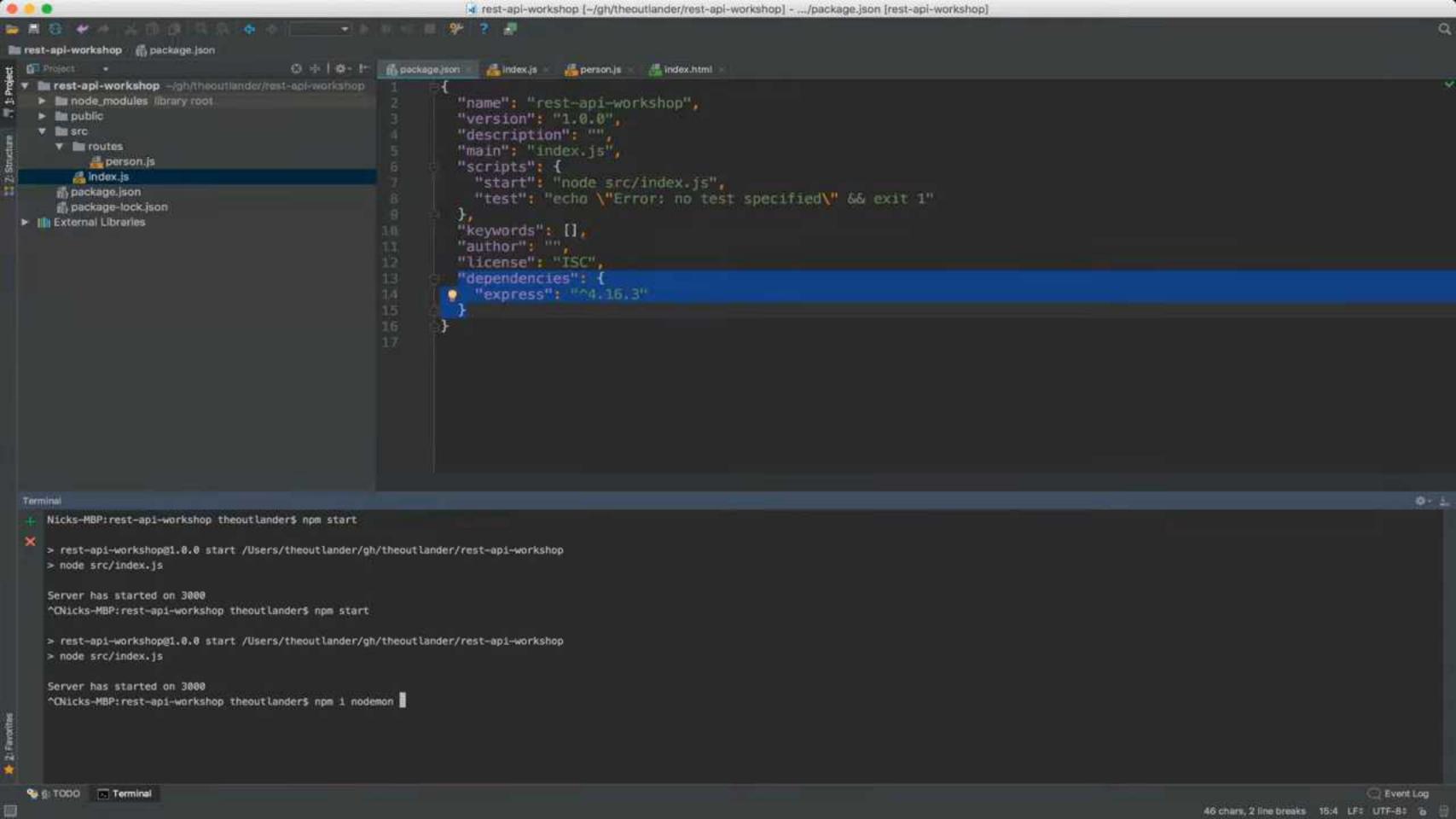


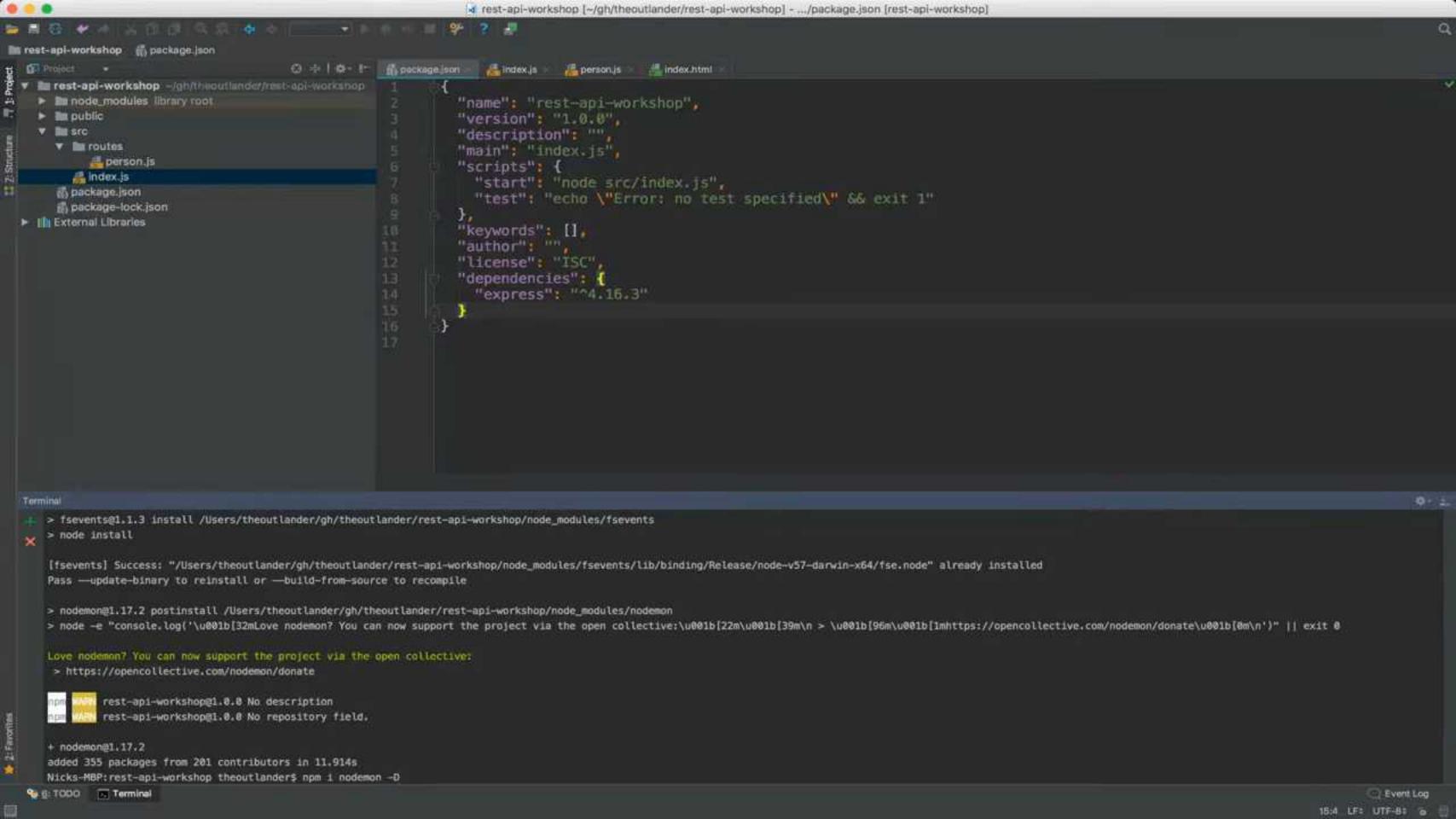
Generate Client Code

×

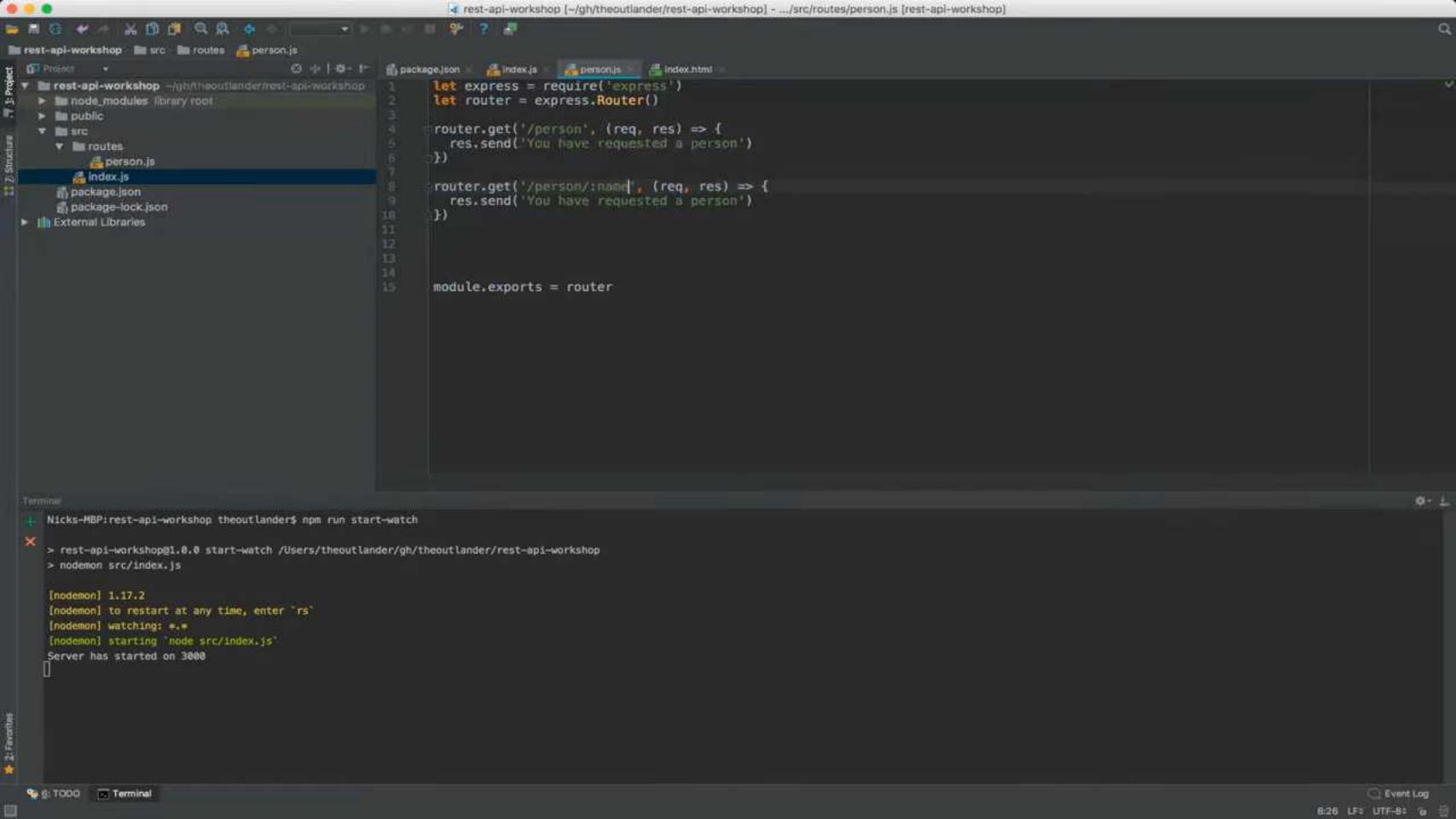


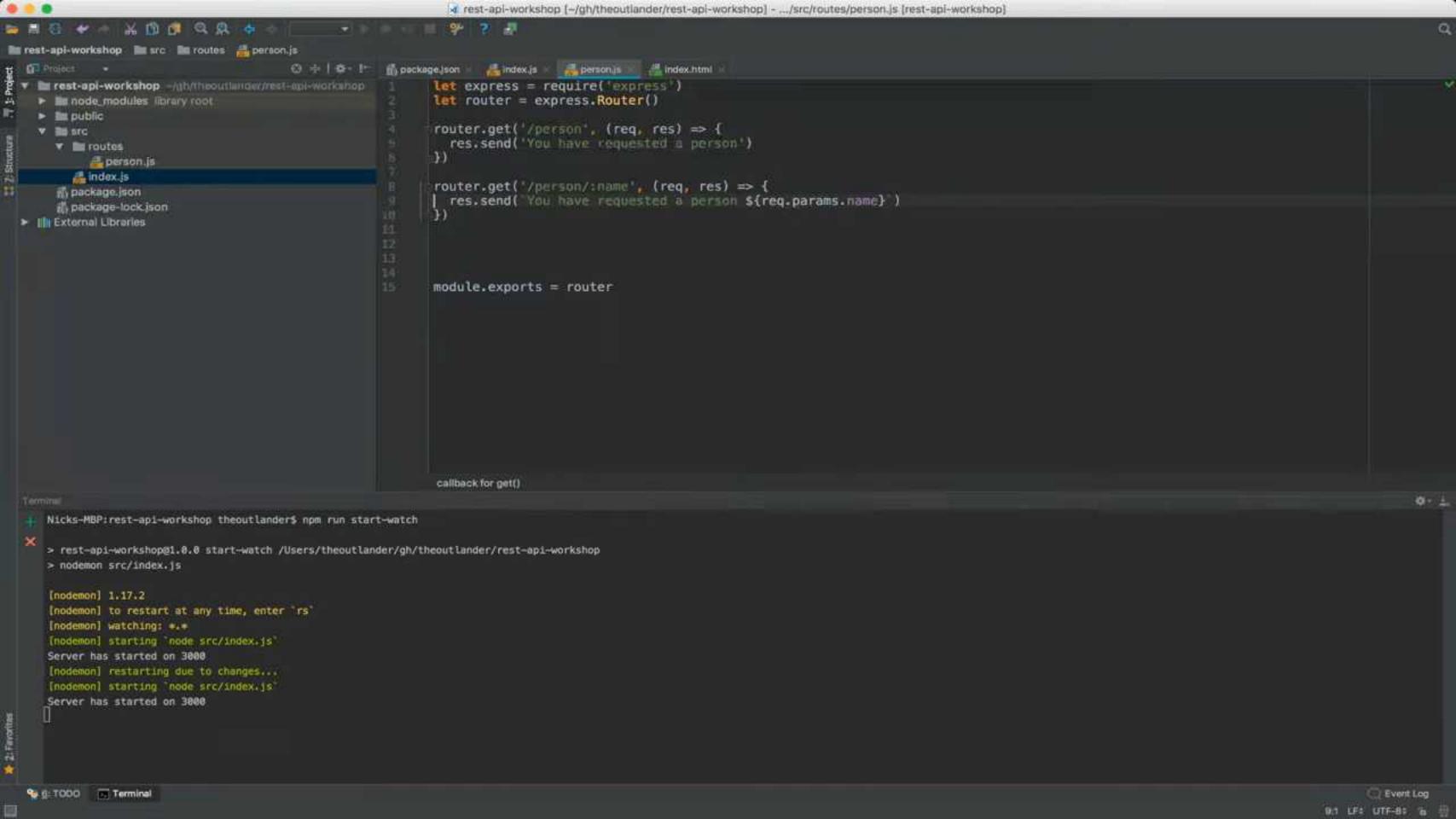
Copy to Clipboard Node.js ▼ Request \* 1 var request = require("request"); 3 var jar = request.jar(); 4 jar.setCookie(request.cookie("connect.sid=s%253A8Jq23303G5mRHoqqAX4t\_7sV12NBAfe.ffvs4HkUv0h91dG5vXVo5zRSv7MzXc gFZC4zU84]bb8Y"), "http://localhost:3000/person"); 6 - var options = { method: 'GET', url: 'http://localhost:3800/person', jar: 'JAR' }: 10 - request(options, function (error, response, body) ( 11 if (error) throw new Error(error); 12 13 consple: log(body); 14 }); 15

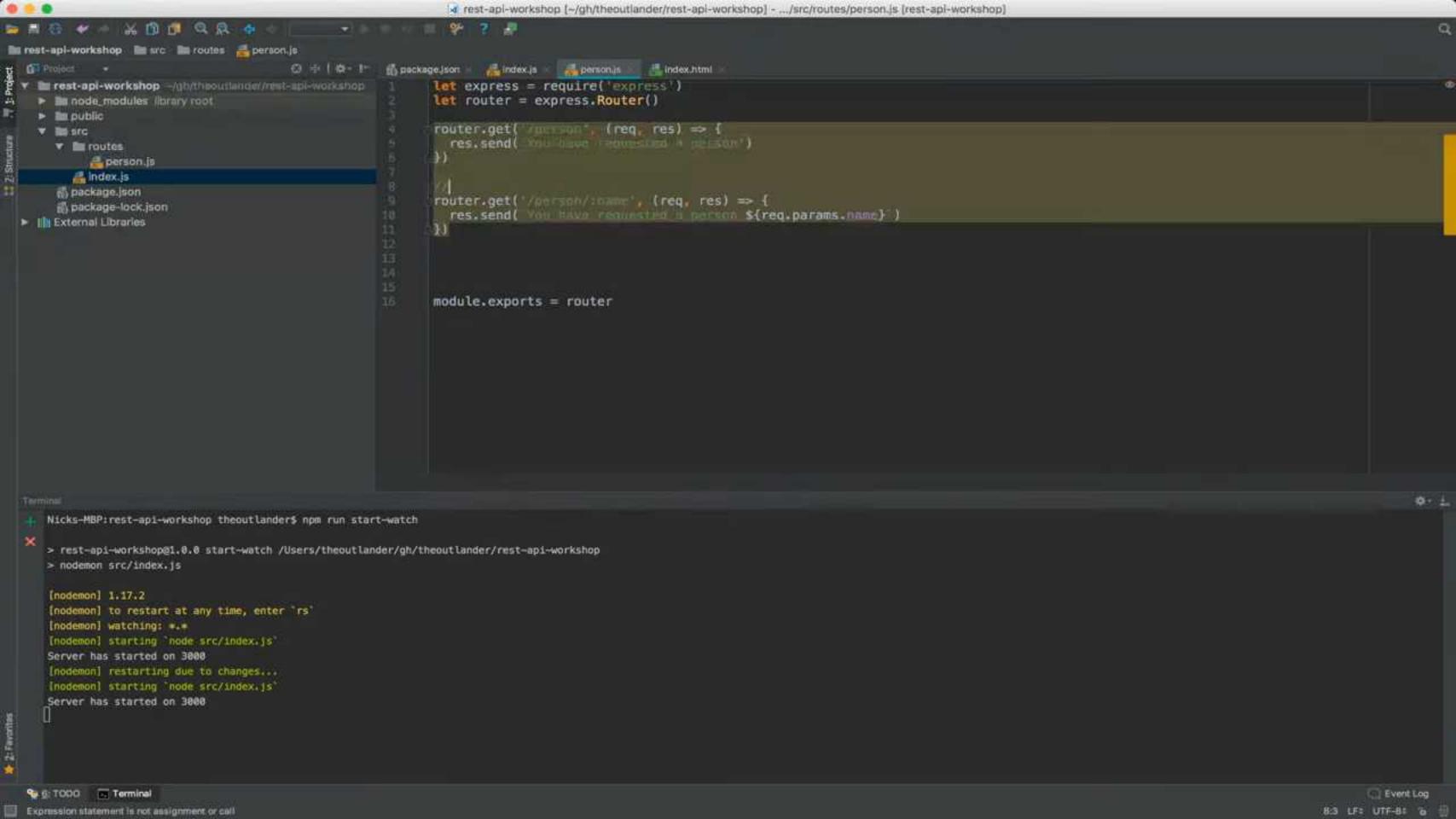




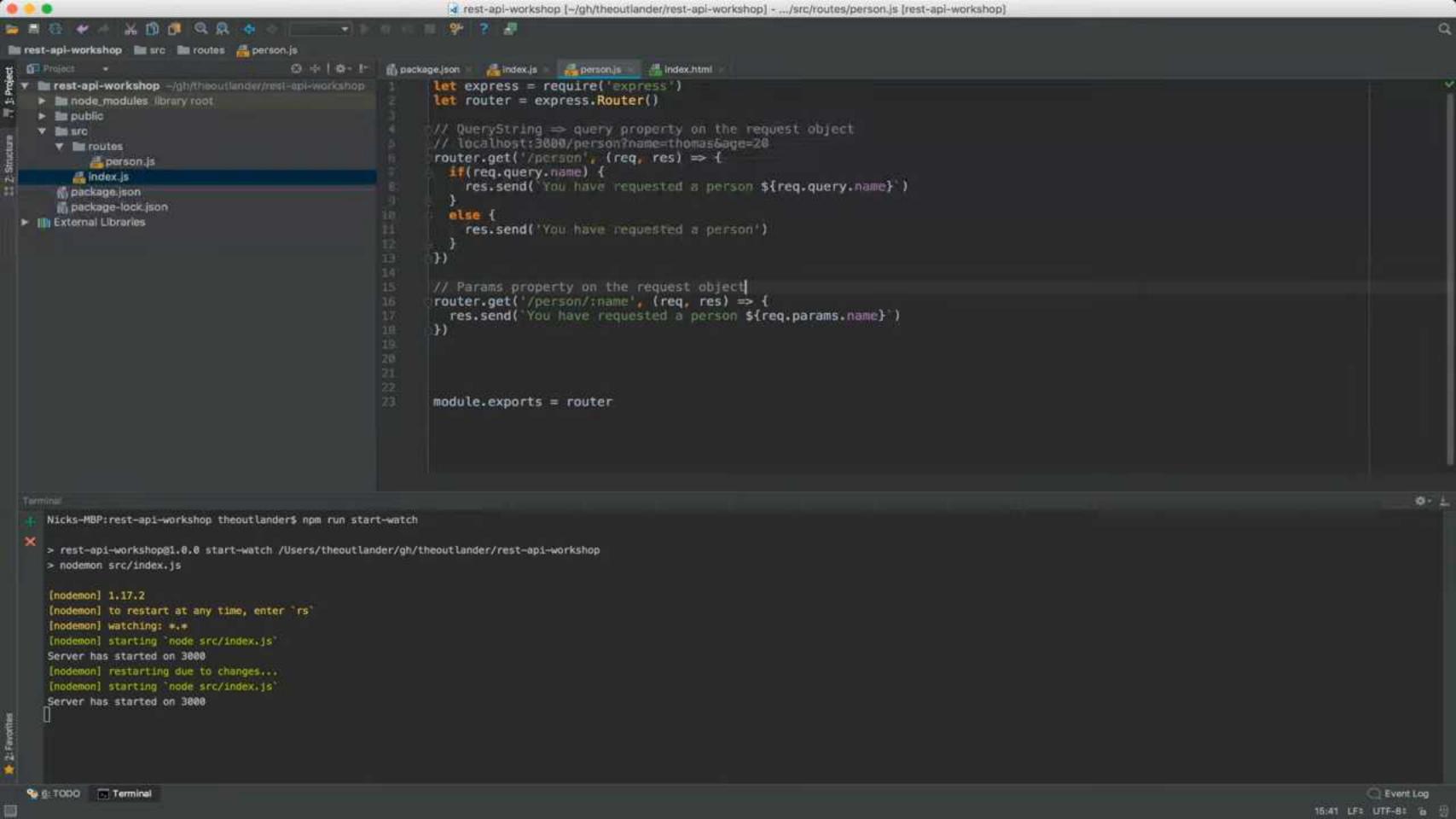


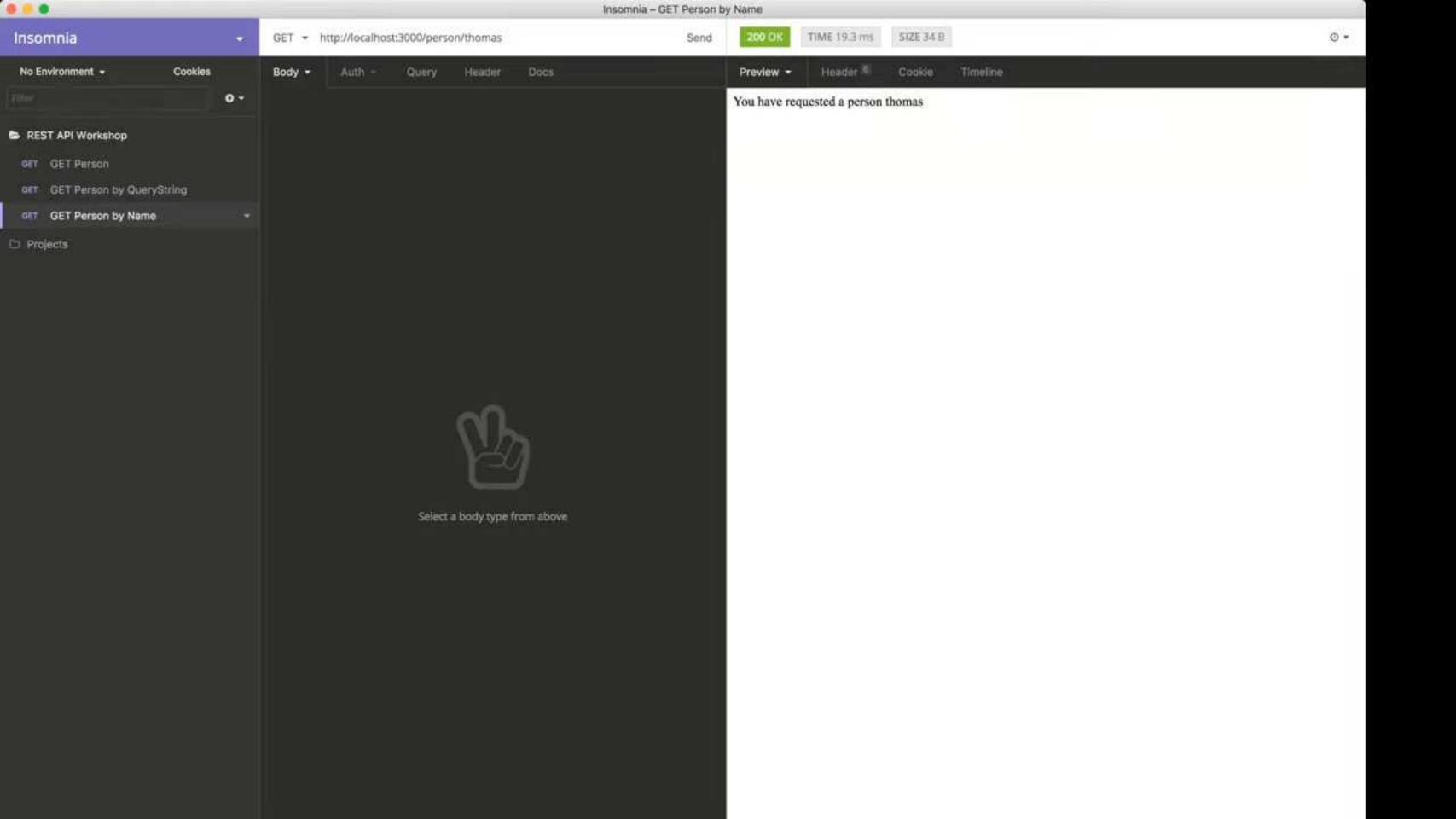






```
rest-api-workshop [-/gh/theoutlander/rest-api-workshop] - .../src/routes/person.js [rest-api-workshop]
■ II @ # > X III II Q R 4 > //
m rest-api-workshop m src m routes person is
                                        # Project *
 v im rest-api-workshop -/gh/theoutlander/rest-api-workshop
                                                            let express = require('express')
                                                            let router = express.Router()
    > im node modules library root
    ➤ Bu public
                                                            // QueryString => query property on the request object
    V Bisc
                                                            router.get('/person', (req. res) => {
      ▼ In routes
                                                              if(req.query.name) {
           person.js
         a Index.is
       a) package son
                                                               else
       package-lock ison
  ► | External Libraries
                                                                 res.send('You have requested a person')
                                                            11)
                                                            // Params property on the request object
                                                            router.get('/person/:name', (req, res) => {
                                                            res.send( You have requested a person ${req.params.name} )
                                                            1)
                                                            module.exports = router
                                                             callback for get()
     Nicks-MBP:rest-api-workshop theoutlander$ npm run start-watch
     > rest-api-workshop@1.0.0 start-watch /Users/theoutlander/gh/theoutlander/rest-api-workshop
      > nodemon src/index.js
      [nodemon] 1, 17, 2
      [nodemon] to restart at any time, enter 'rs'
      [nodemon] watching: *.*
      [nodemon] starting node src/index.js
      Server has started on 3000
      [nodemon] restarting due to changes...
      [nodemon] starting node src/index.js
      Server has started on 3000
   6: TODO Terminal
                                                                                                                                                                                                 Event Log
                                                                                                                                                                                           7:5 LF: UTF-8: 6
```





## Middleware

Functions that execute serially

- Access to request/response objects and the next middleware function in the pipeline
- Execute any code
- Make changes to the request and the response objects
- End the request-response cycle
- Call the next middleware function in the stack

```
rest-api-workshop [-/gh/theoutlander/rest-api-workshop] - .../src/index.js [rest-api-workshop]
                                                                                                                                                                                                                Q
m rest-api-workshop m src alindex.js
                                         🖸 🖶 ի 🖟 package json 💢 index.is 🚜 person js 🚜 index.html
B Project *
 ▼ mrest-api-workshop -/gh/theoutlander/rest-api-workshop
                                                               let express = require('express')

    mode_modules library root

    > Im public
                                                               let app = express()
    ▼ BB STC
       ▼ Iroutes
                                                               let personRoute = require('./routes/person')
            a person.js
         A Index.js
                                                              app.use(personRoute)
       package.json
                                                              app.use(express.static('public'))
       package-lock.json
  ► | External Libraries
                                                               const PORT = process.env.PORT || 3000
                                                              app.listen(PORT, () => console.info('Server has started on ${PORT}'))
      Nicks-MBP:rest-api-workshop theoutlander$ npm run start-watch
      > rest-api-workshop@1.0.0 start-watch /Users/theoutlander/gh/theoutlander/rest-api-workshop
      > nodemon src/index.js
      [nodemon] 1.17.2
      [nodemon] to restart at any time, enter 'rs'
      [nodemon] watching: +.+
      [nodemon] starting node src/index.js
      Server has started on 3000
      [nodemon] restarting due to changes...
      [nodemon] starting node src/index.js
      Server has started on 3000
      [nodemon] restarting due to changes...
      [nodemon] starting node src/index.js
      Server has started on 3000
  🤏 g: TODO 🕟 Terminal
                                                                                                                                                                                                     Event Log
                                                                                                                                                                                                6:1 LF: UTF-8: '6
```

```
rest-api-workshop [-/gh/theoutlander/rest-api-workshop] - .../src/index.js [rest-api-workshop]
                                                                                                                                                                                                                   Q
m rest-api-workshop m src index.js
                                         Broject *
                                                                                              index.html
                                                               let express = require('express')
 y im rest-api-workshop -/gh/theoutlander/rest-api-workshop

    Im node modules library root.

   > Be public
                                                               let app = express()
   T BE STC
      ▼ in routes
                                                               let personRoute = require('./routes/person')
           aperson.js
         a index.js
                                                               app.use((req, res, next) => {
      a) package son
                                                                  console.log
      package lock ison
 ➤ | External Libraries
                                                               app.use(personRoute)
                                                               app.use(express.static('public'))
                                                               const PORT = process.env.PORT || 3000
                                                               app.listen(PORT, () => console.info( Server has started on ${PORT} ))
                                                                callback for use()
     [nodemon] starting node src/index.js
  /Users/theoutlander/gh/theoutlander/rest-api-workshop/node_modules/express/lib/application.js:210
         throw new TypeError('app.use() requires a middleware function')
     TypeError: app.use() requires a middleware function
         at Function.use (/Users/theoutlander/gh/theoutlander/rest-api-workshop/node_modules/express/lib/application.js:210:11)
        at Object.<anonymous> (/Users/theoutlander/gh/theoutlander/rest-api-workshop/src/index.js:7:5)
        at Module,_compile (module.js:635:30)
        at Object.Module._extensions..js (module.js:646:10)
        at Module, load (module.js:554:32)
        at tryModuleLoad (module.js:497:12)
        at Function.Module._load (module.js:489:3)
        at Function.Module.runMain (module.js:676:19)
         at startup (bootstrap_node.js:187:16)
         at bootstrap_node.js:608:3
      [nodemon] app crashed - waiting for file changes before starting ...
  % 5: TODO Terminal
                                                                                                                                                                                                        Event Log
                                                                                                                                                                                                  8:14 LF: UTF-8: o
```

```
rest-api-workshop [-/gh/theoutlander/rest-api-workshop] - .../src/index.js [rest-api-workshop]
                X 10 10 Q Q 4
rest-api-workshop in src index.is
                                         ② ⇒ f Ø - I = ∰ package_son = / index.ju — i person.js × : index.html
# Project *
 Y mrest-api-workshop -/gh/theoutlander/rest-api-workshop
                                                                let express = require('express')
   > Im node modules library root
   > Im public
                                                               let app = express()
   T Bisco
      ▼ in routes
                                                                let personRoute = require('./routes/person')
           aperson.js
         index.is
                                                               app.use((req, res, next) >> {
      package ison
                                                                  console.log( ${new Date().toString()} => ${req.originalUrl} )
       package-lock ison
 ➤ | External Libraries
                                                                  next()
                                                               3)
                                                               app.use(personRoute)
                                                               app.use(express.static('public'))
                                                                const PORT = process.env.PORT || 3000
                                                               app.listen(PORT, () => console.info( Server has started on ${PORT} ))
     TypeError: app.use() requires a middleware function
         at Function.use (/Users/theoutlander/gh/theoutlander/rest-api-workshop/node_modules/express/lib/application.js:210:11)
         at Object.<anonymous> (/Users/theoutlander/gh/theoutlander/rest-api-workshop/src/index.js:7:5)
         at Module._compile (module.js:635:30)
         at Object.Module._extensions..js (module.js:646:10)
         at Module.load (module.js:554:32)
         at tryModuleLoad (module.js:497:12)
         at Function.Module._load (module.js:489:3)
         at Function.Module.runMain (module.js:676:10)
         at startup (bootstrap_node.js:187:16)
         at bootstrap_node.js:688:3
     [nodemon] app crashed — waiting for file changes before starting...
     [nodemon] restarting due to changes...
     [nodemon] starting node src/index.js
     Server has started on 3000
  % 6: TODO Terminal
                                                                                                                                                                                                          Event Log
                                                                                                                                                                                                   14:6 UF: UTF-8: 6
```

```
rest-api-workshop [-/gh/theoutlander/rest-api-workshop] - .../src/index.js [rest-api-workshop]
Im rest-api-workshop Im src index.js
                                     © → | ♦ | index.html
# Project *
▼ mrest-api-workshop —/gh/theoutlander/rest-api-workshop
                                                        let express = require('express')

    Im node modules library root

   > Bu public
                                                        let app = express()
   ▼ BH STC
      ▼ Proutes
                                                        let personRoute = require('./routes/person')
          a person is
        # Index.is
                                                        app.use((req, res, next) => {
      package.json
                                                           console.log( ${new Date().toString()} => ${req.originalUrl} )
      package-lock.json
                                                           next()
 ► | External Libraries
                                                        1)
                                                        app.use(personRoute)
                                                        app.use(express.static('public'))
                                                        const PORT = process.env.PORT || 3000
                                                        app.listen(PORT, () => console.info( Server has started on ${PORT} ))
  Thu Mar 22 2018 18:49:46 GMT-8788 (PDT) ⇒ /person/thomas
  % 6: TODO Terminal
                                                                                                                                                                                  ○ Event Log
                                                                                                                                                                            18:9 LF: UTF-8: 6
```

## Error Pages

**Custom Handlers** 

- 404 Not Found Handler
- 500 Internal Server Error

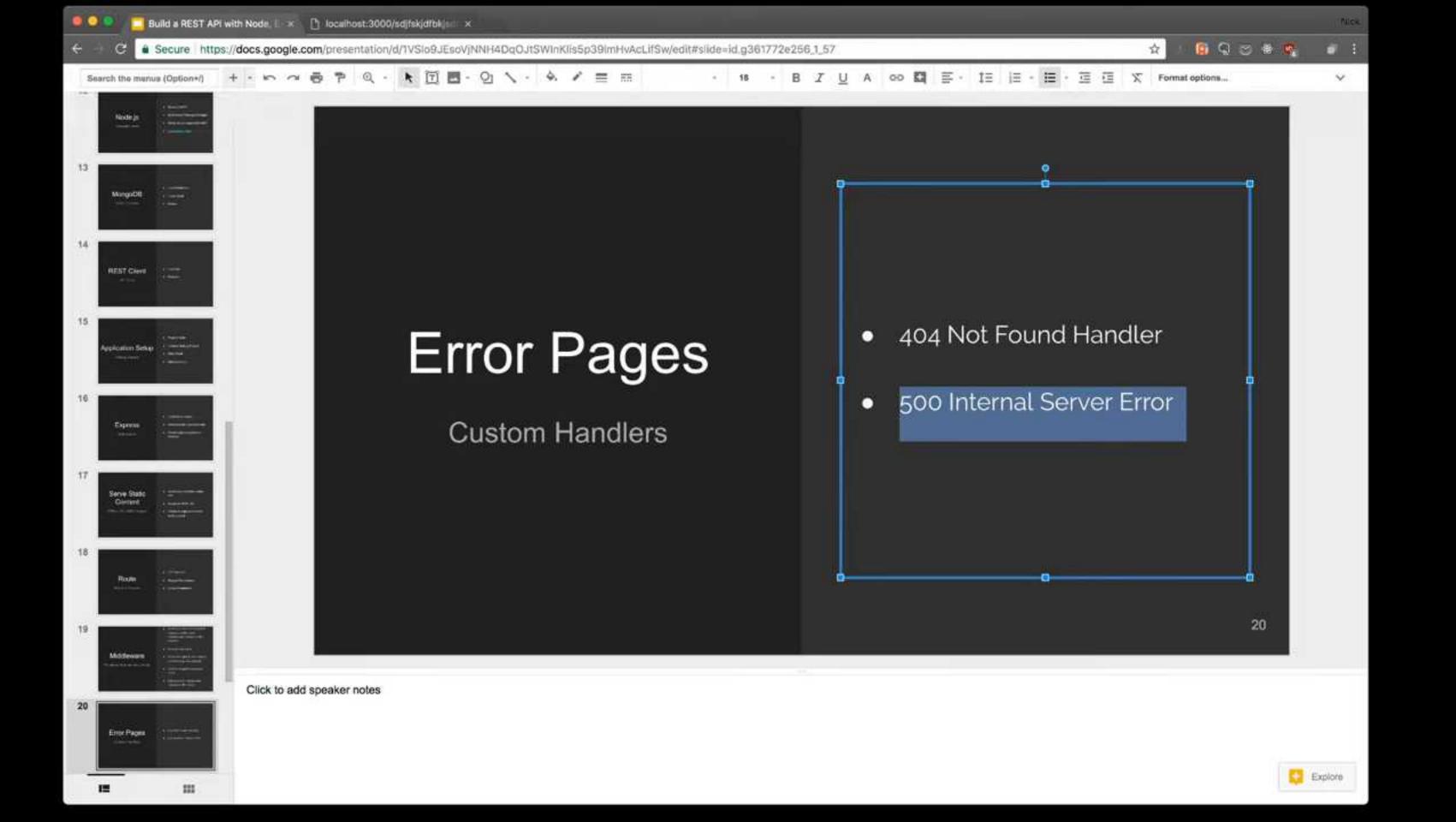
```
rest-api-workshop [-/gh/theoutlander/rest-api-workshop] - .../src/index.js [rest-api-workshop]
* A P T C X + S E =
m rest-api-workshop m src and index.js
                                    g Project •
 ▼ Im rest-api-workshop -/gh/theoutlander/rest-api-workshop
                                                      let express = require('express')

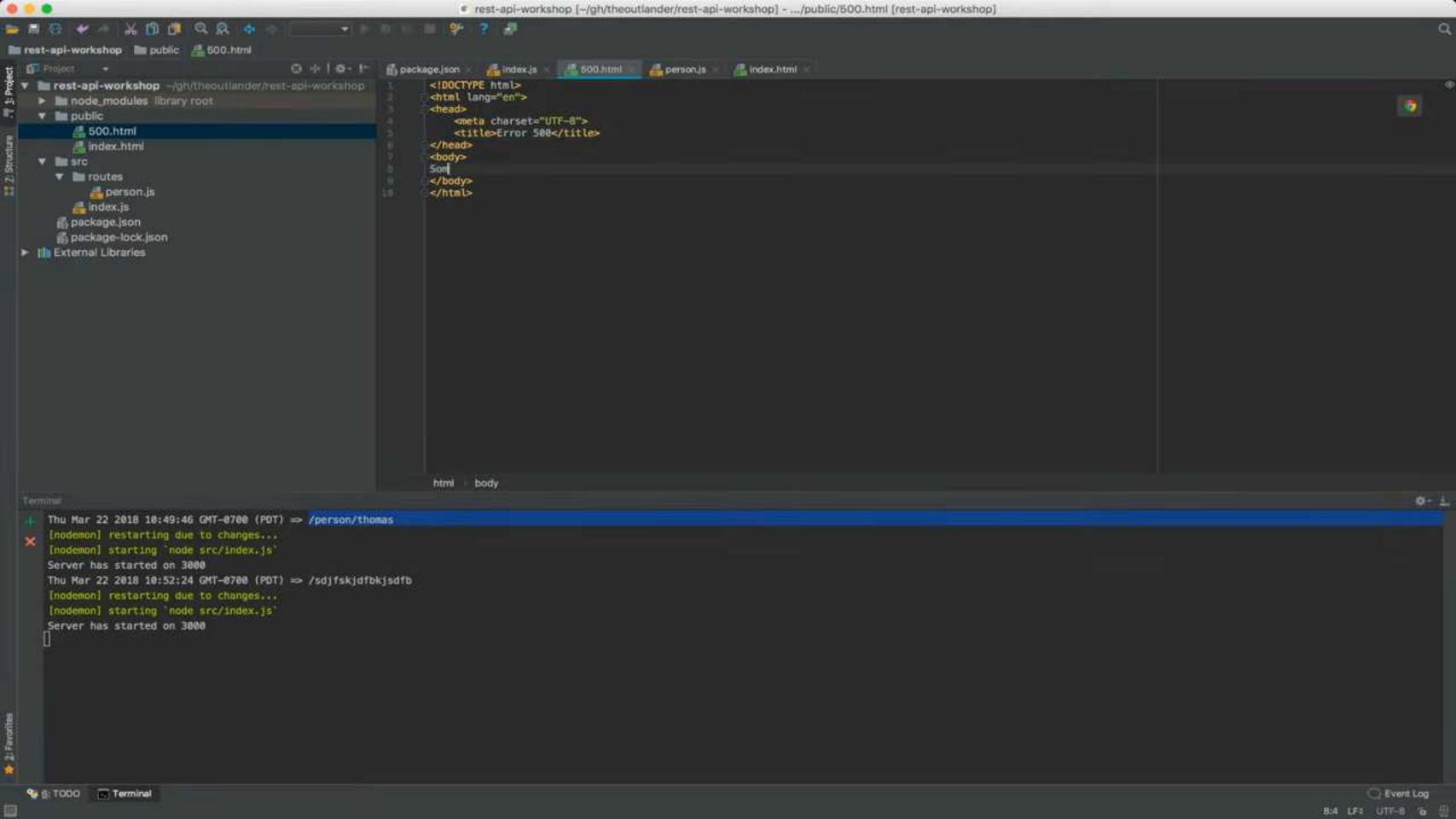
    im node_modules library root.

   > Bu public
                                                      let app = express()
    W BE STO
      ▼ mroutes
                                                       let personRoute = require('./routes/person')
          a person.js
        index.is
                                                      app.use((req, res, next) => {
      package json
                                                         console.log( ${new Date().toString()} => ${req.originalUrl} )
      package-lock ison
                                                         next()
  ▶ | External Libraries
                                                      })
                                                      app.use(personRoute)
                                                      app.use(express.static('public'))
                                                      // Handler for 404 - Resource Not Found
                                                      app.use((req, res, next) => {
                                                       res.status(404).
                                                      })
                                                      const PORT = process.env.PORT || 3000
                                                      app.listen(PORT, () => console.info('Server has started on ${PORT}'))
                                                       callback for use()
                                                                                                                                                                                  0 · 1
   Thu Mar 22 2018 18:49:46 GMT-8788 (PDT) ⇒ /person/thomas
  % 6: TODO E Terminal
                                                                                                                                                                            Event Log
圈
                                                                                                                                                                     17:19 LF: UTF-8: 6
```



We think you are lost:





```
d rest-api-workshop [-/gh/theoutlander/rest-api-workshop] - .../src/index.js [rest-api-workshop]
                                                                                                                                                                                                      a
rest-api-workshop src index is
Project •
                                       〇 中 | 中 l
                                                    package json jaket js person js di index.html
                                                            approsettied, res, next => 1
 ▼ mest-api-workshop -/gh/theoutlander/rest-api-workshop
                                                              console.log(`${new Date().toString()} => ${req.originalUrl}`)

    mode_modules library root.

                                                              next()
   ▼ Be public
                                                           3)
         3.500.html
         all index.html
                                                           app.use(personRoute)
    ▼ Bu src
                                                           app.use(express.static('public'))
      ▼ is routes
           📇 person.js
         index.js
                                                            // Handler for 404 - Resource Not Found
                                                           app.use((req, res, next) => {
       package ison
       nackage-lock.json
                                                             res.status(404).send('We think you are lost!')
  ► III External Libraries
                                                           // Handler for Error 500
                                                           app.use((err, req, res, next) => {
                                                              console.error(err.stack)
                                                                                                   ... paths: string
                                                              res.sendFile(path.join(__dirname, ''))
                                                           const PORT = process.env.PORT || 3000
                                                           app.listen(PORT, () => console.info( Server has started on ${PORT} ))
                                                            callback for use()
     Thu Mar 22 2018 10:49:46 GMT-8700 (PDT) >> /person/thomas
      [nodemon] restarting due to changes...
      [nodemon] starting node src/index.js
      Server has started on 3000
     Thu Mar 22 2018 10:52:24 GMT-0700 (PDT) > /sdjfskjdfbkjsdfb
      [nodemon] restarting due to changes...
      [nodemon] starting node src/index.js
      Server has started on 3000
      [nodemon] restarting due to changes...
      [nodemon] starting node src/index.is
     Server has started on 3000
  6: TODO Terminal
                                                                                                                                                                                            Event Log
                                                                                                                                                                                     26:38 LF: UTF-8: 6
```

```
rest-api-workshop [-/gh/theoutlander/rest-api-workshop] - .../src/routes/person.js (rest-api-workshop)
■ # @ # # X fb ff Q R * * 
Im rest-api-workshop Im src Im routes Aperson is
                                          ② 🖶 | 🌣 = | = 👸 peckage json = 🚜 index.js = 🚜 person js = 📈 index.html
Project *
 rest-api-workshop -/gh/theoutlander/rest-api-workshop
                                                               let express = require( express )
                                                               let router = express.Router()
    ➤ im node_modules library root.
    ▼ Bu public
                                                               // QueryString -> query property on the request object
          # 500.html
                                                               // localhost:3000/person?name=thomas&age=20
          a index.html
                                                               router.get('/person', (req. res) => {
    ▼ Bit stc
                                                                 if(req.query.name) {
       ▼ m routes
                                                                    res.send( You have requested a person ${req.query.name} )
            person.js
          a index.js
                                                                 else (
       ili package ison
                                                                    res.send('You have requested a person')
       a package-lock.json
  ► III External Libraries
                                                               1)
                                                               // Params property on the request object
                                                              // localhost:3000/person/thomas
                                                               router.get('/person/iname', (req, res) => {
                                                                res.send( You have requested a person ${req.params.name} )
                                                               11
                                                               router
                                                               module.exports = router
      Thu Mar 22 2018 10:49:46 GMT-0700 (POT) > /person/thomas
      [nodemon] restarting due to changes...
      [nodemon] starting node src/index.js
      Server has started on 3000
      Thu Mar 22 2018 10:52:24 GMT-8700 (PDT) > /sdjfskjdfbkjsdfb
      [nodemon] restarting due to changes...
      Inodemon | starting node src/index.js
      Server has started on 3000
      [nodemon] restarting due to changes...
      [nodemon] starting node src/index.js
      Server has started on 3000
      [nodemon] restarting due to changes...
      [nodemon] starting node src/index.js
      Server has started on 3000
   6: TODO Terminal
                                                                                                                                                                                                         Event Log
                                                                                                                                                                                                   217 LF: UTF-8: 0
```



You have requested a person error



Zeror: Thomas on such file or directory, stat //Secre/khoustimilar/gh/thomatimilar/rest-ant-ant-workshow/gre/ results 500 Mrs.)

## Mongoose

For MongoDB

- Install dependency
- Reference Mongoose
- CRUD API

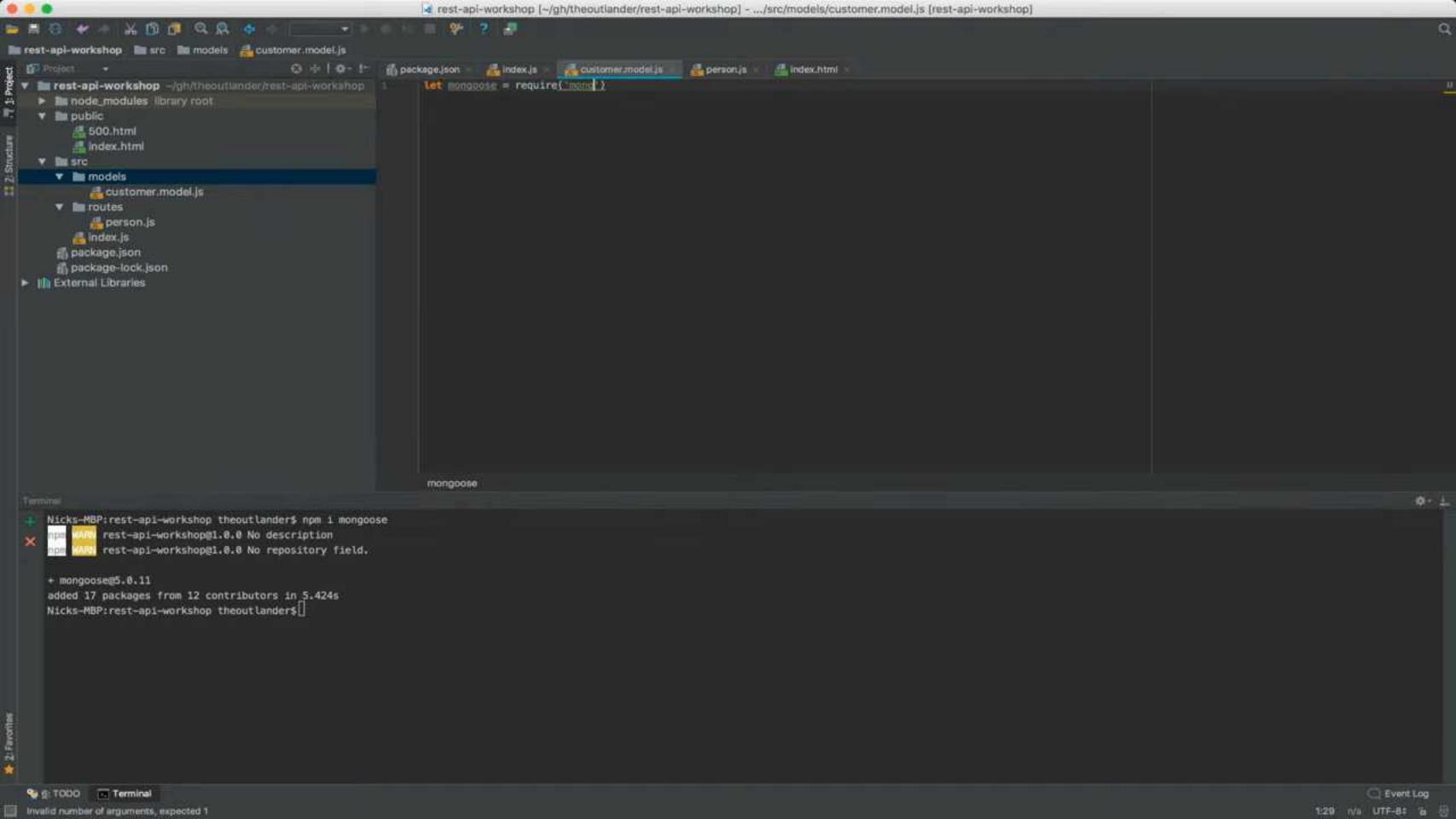
## Mongoose

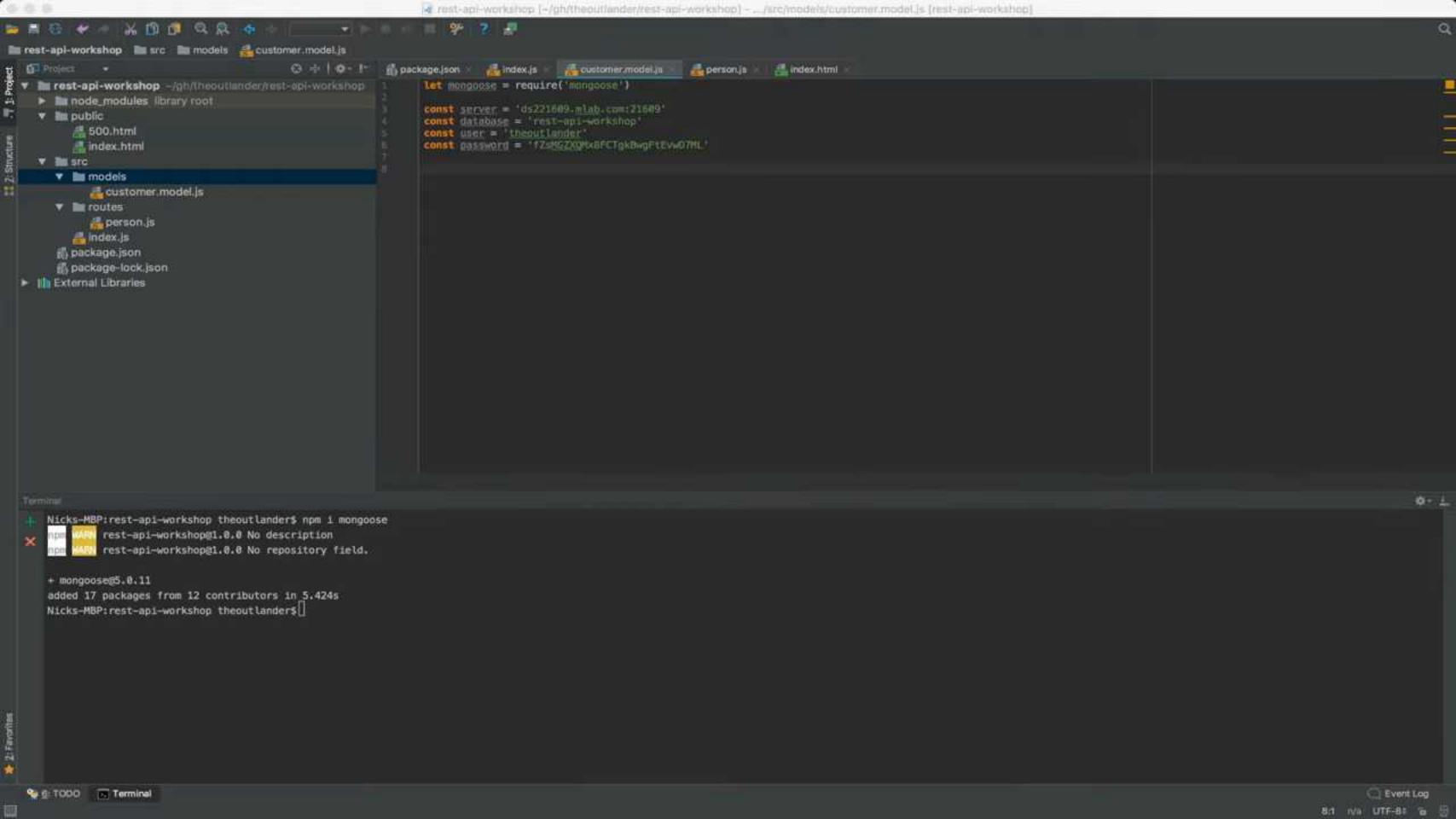
For MongoDB

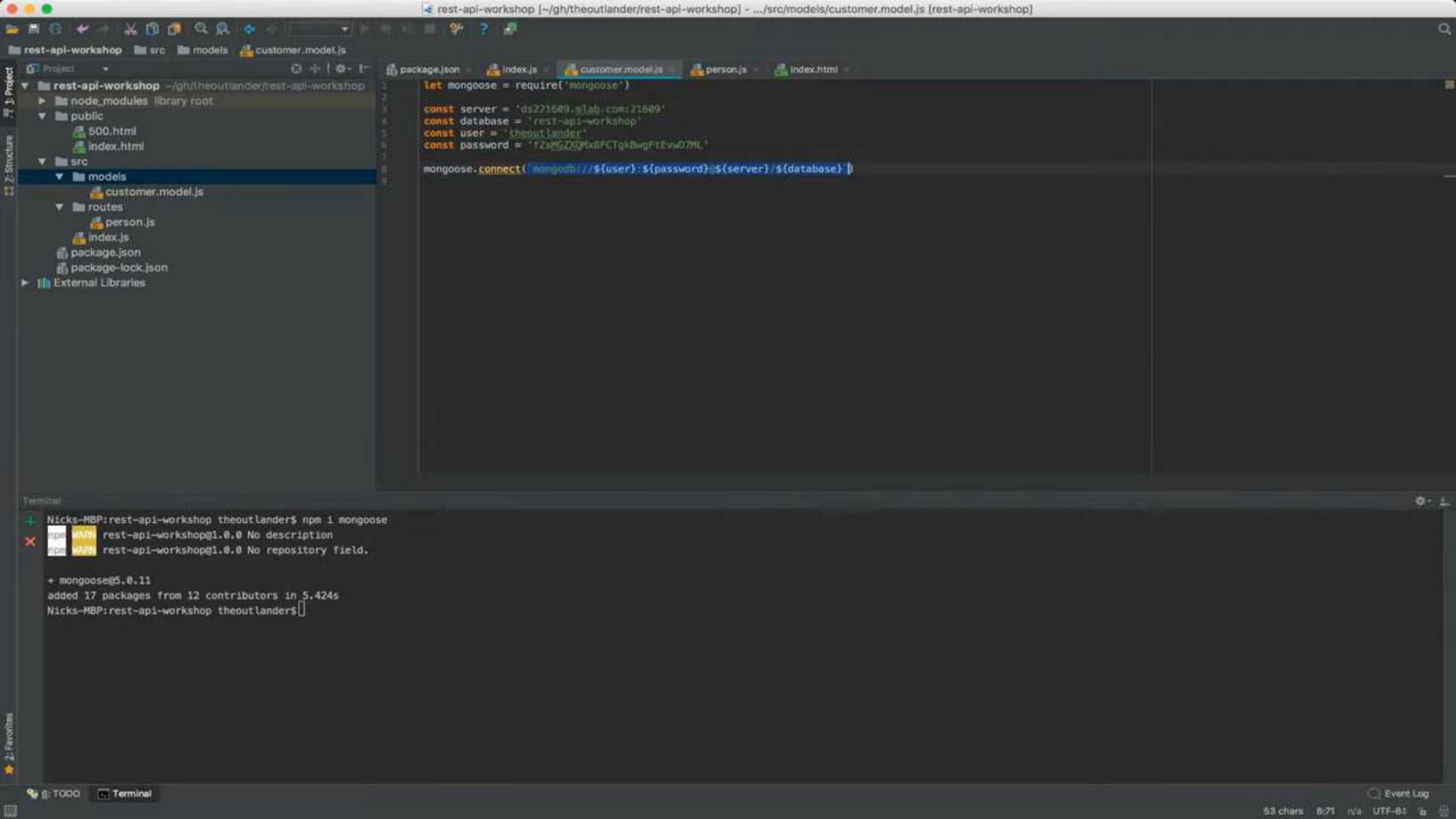
- Install dependency
- Reference Mongoose
- CRUD API

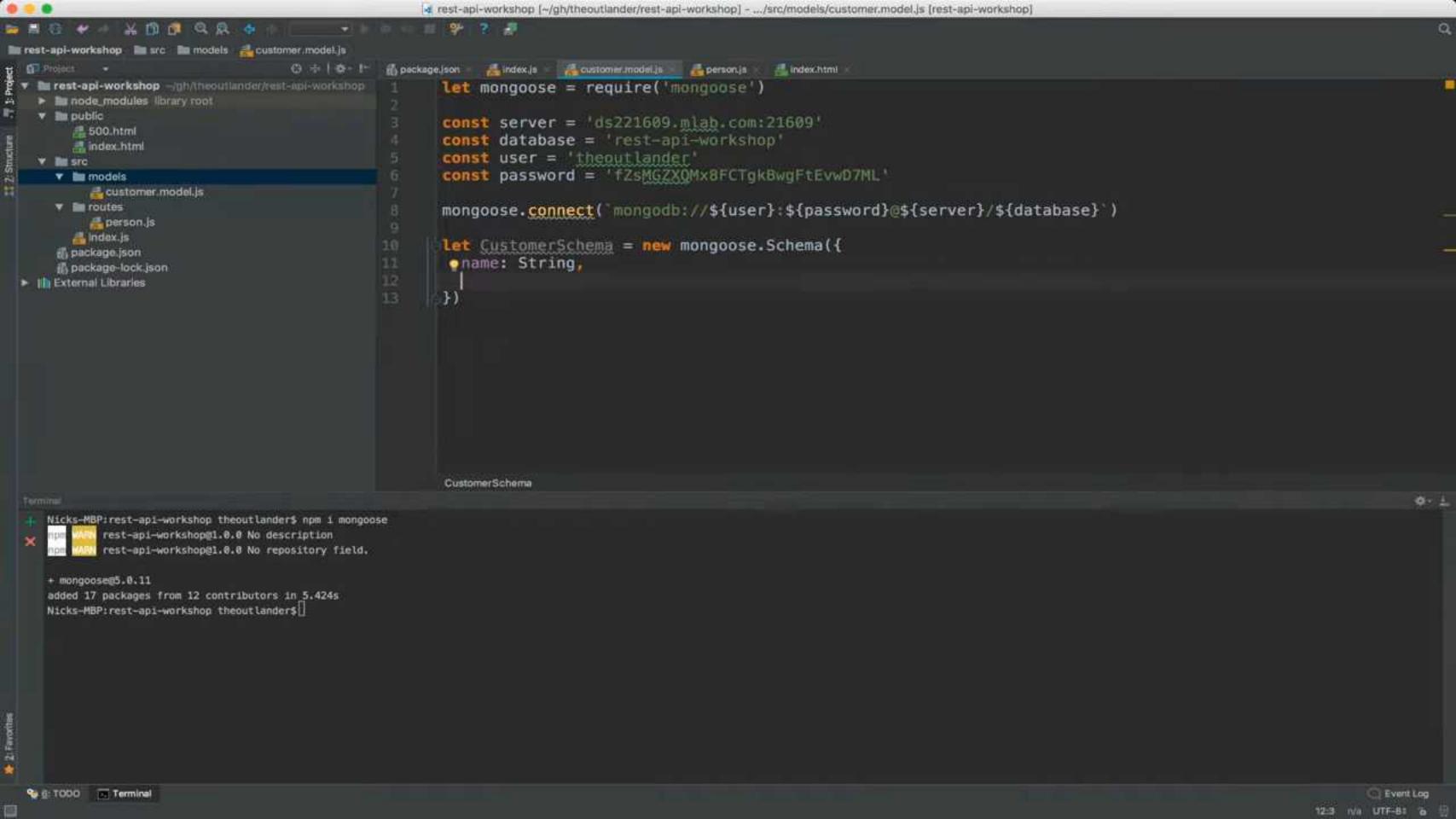
7:25 LF: UTF-8: 'a

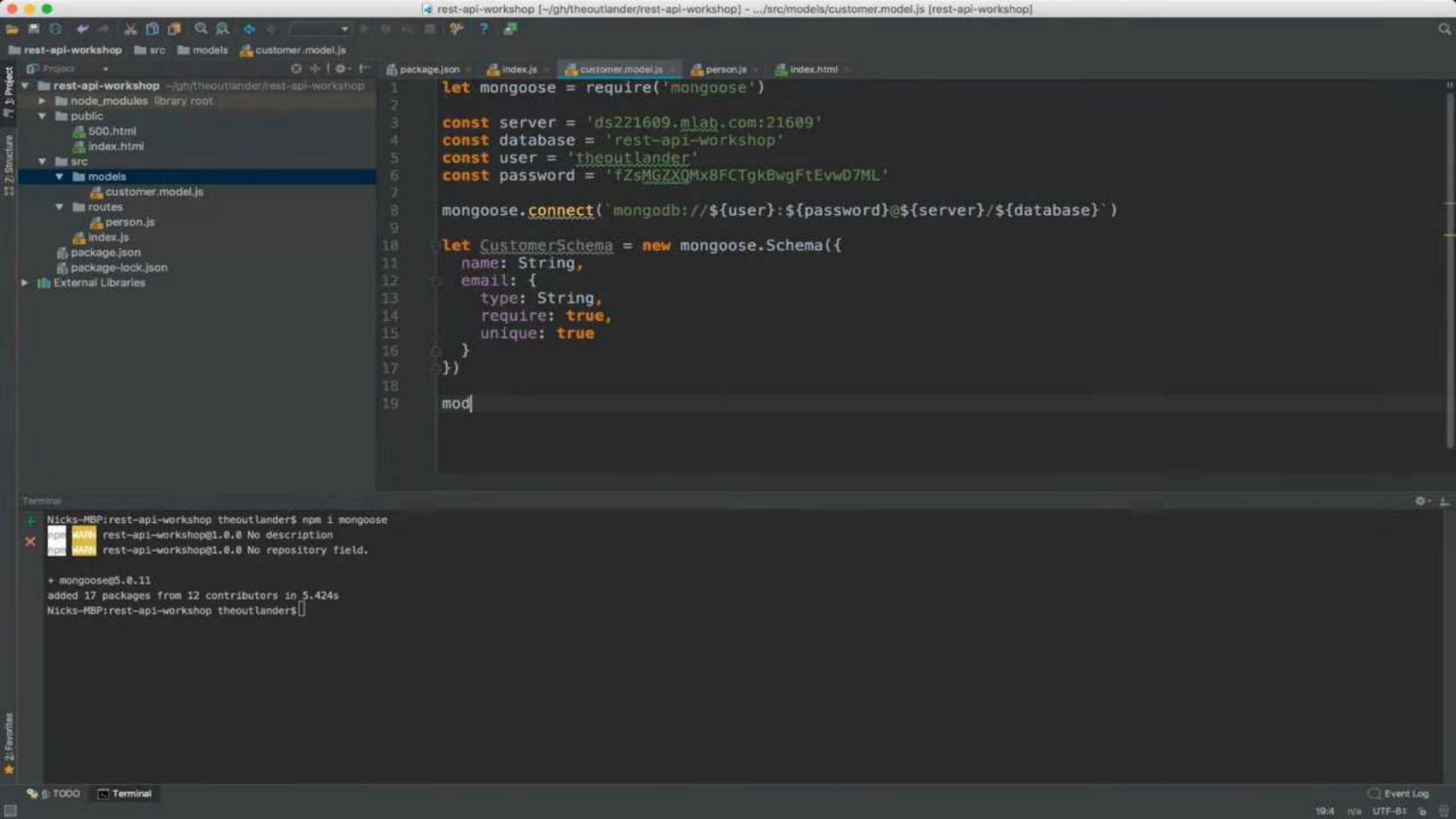
Create new directory or package

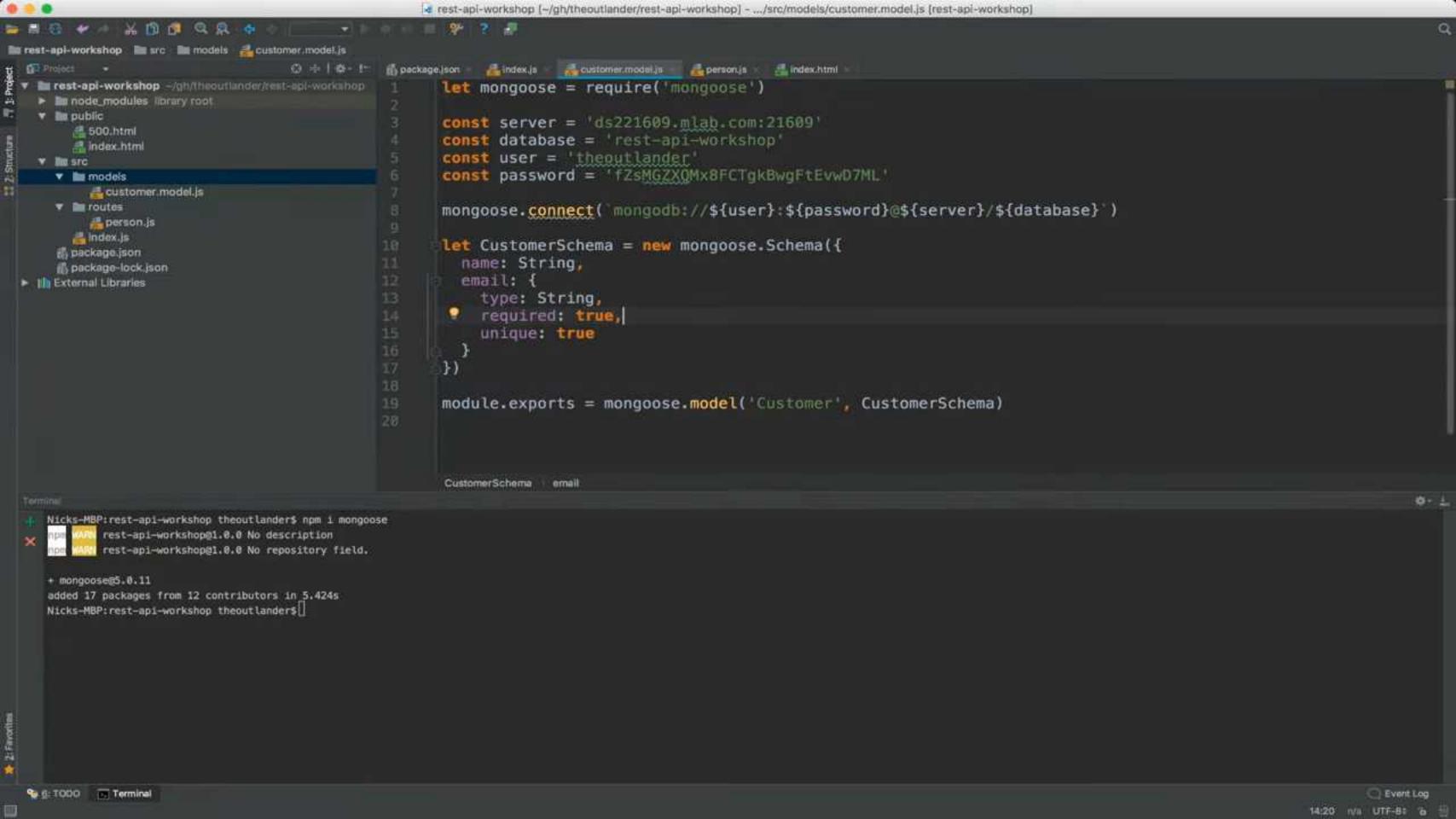


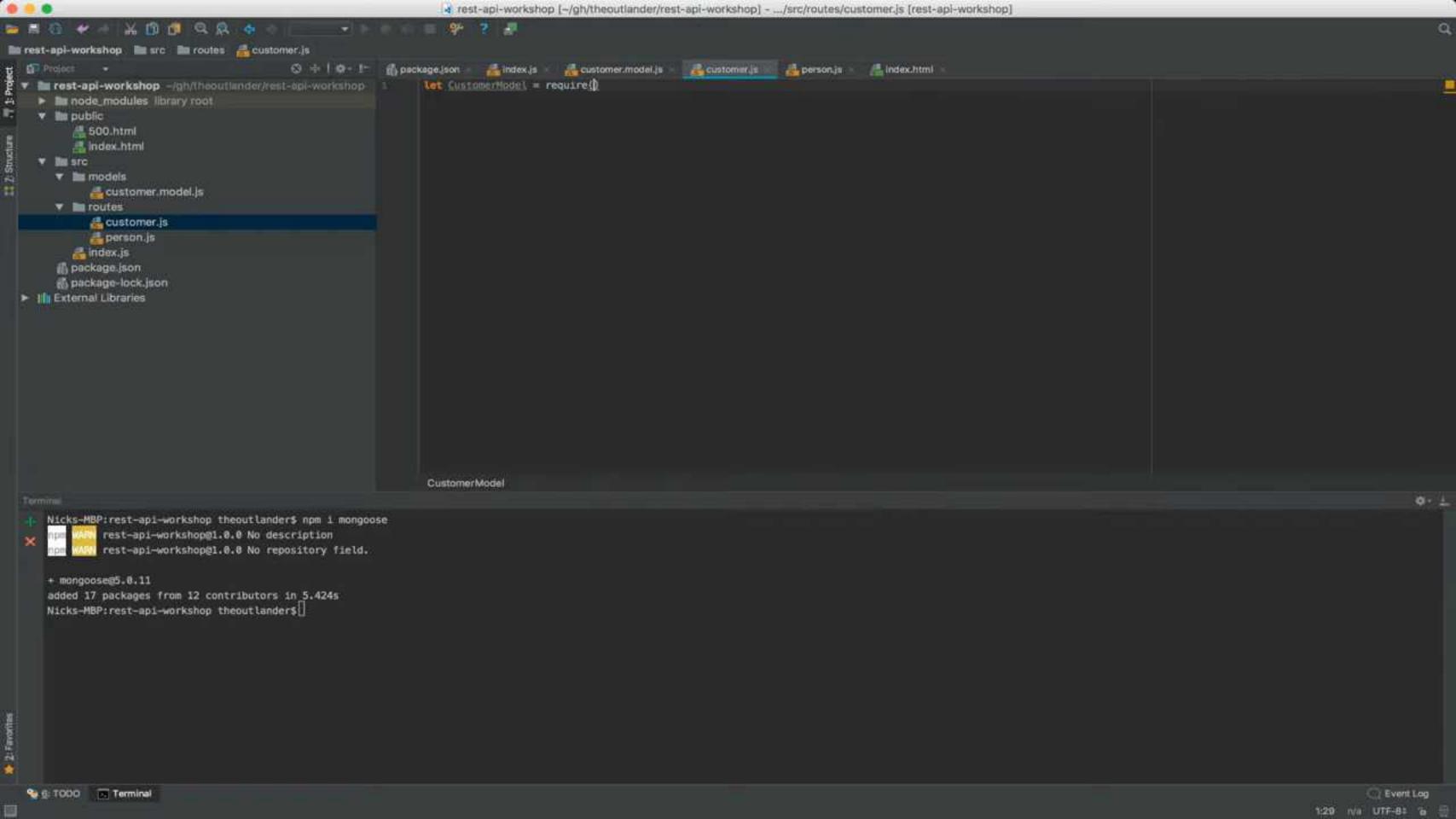


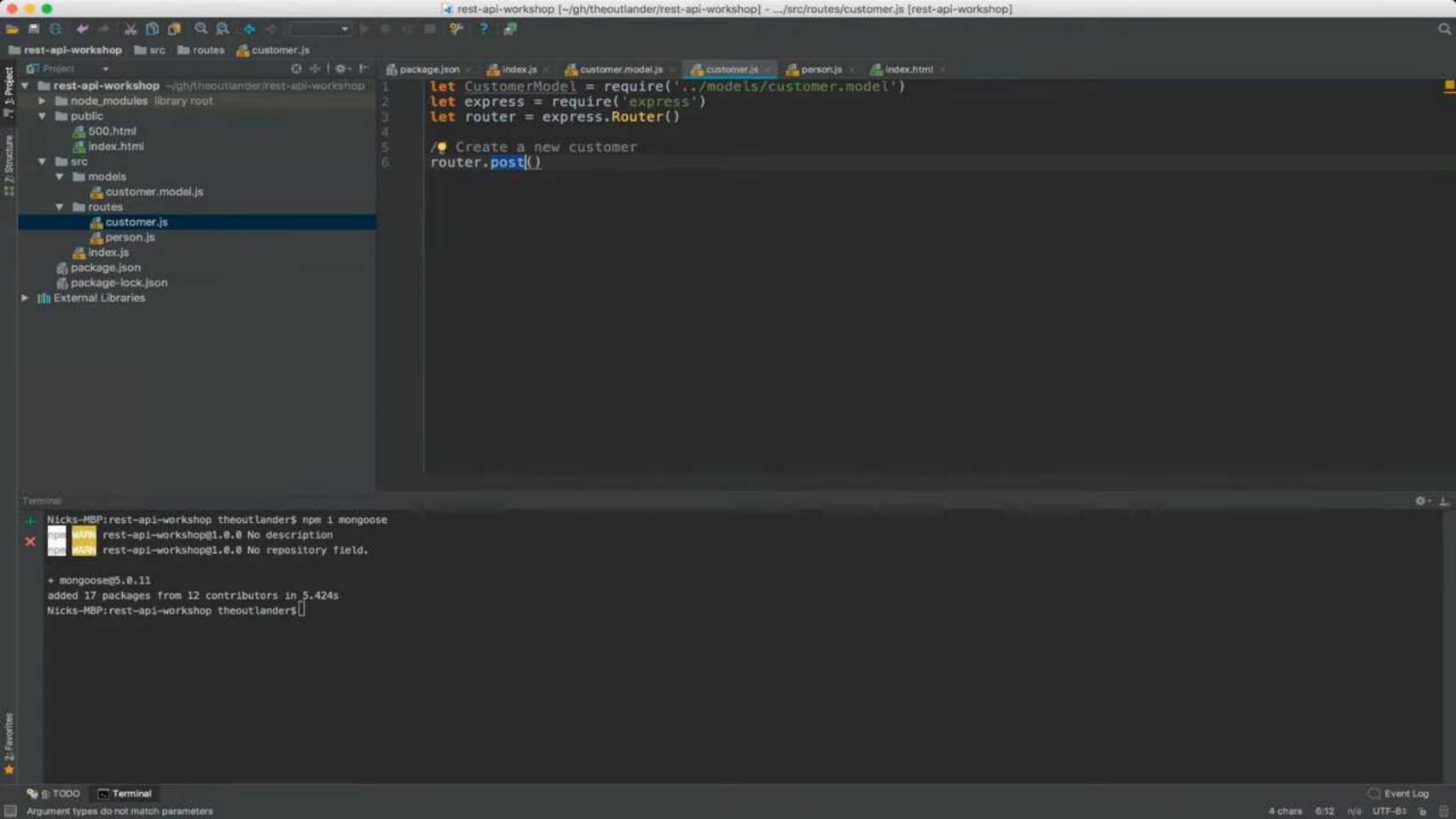


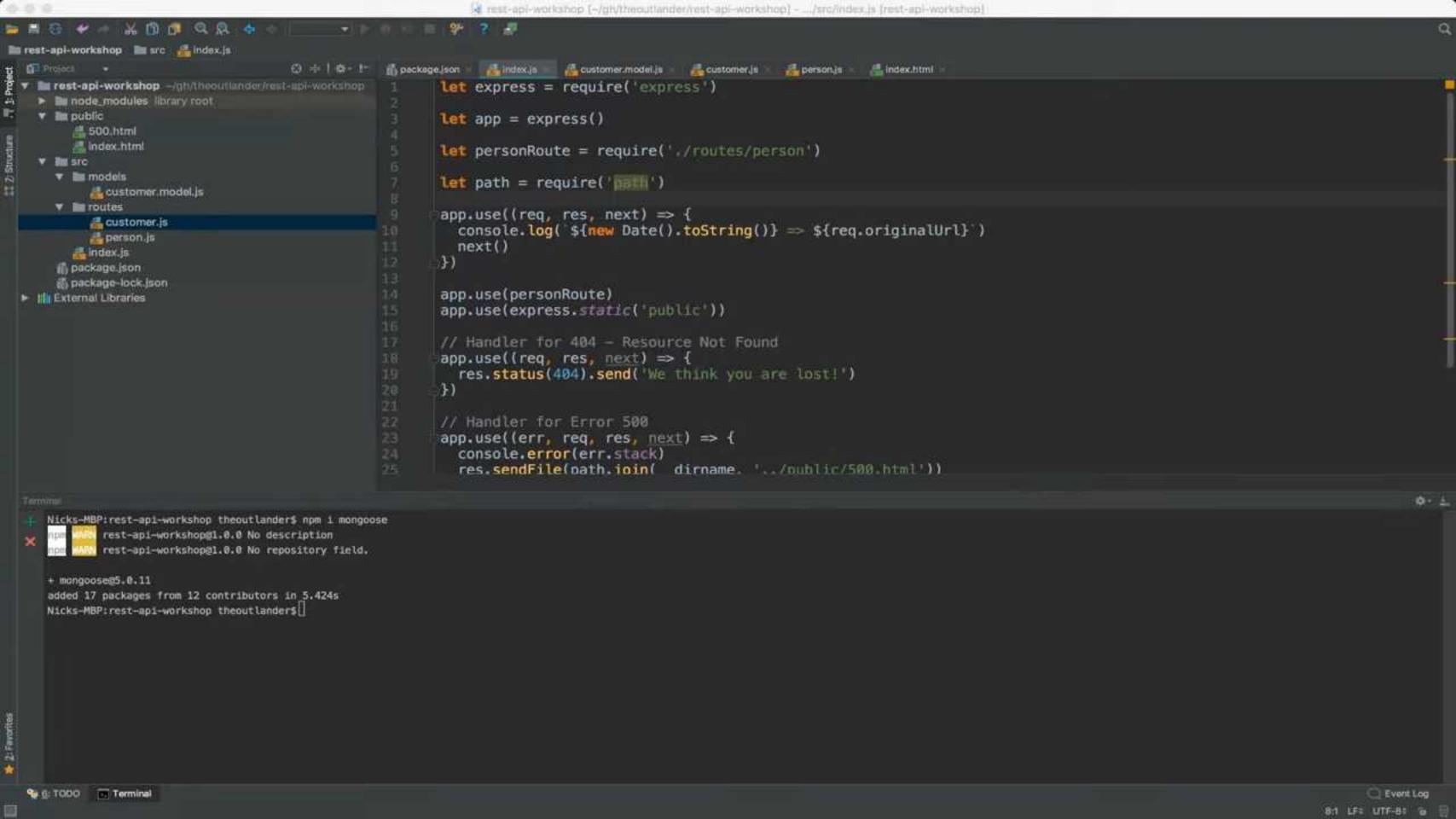


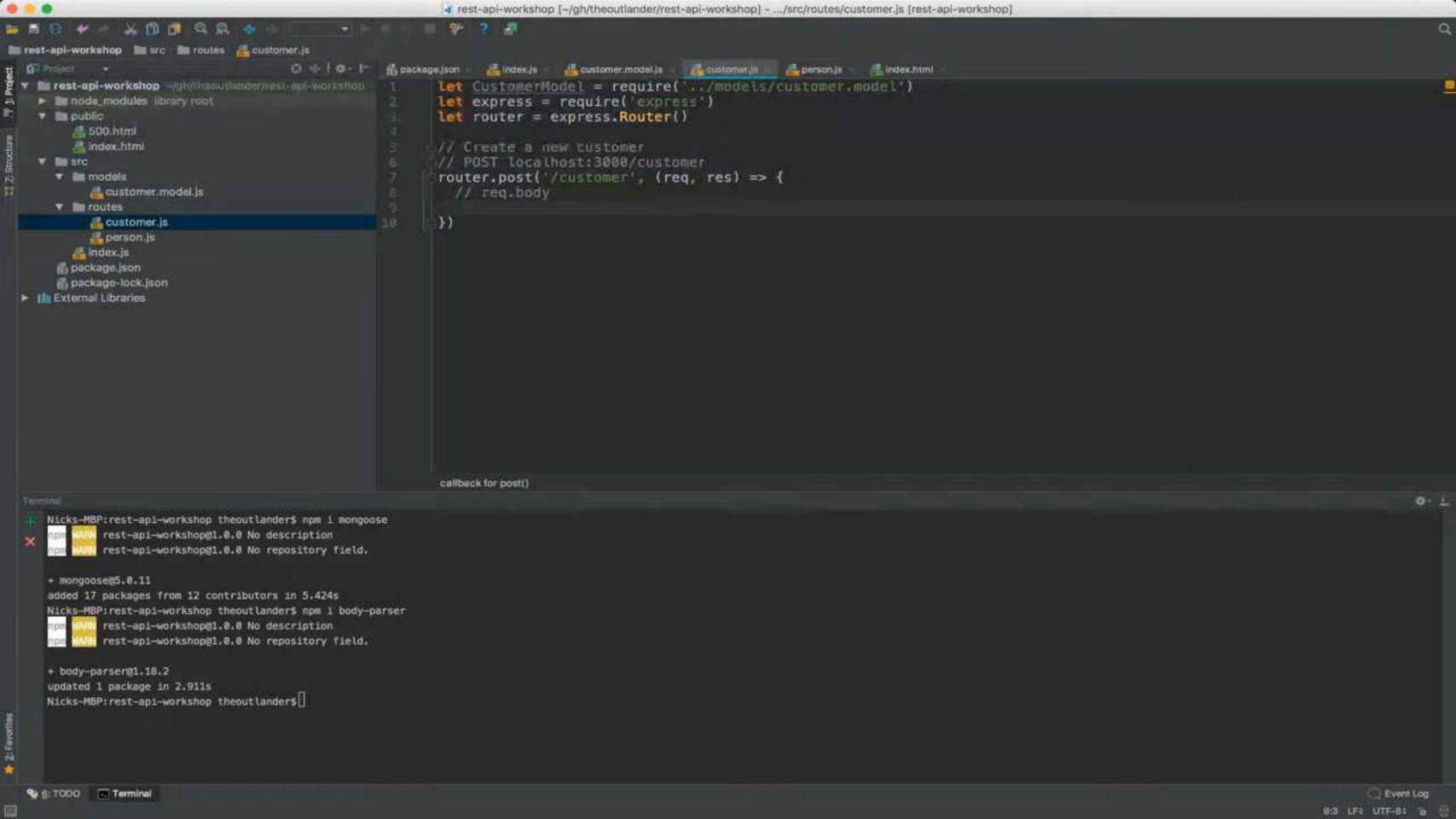


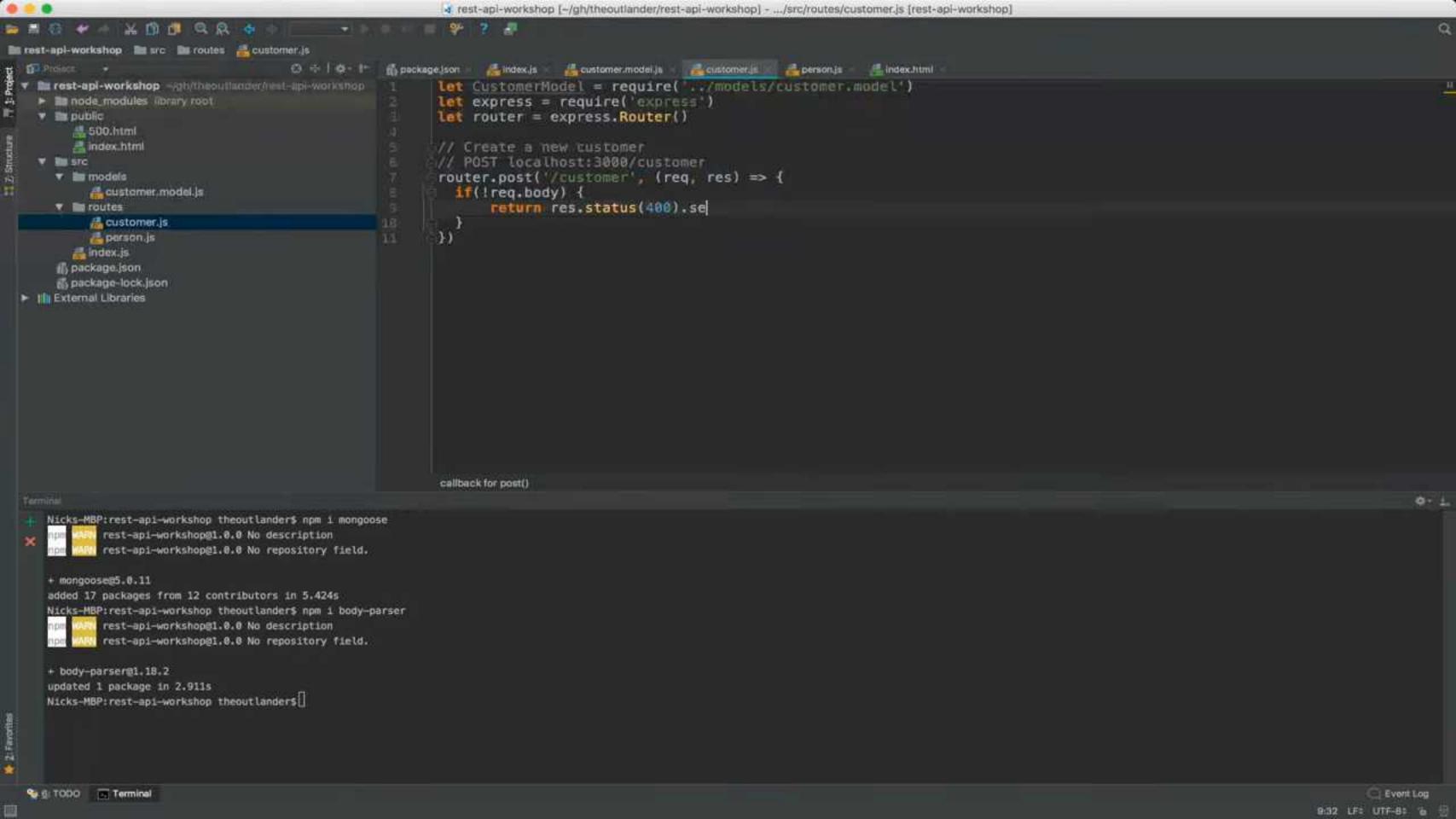












```
√ rest-api-workshop [-/gh/theoutlander/rest-api-workshop] - .../src/routes/customer.js [rest-api-workshop]
● 日 ② ◆ 公 国 回 Q 及 ◆
rest-api-workshop is are in routes acustomer is
g Project *
                                         🖒 🖶 🏗 package ison 🚜 index is 🚜 customer model is 💢 customer is 📉 person is 🚜 index.html
▼ Bit rest-api-workshop — Aph/throutlander/nest-api-workshop
                                                               let CustomerModel = require('.../models/customer.model')
                                                               let express = require('express')
   mode modules impary mon
    ▼ Bit public
                                                               let router = express.Router()
         # 500.html
          alindex.html
                                                               // Create a new customer
    ▼ Bit stc
                                                               // POST localhost:3000/customer
                                                               router.post('/customer', (req, res) => {
       ▼ ■ models
            a customer model is
                                                                 if(!req.body) {
       ▼ Proutes
                                                                    return res.status(400).send('Request body is missing')
            a customer is
            person.js
         andex.is
                                                                 let model = new CustomerModel(reg.bo)
       ili package json
       package-lock json

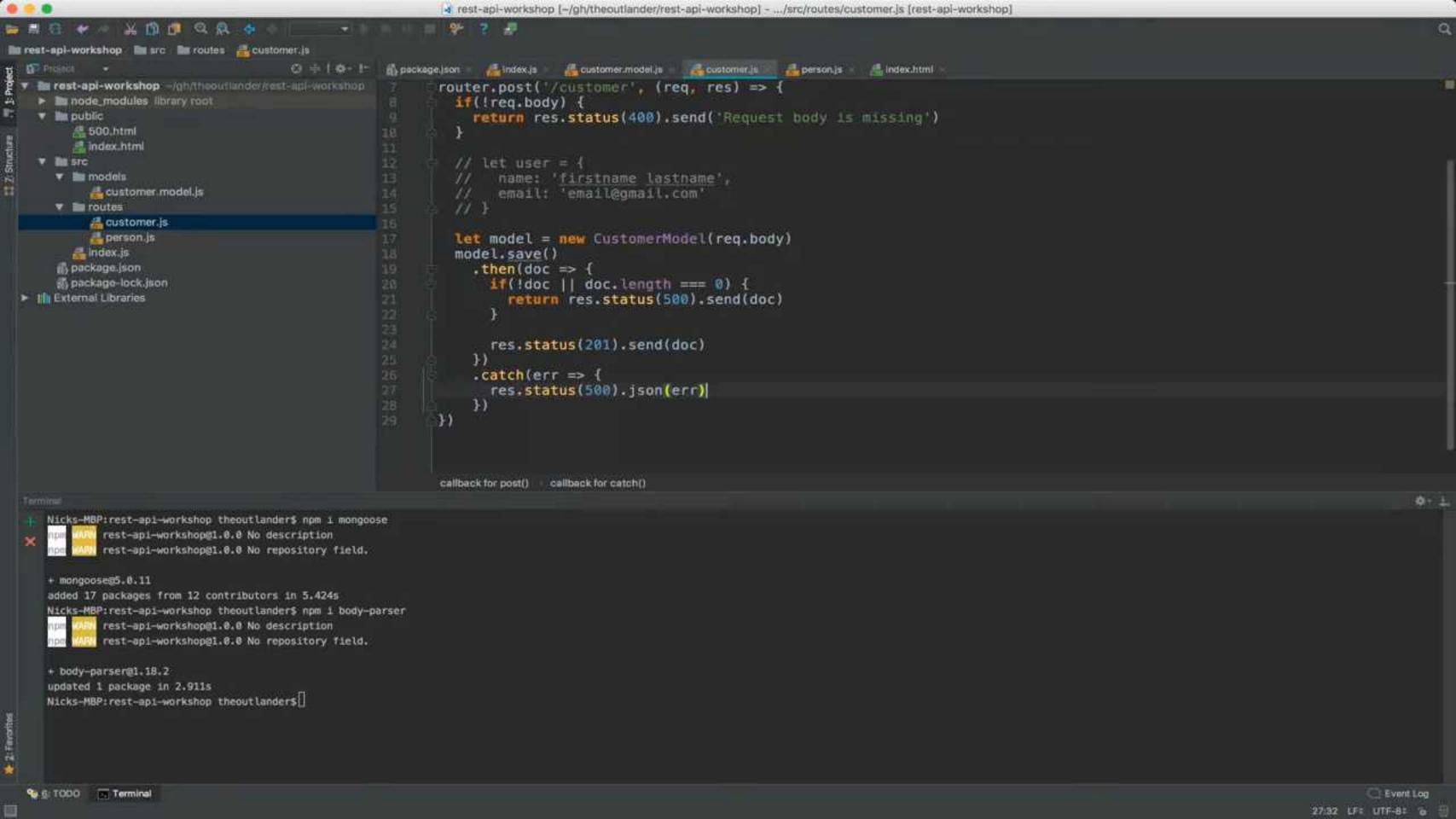
    III External Libraries

                                                               callback for post() model
     Nicks-MBP:rest-api-workshop theoutlander$ npm i mongoose
              rest-api-workshop@1.0.0 No description
              rest-api-workshop@1.0.0 No repository field.
      + mongoose@5.0.11
      added 17 packages from 12 contributors in 5.424s
     Nicks-MBP:rest-api-workshop theoutlander$ npm i body-parser
             rest-api-workshop@1.0.0 No description
             rest-api-workshop@i.0.0 No repository field.
      + body-parser@1.18.2
      updated 1 package in 2,911s
      Nicks-MBP:rest-api-workshop theoutlanders
   6: TODO Terminal
                                                                                                                                                                                                      Event Log
name expected
                                                                                                                                                                                              12:38 LF: UTF-8: '6
```

```
√ rest-api-workshop [-/gh/theoutlander/rest-api-workshop] - .../src/routes/customer.js [rest-api-workshop]

m rest-api-workshop m src m routes acustomer.js
Project *
                                        🔾 🖶 | 🗘 - | 🖒 package json - 🚜 index.js - 🚜 customer.model.js - 🚜 customer.js - 🚜 person.js - 🚜 index.html
                                                             let CustomerModel = require('../models/customer.model')
 ▼ Im rest-api-workshop =igh/theouthader/nest-api-workshop
   ▶ mode modules library root
                                                             let express = require('express')
    ▼ Ba public
                                                             let router = express.Router()
         # 500.html
         A Index.html
                                                             // Create a new customer
    ₩ Bill STC
                                                             // POST localhost:3000/customer
                                                             router.post('/customer', (req, res) => {
       ▼ models
           a customer.model.ls
                                                               if(!req.body) {
       ▼ in routes
                                                                  return res.status(400).send('Request body is missing')
            acustomer.js
            person is
         andex.is
                                                               // let user = {
       package ison
                                                               // name: 'firstname lastname',
       package-lock ison
                                                                     email: 'email@gmail.com'
  ▶ III External Libraries
                                                               let model = new CustomerModel(req.body)
                                                               model.save()
                                                             1)
                                                             callback for post() model
     Nicks-MBP:rest-api-workshop theoutlander$ npm i mongoose
             rest-api-workshop@1.0.0 No description
             rest-api-workshop@1.0.0 No repository field.
      + mongoose@5.0.11
      added 17 packages from 12 contributors in 5.424s
     Nicks-MBP:rest-api-workshop theoutlander$ npm i body-parser
             rest-api-workshop@1.0.0 No description
             rest-api-workshop@l.0.0 No repository field.
      + body-parser@1.18.2
      updated 1 package in 2.911s
     Nicks-MBP:rest-api-workshop theoutlanders
   🤏 6: TODO 🕟 Terminal
                                                                                                                                                                                                 Event Log
                                                                                                                                                                                  13 chars 17:32 LF: UTF-8: 6
```

```
■ rest-api-workshop [-/gh/theoutlander/rest-api-workshop] - .../src/routes/customer.js [rest-api-workshop]
m rest-api-workshop m src m routes acustomer is
Project *
                                     let CustomerModel = require('../models/customer.model')
 ▼ mrest-api-workshop -/gh/theoutlander/nest-api-workshop
   > Im node_modules library root
                                                         let express = require('express')
   ▼ Im public
                                                         let router = express.Router()
         ## 500.html
         a index.html
                                                         // Create a new customer
    ▼ Bitt stc
                                                         // POST localhost:3000/customer
                                                         router.post('/customer', (req, res) => {
      ▼ imodels
           customer.model.js
                                                           if(!req.body) {
      ▼ iroutes
                                                             return res.status(400).send('Request body is missing')
           acustomer.is
           person.js
         a index.is
                                                           // let user = {
       package ison
                                                           // name: 'firstname lastname',
      package-lock ison
                                                                email: 'email@gmail.com'
  ➤ III External Libraries
                                                           11. 3
                                                           let model = new CustomerModel(req.body)
                                                           model.save()
                                                             .then(doc => {
                                                               if(!doc || doc.length === 0) {
                                                                  return res.status(500).send(doc)
                                                               res.status(201)
                                                             })
                                                         callback for post() callback for then()
     Nicks-MBP:rest-api-workshop theoutlander$ npm 1 mongoose
            rest-api-workshop@1.0.0 No description
            rest-api-workshop@1.0.0 No repository field.
     + mongoose@5.0.11
     added 17 packages from 12 contributors in 5.424s
     Nicks-MBP:rest-api-workshop theoutlander$ npm i body-parser
            rest-api-workshop@1.0.0 No description
            rest-api-workshop@1.0.0 No repository field.
     + body-parser@1.18.2
     updated 1 package in 2.911s
     Nicks-MBP:rest-api-workshop theoutlanders
  % 6: TODO Terminal
                                                                                                                                                                                   ☐ Event Log
                                                                                                                                                                            24:22 LF: UTF-8: 6
```

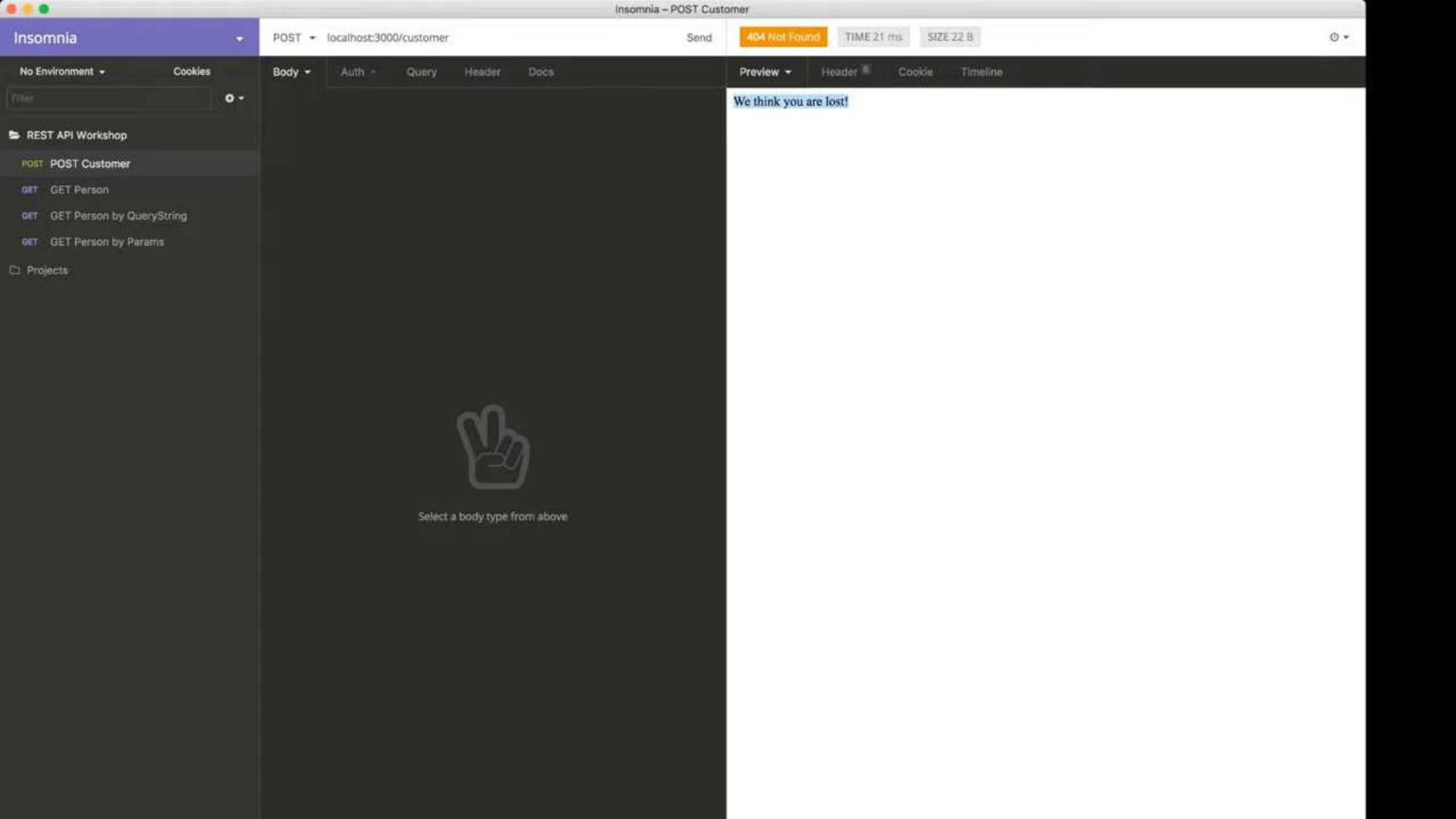


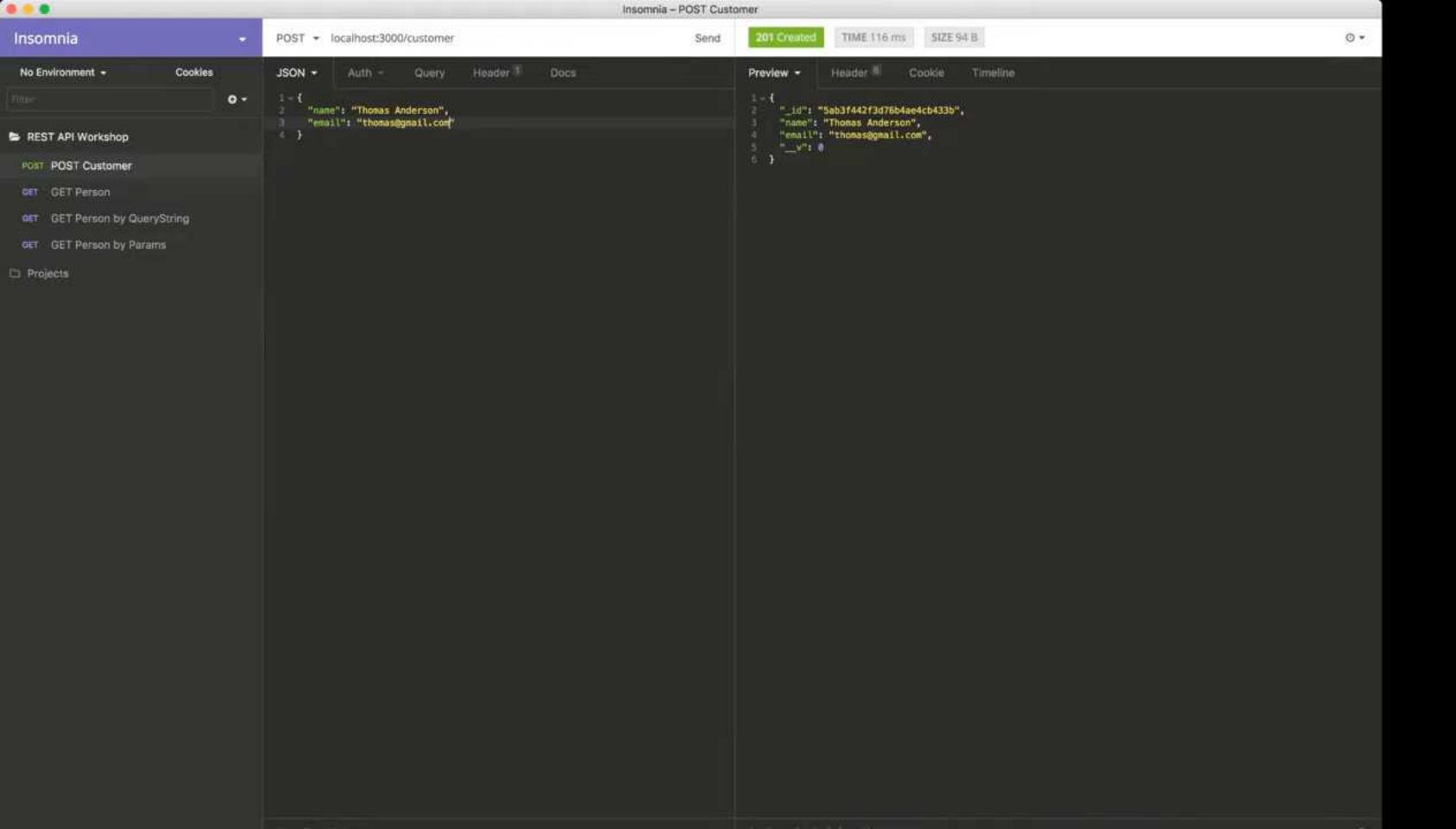
```
◄ rest-api-workshop [-/gh/theoutlander/rest-api-workshop] - .../src/routes/customer.js [rest-api-workshop]
■ 高 巻 ペー 品 的 前 Q R 本 ⇒ 三
m rest-api-workshop m src m routes decustomer is
B Project .
                                         🔘 🖶 🎁 package ison 🚜 index.js 🧸 customer.model.js 💢 customerife 💢 🚜 person.js 🧸 index.html
 ▼ mrest-api-workshop =/gh/thsoutlande//rest-api-workshop
                                                               router.post('/customer', (req, res) => {
   > mode modules library root
                                                                 if(!req.body) {
    ▼ Be public
                                                                    return res.status(400).send('Request body is missing')
         # 500.html
          index.html
    ₩ Bit stc
                                                                 // let user = {
       ▼ models
                                                                 // name: 'firstname lastname',
            a customer model is
                                                                       email: 'email@gmail.com'
       ▼ Imroutes
            acustomer.is
            person.js
                                                                 let model = new CustomerModel(reg.body)
         andex.is
                                                                 model.save()
       ill package ison
                                                                    .then(doc => {
       a package-lock json
                                                                      if(!doc || doc.length === 0) {
  ▶ III External Libraries
                                                                         return res.status(500).send(doc)
                                                                      res.status(201).send(doc)
                                                                    })
                                                                    .catch(err => {
                                                                      res.status(500).json(err)
                                                                    })
                                                               3)
                                                               caliback for post()
     Nicks-MBP:rest-api-workshop theoutlanders npm i body-parser
              rest-api-workshop@1.0.0 No description
              rest-api-workshop@1.0.0 No repository field.
      + body-parser@1.18.2
      updated 1 package in 2.911s
      Nicks-MBP:rest-api-workshop theoutlander$ npm run start-watch
      > rest-api-workshop@1.0.0 start-watch /Users/theoutlander/gh/theoutlander/rest-api-workshop
      > nodemon src/index.is
      [nodemon] 1,17.2
      [nodemon] to restart at any time, enter 'rs'
      [nodemon] watching: *.*
      [nodemon] starting node src/index.js
      Server has started on 3800
      Thu Mar 22 2018 11:18:48 GMT-0700 (PDT) ⇒ /customer {}
   6: TODO Terminal
                                                                                                                                                                                                       C Event Log
                                                                                                                                                                                                15:7 LF: UTF-8: 6
```

```
4 rest-api-workshop [-/gh/theoutlander/rest-api-workshop] - .../src/index.js [rest-api-workshop]
□ 日 ○ **
rest-api-workshop is are indexis
                                         🔾 🕂 | 🗘 package jeon 🌉 moek ju 💹 customer model ju 🚜 customer lit 🛴 person ju
 Figure -
                                                                                                                            Index.html
 y fig rest-api-workshop -/pi//thosilthouterpest-up/ -- ouralien
                                                              let express = require('express')

    In node modules library rom.

                                                               let app = express()
    ▼ Ba public
                                                              let personRoute = require('./routes/person')
         500.html
                                                              let customerRoute = require('./routes/customer')
         index.html
                                                               Let path = require( | | )
    ▼ BB-stc
                                                               let bodyParser = require('body-parser')
       ▼ ■ models
            acustomer model.js
                                                              app.use(bodyParser.json())
      ▼ ≥ routes
            acustomer.is
                                                              app.use((req, res, next) => {
            aperson is
                                                                 console.log( ${new Date().toString()} = 5{req.originalUrl} , req.body)
         andex.is
                                                                 next()
       package son
       package-lock son
 ▶ III External Libraries
                                                              app.use(personRoute)
                                                              app.use(customerRoute)
                                                              app.use(express.static('public'))
                                                              // Handler for 404 - Resource Not Found
                                                              app.use((req, res, next) => {
                                                                res.status(404).send('We think you are lost!')
                                                              // Handler for Error 500
                                                              app.use((err. reg. res. next) => {
                                                               caliback for use()
      [nodemon] starting node src/index.is
  /Users/theoutlander/gh/theoutlander/rest-api-workshop/node_modules/express/lib/application.js:218
         throw new TypeError('app.use() requires a middleware function')
      TypeError: app.use() requires a middleware function
         at Function.use (/Users/theoutlander/gh/theoutlander/rest-api-workshop/node_modules/express/lib/application.js:218:11)
         at Object.<anonymous> (/Users/theoutlander/gh/theoutlander/rest-api-workshop/src/index.js:16:5)
         at Module._compile (module.js:635:38)
         at Object.Module._extensions..js (module.js:646:18)
         at Module, load (module, js:554:32)
         at tryModuleLoad (module.js:497:12)
         at Function.Module._load (module.js:489:3)
         at Function.Module.runMain (module.js:676:10)
         at startup (bootstrap_node.js:187:16)
         at bootstrap_node.js:608:3
      [modemon] upp crashed - waiting for tile changes before starting...
  6: TODO Terminal
                                                                                                                                                                                                     Event Log
                                                                                                                                                                                             21/20 LF: UTF-8: 6
```





```
≼ rest-api-workshop [-/gh/theoutlander/rest-api-workshop] - .../src/routes/customer.js [rest-api-workshop]
■ 日 ② ◆ 公 田 回 Q 及 ◆
m rest-api-workshop m src m routes decustomer is
                                             🔾 🖶 | 🗱 package.json = 🚜 index.js = 🏯 customer.model.js = 🚉 customer.js = 🎏 person.js = 🚜 index.html
Project *
  ▼ mrest-api-workshop =igh/thsoutlander/rest-api-workshop
                                                                     if(!req.body.email) {
    > Im node modules library root
    ▼ Im public
          # 500.html
          a index.html
     ▼ Bitt stc
       ▼ models
                                                                     // email: 'email@gmail.com'
             a customer model s
       ▼ Iroutes
                                                                     let model = new CustomerModel(reg.body)
             acustomer.js
                                                                     model.save()
             person.js
                                                                       .then(doc => {
          a Index.is
                                                                         if(!doc || doc.length === 0) {
        ili package ison
                                                                            return res.status(500).send(doc)
        a package-lock json
  ▶ III External Libraries
                                                                         res.status(201).send(doc)
                                                                       .catch(err => {
                                                                          res.status(500).json(err)
                                                                       3)
                                                                  1)
                                                                   rou
                                                                   module.exports = router
      TypeError: app.use() requires a middleware function
          at Function.use (/Users/theoutlander/gh/theoutlander/rest-api-workshop/node_modules/express/lib/application.js:210:11)
          at Object.<anonymous> (/Users/theoutlander/gh/theoutlander/rest-api-workshop/src/index.js:16:5)
          at Module._compile (module.js:635:30)
          at Object.Module._extensions..js (module.js:646:18)
          at Module.load (module.js:554:32)
          at tryModuleLoad (module.js:497:12)
          at Function.Module._load (module.js:489:3)
          at Function.Module.runMain (module.js:676:10)
          at startup (bootstrap_node.js:187:16)
          at bootstrap_node.js:688:3
       [nodemon] app crashed - waiting for file changes before starting...
       [nodemon] restarting due to changes...
       [nodemon] starting node src/index.[s]
       Server has started on 3000
       Thu Mar 22 2018 11:21:00 GMT-0700 (PDT) => /customer {}
      Thu Mar 22 2018 11:21:54 GMT-0700 (PDT) ⇒ /customer { name: 'Thomas Anderson', email: 'thomas@gmail.com' }
   Section Terminal
                                                                                                                                                                                                                       Event Log
                                                                                                                                                                                                                35:4 LF: UTF-8: 0
```

```
√ rest-api-workshop [-/gh/theoutlander/rest-api-workshop] - .../src/routes/customer.js [rest-api-workshop]
rest-api-workshop in src in routes acustomer.js
g Di Project . ✓
                                          🗇 😑 | 👁 - 🗈 👸 package json = 🚜 index.js : 🚜 customer.model.js : 😹 customer.js : 💹 person.js : 🚜 index.html
* Im rest-api-workshop =/gh/theoutlander/rest-api-workshop
                                                               let CustomerModel = require('../models/customer.model')
                                                               Let express = require('express')
   > im node_modules library root
                                                               let router = express.Router()
    ▼ Be public
          # 500.html
                                                               // Create a new customer
          alindex.html
                                                               // POST localhost:3008/customer
    W BE STC
                                                               router.post('/customer', (req. res) => {
       ▼ ■ models
                                                                 if(!req.body) {
            a customer model.js
                                                                   return res.status(400).send('Request body is missing')
       ▼ m routes
            acustomer.js
                                                                 if(!req.body.emmil) {
            a person is
          andex.is
        ill package json
       package-lock ison
  ▶ III External Libraries
                                                                 let model = new CustomerModel(req.body)
                                                                 model.save()
                                                                   .thenidoc => {
                                                                     if(!doc || doc.length === 0) {
                                                                       return res.status(500).send(doc)
                                                                     res.status(201).send(doc)
                                                                   3)
                                                                   .catch(err => {
                                                                     res.status(500).json(err)
                                                                   33
                                                               3)
                                                               router.get('/customer', (reg, res) => {
                                                                CustomerModel.findOne({
                                                                3)
                                                               11)
                                                               module.exports = router
                                                               caliback for get()

    € TODO   Terminal

                                                                                                                                                                                                           Event Log
                                                                                                                                                                                                    37:5 LF: UTF-8: '6
```

```
■ rest-api-workshop [-/gh/theoutlander/rest-api-workshop] - .../src/routes/customer.js [rest-api-workshop]

             XDD QQ
m rest-api-workshop m src m routes acustomer.js
                                   / Index.html
 ▼ In rest-api-workshop =/gh/theoutlander/rest-api-workshop
                                                     router.post('/customer', (req, res) => {
  ▶ Im node modules library root.
                                                        if(!req.body) {
   ▼ Im public
                                                          return res.status(400).send('Request body is missing')
       # 500.html
        a Index.html
   ₩ Bill stc
                                                        if(!req.body.email) {
     ▼ models
          a customer model is
     ▼ in routes
         acustomer is:
                                                       // let user = {
         person.js
                                                       // name: 'firstname lastname',
       andex.js
                                                            email: 'email@gmail.com'
      in package ison
      package-lock.json
 ➤ III External Libraries
                                                        let model = new CustomerModel(req.body)
                                                       model.save()
                                                          .then(doc => {
                                                            if(!doc || doc.length === 0) {
                                                              return res.status(500).send(doc)
                                                            res.status(201).send(doc)
                                                          })
                                                          .catch(err => {
                                                            res.status(500).json(err)
                                                         })
                                                     1)
                                                     router.get('/customer', (req, res) => {
                                                       if(!req.query.email) {
                                                          return res.status(400).send('Missing URL parameter: email')
                                                        CustomerModel.findOne({
                                                          email: req.query.email
                                                          .then(doc => {
                                                          3-)
                                                     1)
                                                     module.exports = router
                                                      caliback for get() callback for then()
  6: TODO Terminal
                                                                                                                                                                          Event Log
                                                                                                                                                                    44:7 LF: UTF-8: 6
```

```
■ rest-api-workshop [-/gh/theoutlander/rest-api-workshop] - .../src/routes/customer.js [rest-api-workshop]

m rest-api-workshop m src m routes acustomer is
Protect *
                                     〇 中 | ·
                                                             Index.js
                                                 peckage son
                                                                        customer.model.js customer.js person.js dindex.html
 ▼ Im rest-api-workshop =/(gh/throutlander/rest-api-workshop

    mode_modules library root.

   ▼ Bu public
                                                          // let user = {
        # 500.html
                                                          // name: 'firstname lastname',
        andex.html
                                                               email: 'email@qmail.com'
    ▼ Misto
                                                          7/ ]
      ▼ E models
          customer.model.js
                                                          let model = new CustomerModel(req.body)
      ▼ routes
                                                          model.save()
          acustomer is:
                                                            .then(doc => {
          aperson.js
                                                              if(!doc || doc.length === 0) {
        # Index.js
                                                                return res.status(500).send(doc)
      間 package ison
      a package-lock.json

    III External Libraries

                                                              res.status(201).send(doc)
                                                            })
                                                            .catch(err => {
                                                               res.status(500).json(err)
                                                            })
                                                        })
                                                        router.get('/customer', (req, res) => {
                                                          if(!req.query.email) {
                                                            return res.status(400).send('Missing URL parameter: email')
                                                          CustomerModel.findOne({
                                                            email: req.query.email
                                                          })
                                                            .then(doc => {
                                                              res.json(doc)
                                                            1)
                                                            .catch(err => {
                                                               res.stats(500).json(err)
                                                            })
                                                       })
                                                        router.put('/cusomter', (req. ))
                                                        module.exports = router
  6: TODO Terminal
                                                                                                                                                                                 Event Log
expression expected
                                                                                                                                                                          51:31 LF: UTF-8: 'a
```

```
■ rest-api-workshop [-/gh/theoutlander/rest-api-workshop] - .../src/routes/customer.js [rest-api-workshop]

● 見意 ◆ 出面回 Q 見 ◆
m rest-api-workshop m src m routes acustomer.js
                                       〇 中 l · · · ·
                                                   (i) package.json ___index.js ___customer.model.js ___customer.js ___iperson.js __index.html
 ▼ mrest-api-workshop -/gh/theoutlander/rest-api-workshop
                                                               .catch(err => {
   ▶ Im node_modules Ilbrary root.
                                                                  res.status(500).json(err)
   ▼ Nu public
                                                               })
         # 500.html
                                                           3)
         index.html
    W BE STC
                                                           router.get('/customer', (req, res) => {
      ▼ models
                                                             if(!req.query.email) {
           a customer model. s
                                                                return res.status(400).send('Missing URL parameter: email')
      ▼ ■ routes
           acustomer.js
           person is
                                                             CustomerModel.findOne({
         a Index.is
                                                                email: req.query.email
       ili package json
       package-lock.json
                                                                .then(doc => {
  ▶ III External Libraries
                                                                  res.json(doc)
                                                                }}
                                                                .catch(err => {
                                                                  res.stats(500).json(err)
                                                               })
                                                           11
                                                           router.put('/cusomter', (req, res) => {
                                                             if(!req.query.email) {
                                                                return res.status(400).send('Missing URL parameter: email')
                                                             CustomerModel.findOneAndUpdate({
                                                                email: req.query.email
                                                             }, req.body, {
                                                                new: true
                                                             })
                                                                .then(doc => {
                                                                  res.json(doc)
                                                               1)
                                                               .catch(err => {
                                                                 res.stats(500).json(err)
                                                               })
                                                           3)
                                                           module.exports = router
                                                           caliback for put() caliback for catch()
  % 5: TODO ■ Terminal
                                                                                                                                                                                          C Event Log
Unresolved function or method stats()
                                                                                                                                                                                   65:15 LF: UTF-8: 0
```

```
√ rest-api-workshop [-/gh/theoutlander/rest-api-workshop] - .../src/routes/customer.js [rest-api-workshop]

● 見る せっ 光田町 QR 中っ
m rest-api-workshop m src m routes dustomer.js

    ⇒ | □ - | package.json

                                                             Project •
 ▼ Im rest-api-workshop -/gh/theoutlander/rest-api-workshop
                                                           .then(doc => {
   > mode_modules library root
                                                             res. ison(doc)
   ▼ Bm public
                                                           })
        # 500.html
                                                           .catch(err => {
        index.html
                                                             res.status(500).json(err)
    W But src
                                                           })
      ▼ models
                                                       1)
          acustomer model. s
      ▼ ■ routes
                                                       // UPDATE
          acustomer.js
                                                       router.put('/customer', (req. res) => {
          aperson is
                                                         if(!req.query.email) {
        andex.is
                                                           return res.status(400).send('Missing URL parameter: email')
      ili package ison
      package-lock.json
  ▶ III External Libraries
                                                         CustomerModel.findOneAndUpdate({
                                                           email: req.query.email
                                                         }, req.body, {
                                                           new: true
                                                         })
                                                           .then(doc => {
                                                             res.json(doc)
                                                           .catch(err => {
                                                             res.status(500).json(err)
                                                           })
                                                      1)
                                                       router.delete('/customer', (req, res) => {
                                                         if(!req.query.email) {
                                                           return res.status(400).send('Missing URL parameter: email')
                                                         CustomerModel.findOneAndUpdate({
                                                           email: req.query.email
                                                         }, req.body,
                                                           new: true
                                                         })
                                                           .then(doc => {
                                                             res.json(doc)
                                                           .catch(err => {
                                                             res.status(500).json(err)
                                                           3)
                                                      3)
                                                       callback for delete()
  Section Terminal
                                                                                                                                                                             Event Log
Unresolved function or method findOneAndUpdate()
                                                                                                                                                                6 chars 76:33 LF: UTF-8: 'o
```

```
■ rest-api-workshop [-/gh/theoutlander/rest-api-workshop] - .../src/routes/customer.js [rest-api-workshop]

               XDD BR 4
🖿 rest-api-workshop 🛅 🖽 🖰 lib routes 🚜 customer, jo
                                        🖒 🖶 🔯 - 🖟 👸 package (son 🚜 index.)s 🎆 customer model (s) 🚜 costomer (s) 🚜 person (s)
                                                                                                                          A. Index.html
 T Test-apt-workshop ///h/h/hoods/decessions/impj workshop
                                                             Let CustomerModel = require('.../mounts/customer/model')
   * Im norte modulist screen room
                                                             Let express = require('express')
   ▼ In position
                                                             let router = express.Router()
         ## 500.html
         index.html
                                                             // Create a new customer
    ▼ Masrc
                                                             // POST localhost:3000/customer
                                                             router.post('/custumer', (req, res) => {
      ▼ ■ models
           acustomer.model.is
                                                               if(!reg.body) {
      ▼ Iroutes
                                                                  return res.status(408).send('Request body is missing')
           dustomer.js
           at norson is
         andex.js
                                                                if(!req.body.email) {
       ill package joon
       package lock ison

    External Libraries

                                                               // let user = {
                                                               // name: 'firstname lastname',
                                                               // email: 'email@gmail.com'
                                                                77. 1
                                                               let model = new CustomerModel(req.body)
                                                                model.save()
                                                                  .then(doc => {
                                                                    if(!doc || doc.length === 0) {
                                                                       return res.status(500).send(doc)
                                                                     res.status(201).send(doc)
                                                                  1)
                                                                  .catch(err => {
                                                                     res.status(500).json(err)
                                                                  })
                                                             })
                                                             // GET
                                                              callback for put()
     Server has started on 3000
     [nodemon] restarting due to changes....
     [nodemon] starting node src/index.]s
     Server has started on 3000
     Thu Mar 22 2018 11:29:58 GMT-0700 (PDT) ⇒ /customer?email=thomas%40gmail.com { name: 'Thomas Updated Anderson', email: 'thomas@gmail.com' }
     Thu Mar 22 2018 11:30:51 GMT-0700 (PDT) >> /customer?email=thomas>40gmail.com (}
     Thu Mar 22 2018 11:31:13 GMT-0700 (PDT) ⇒ /customer?email=thomas>40gmail.com ()
     Thu Mar 22 2018 11:31:20 GMT-0700 (PDT) -> /customer?email=thomas%40gmail.com ()
  6: TODO Terminal
                                                                                                                                                                                                   Event Log
                                                                                                                                                                                            66:7 LF: UTF-8: 6
```

```
■ rest-api-workshop [-/gh/theoutlander/rest-api-workshop] - .../src/routes/customer.js [rest-api-workshop]

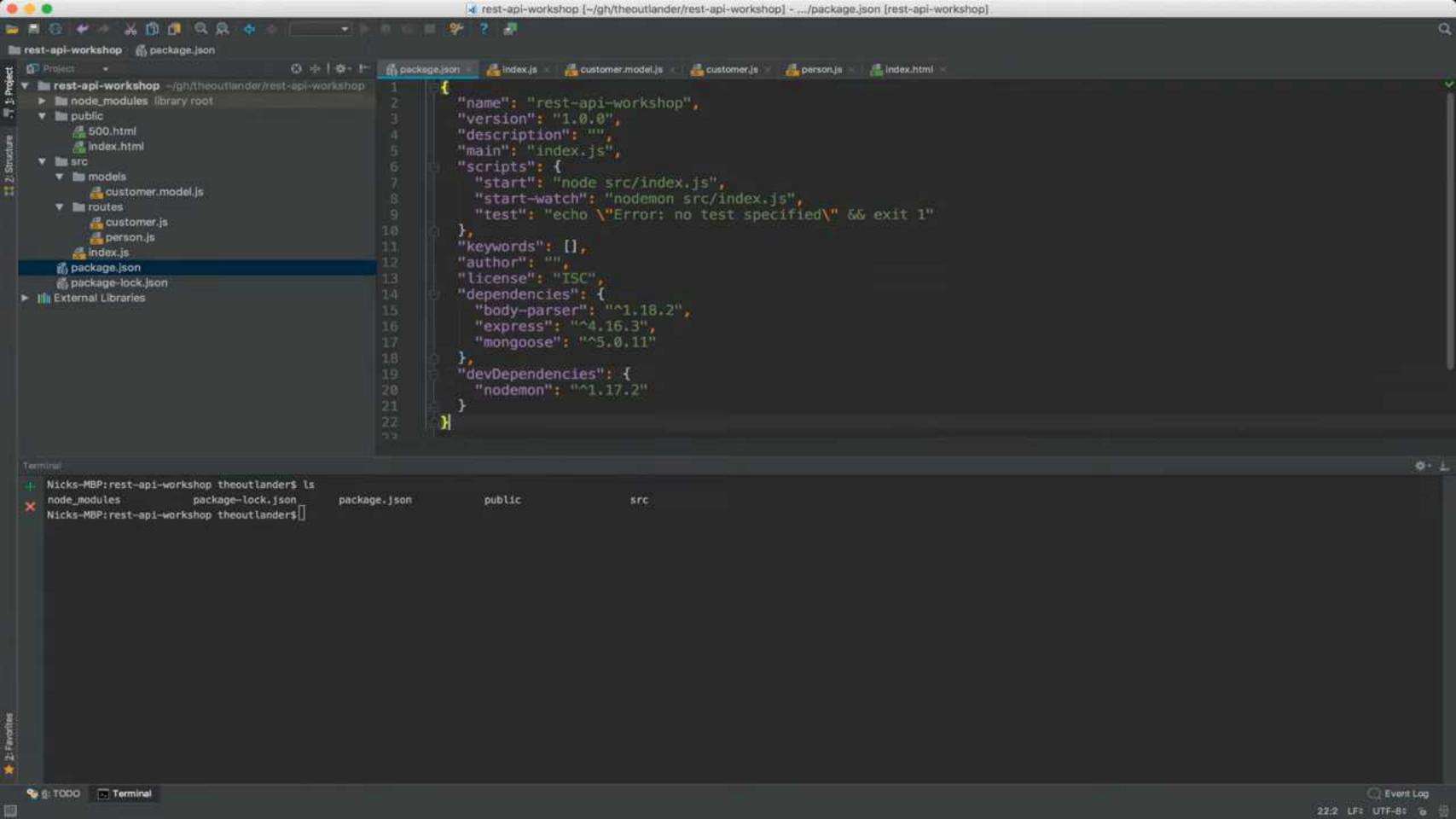
                                                                                                                                                                                                          a
                * 10 1 2 2 4
m rest-api-workshop im src im routes acustomer is
                                        ○ = | □ | peckage |son |
# Project *
                                                                   / Index.html
▼ Test-api-workshop -/gh/theoutlande//rest-api-workshop
   ➤ In node modules library root
   ▼ Bit public
                                                              if(!req.body.email) {
         ..... 500.html
                                                                 11. ...
         a index.html
   ₩ Bit src
      ▼ imodels
                                                               // let user = {
                                                              // name: 'firstname lastname',
           a customer model is
                                                                    email: 'email@gmail.com'
      ▼ routes
           acustomer.js
           person is
                                                              Let model = new CustomerModel(req.body)
         andex.is
                                                               model.save()
       ili package json
                                                                 .then(doc => {
       高 package-lock.json
                                                                    if(!doc || doc.length === 0) {

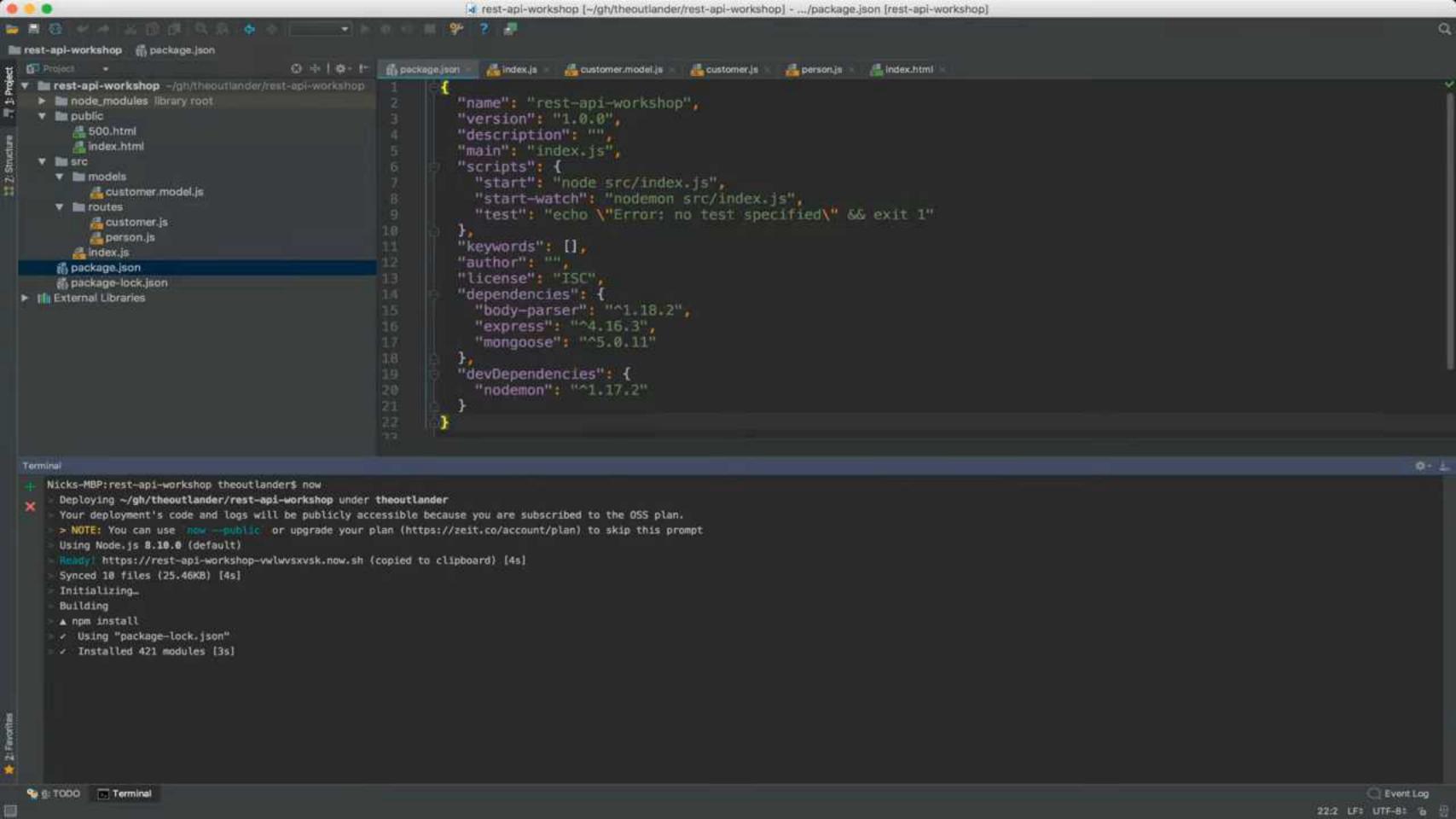
    III External Libraries

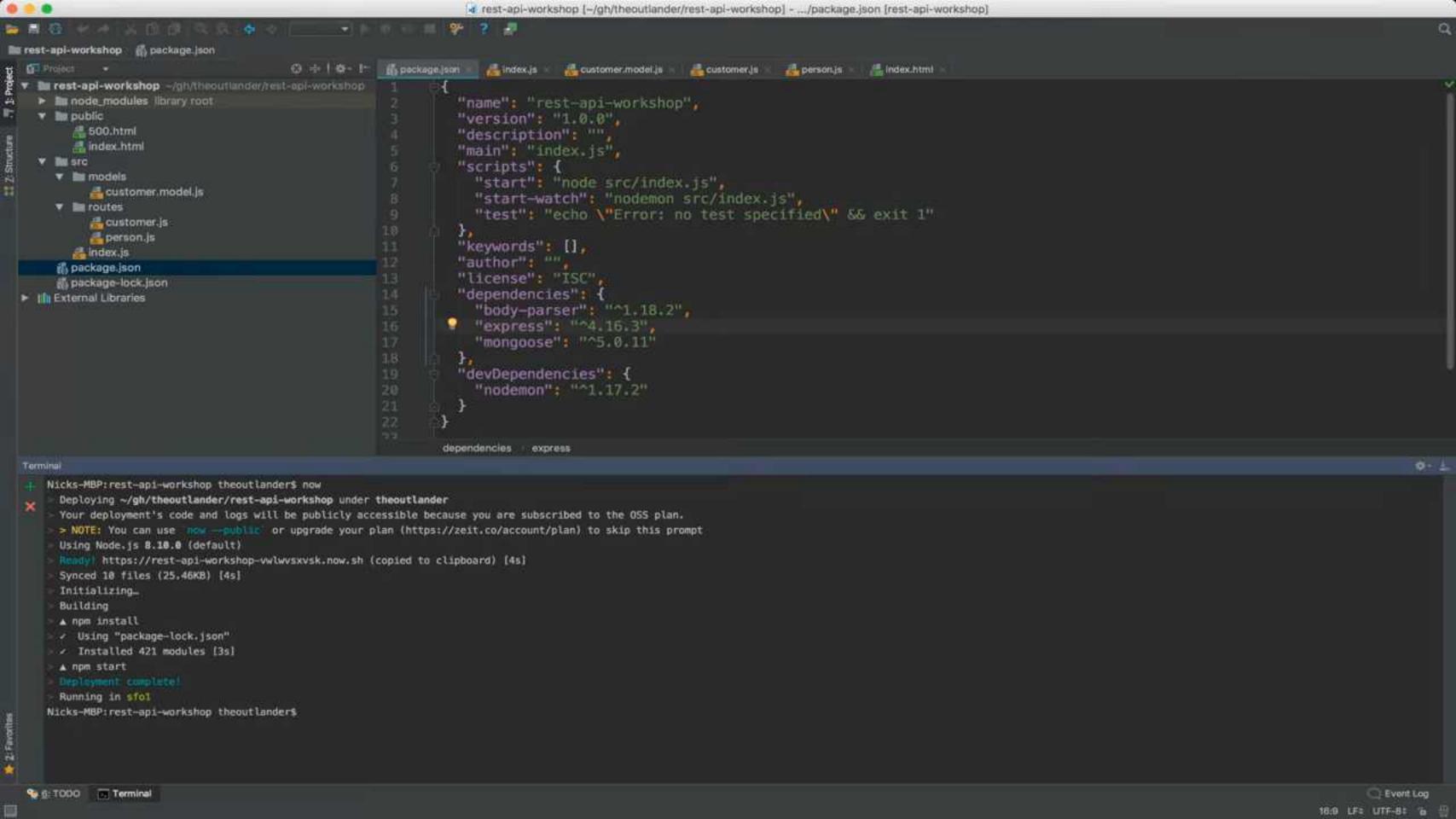
                                                                      return res.status(500).send(doc)
                                                                    res.status(201).send(doc)
                                                                 3)
                                                                 .catch(err => {
                                                                   res.status(500).json(err)
                                                                 })
                                                            })
                                                            // GET
                                                            router.get('/customer', (req, res) => {
                                                              if(!req.query.email) {
                                                                 return res.status(400).send('Missing URL parameter: email')
                                                              CustomerModel.findOne({
                                                                 email: req.query.email
                                                                  .then(doc => {
                                                                    man innufferal
                                                             caliback for post()
     Server has started on 3000
     [nodemon] restarting due to changes....
     [nodemon] starting node src/index.js
     Server has started on 3000
     Thu Mar 22 2018 11:29:58 GMT-0700 (PDT) ⇒ /customer?email=thomas%40gmail.com { name: 'Thomas Updated Anderson', email: 'thomas@gmail.com' }
     Thu Mar 22 2018 11:30:51 GMT-0700 (PDT) >> /customer?email=thomas%40gmail.com (}
     Thu Mar 22 2018 11:31:13 GMT-8788 (PDT) \Rightarrow /customer?email=thomas%48gmail.com {}
     Thu Mar 22 2018 11:31:20 GMT-0700 (PDT) ⇒ /customer?email=thomas%48gmail.com (}
  % 6: TODO E Terminal
                                                                                                                                                                                                Event Log
                                                                                                                                                                                  39 chars 21:3 LF: UTF-8: o
```

```
√ rest-api-workshop [-/gh/theoutlander/rest-api-workshop] - .../src/routes/customer.js [rest-api-workshop]

                                                                                                                                                                                                             a
m rest-api-workshop m src m routes acustomer is
                                         0 4 4-1-
# Project •
                                                      package.json
                                                                    Index.js
                                                                               customer.model.js ____customer./s ____person.js
                                                                                                                           / Index.html
                                                             11
 ▼ Test-api-workshop =/gh/throutlander/rest-api-workshop
    > mode modules library root
    ▼ list public
                                                             router.get('/customer', (req. res) => {
         # 500.html
                                                                if(!req.query.email) {
         andex.html
                                                                   return res.status(400).send('Missing URL parameter: email')
    Y DE SIC
       ▼ Imodels
           a customer model is
                                                                CustomerModel.findOne({
       ▼ Proutes
                                                                   email: req.query.email
            acustomer.js
            person.js
                                                                   .then(doc => {
         a Index.is
                                                                     res.json(doc)
       package.json
                                                                  })
       package-lock ison
                                                                  .catch(err => {
  ▶ III External Libraries
                                                                     res.status(500).json(err)
                                                                  })
                                                             })
                                                             // UPDATE
                                                             router.put('/customer', (req, res) => {
                                                                if(!req.query.email) {
                                                                   return res.status(400).send('Missing URL parameter: email')
                                                                EustomerModel.findOneAndUpdate({
                                                                } req. bo Unresolved function or method findOneAndUpdate()
                                                                  new: true
                                                                   .then(doc => {
                                                                     res.json(doc)
                                                                  })
                                                                  .catch(err => {
                                                                     res.status(500).json(err)
                                                                  11
                                                              callback for get()
      Server has started on 3000
      [nodemon] restarting due to changes...
      [nodemon] starting node src/index.[s]
      Server has started on 3000
      Thu Mar 22 2018 11:29:58 GMT-0700 (PDT) ⇒ /customer?email=thomas%40gmail.com { name: 'Thomas Updated Anderson', email: 'thomas@gmail.com' }
      Thu Mar 22 2018 11:30:51 GMT-0700 (PDT) >> /customer?email=thomas%40gmail.com (}
     Thu Mar 22 2018 11:31:13 GMT-0700 (PDT) => /customer?email=thomas%40gmail.com {}
      Thu Mar 22 2018 11:31:20 GMT-0700 (PDT) ⇒ /customer?email=thomas%48gmail.com {}
   % 6: TODO E Terminal
                                                                                                                                                                                                   Event Log
Unresolved function or method findOne()
                                                                                                                                                                                    7 chars 41:24 LF: UTF-8: a
```









Welcome to expressi



Welcome to express!

