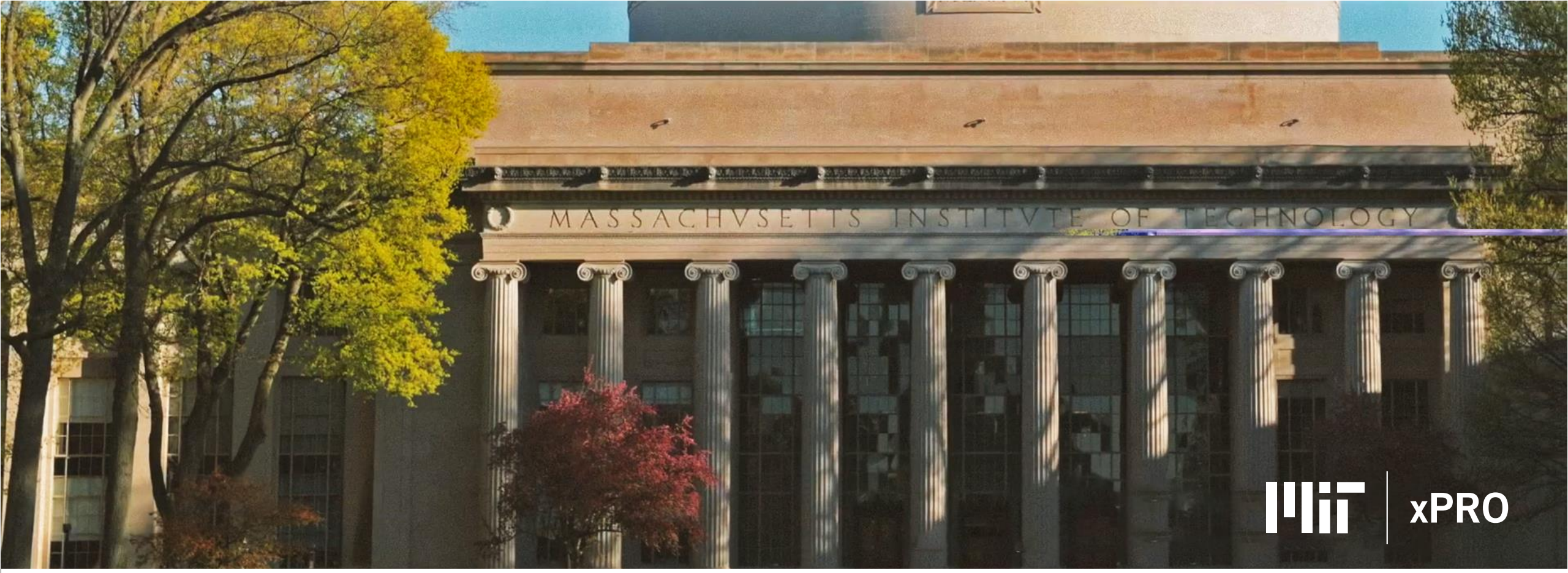
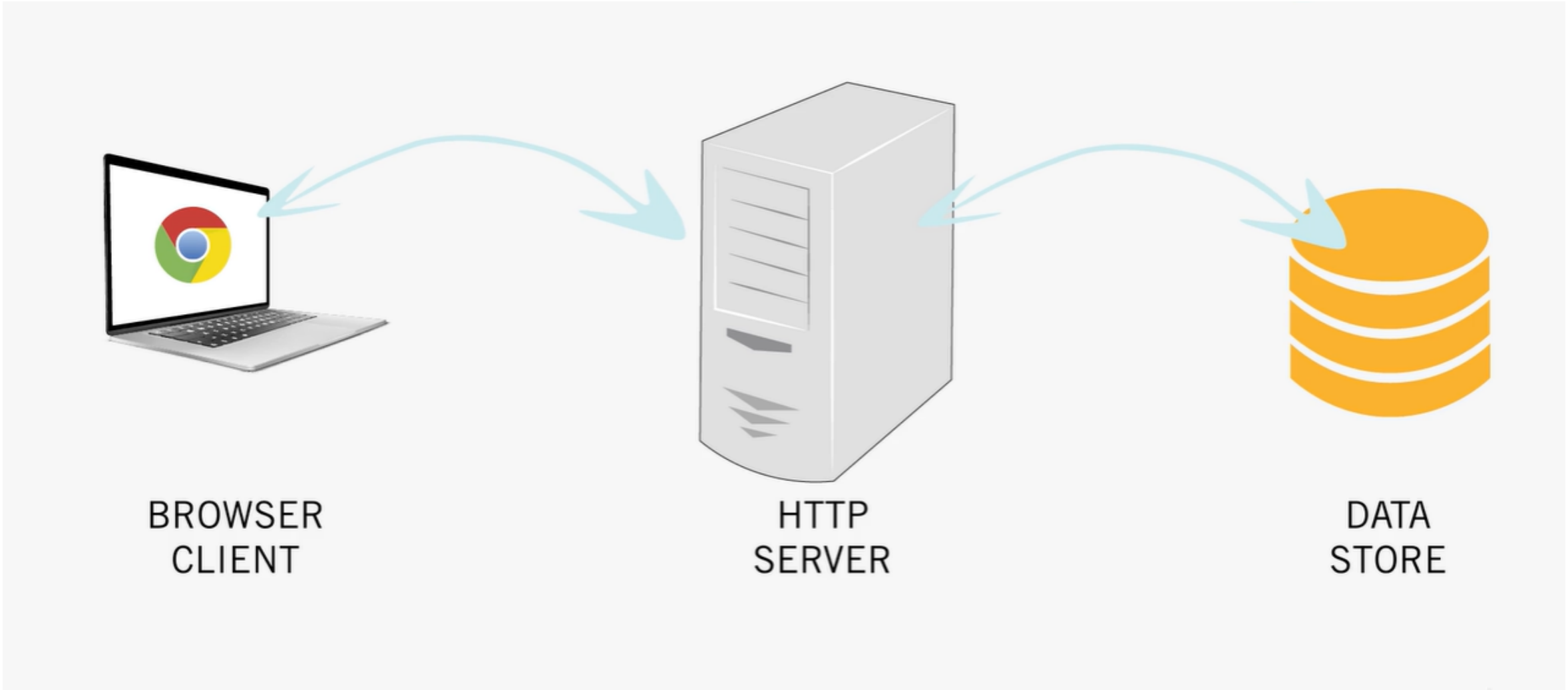


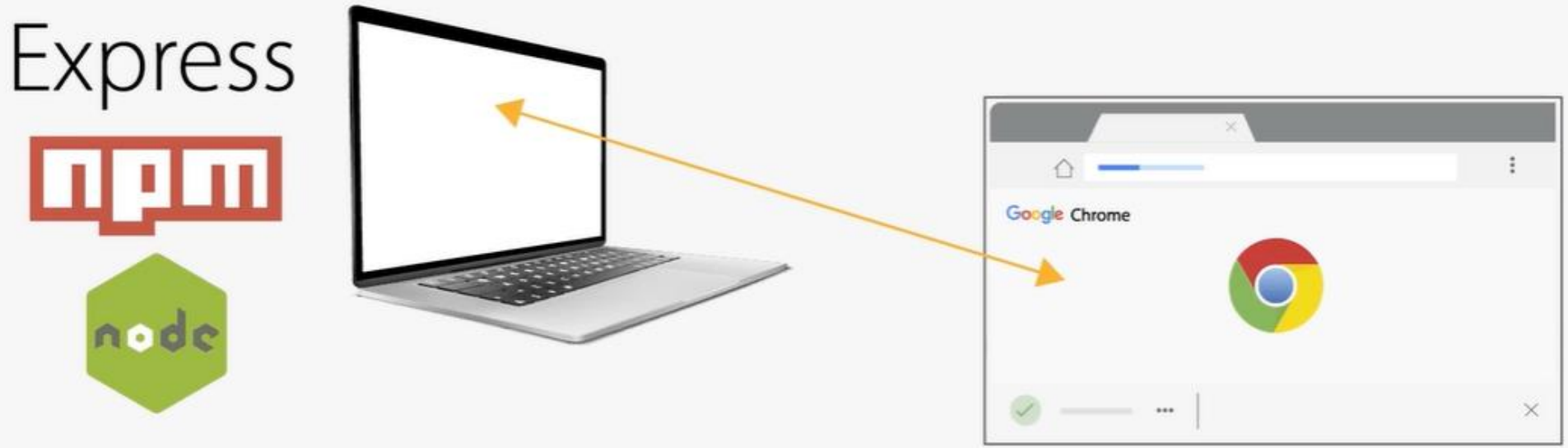
Professional Certificate in Coding: Full Stack Development with MERN: Week 21

Introduction To Tiered Applications

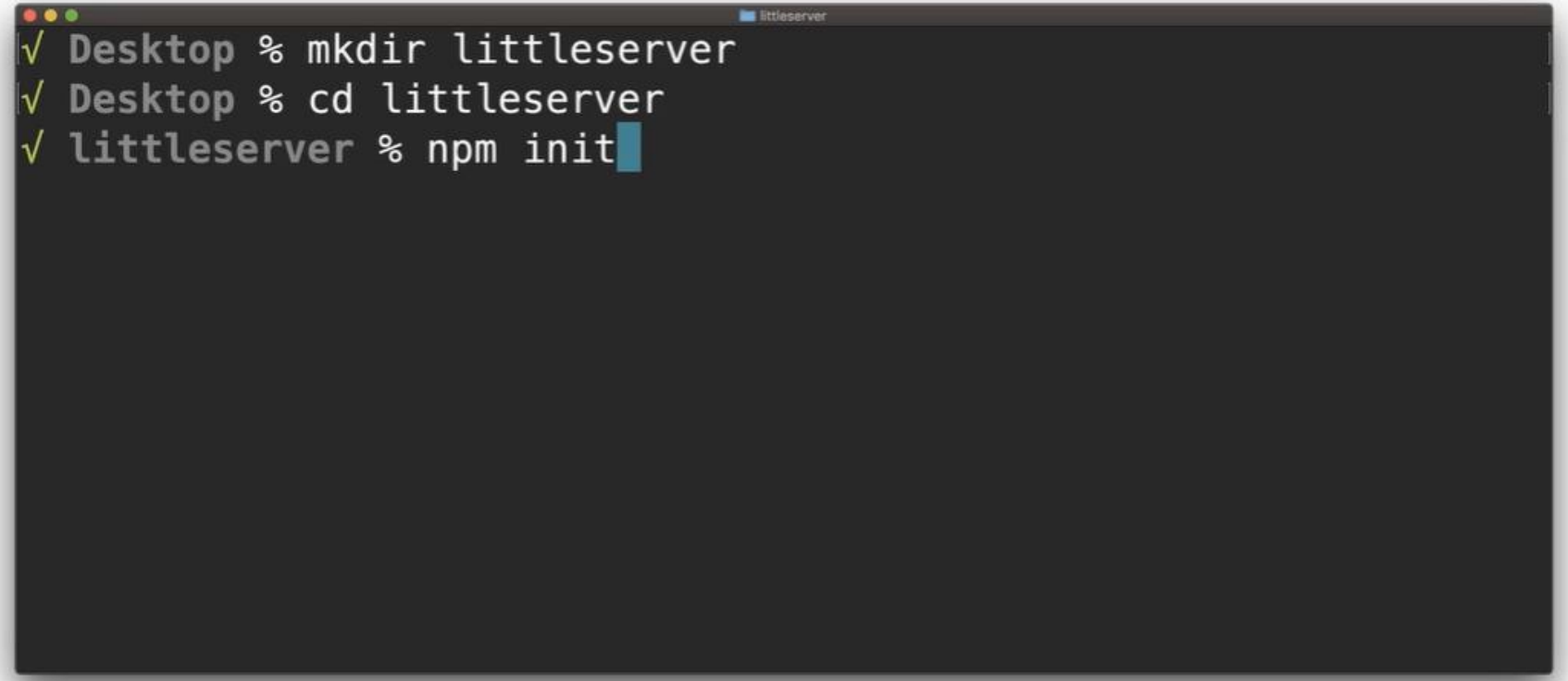
Three Tiers: Client, Server, & Storage



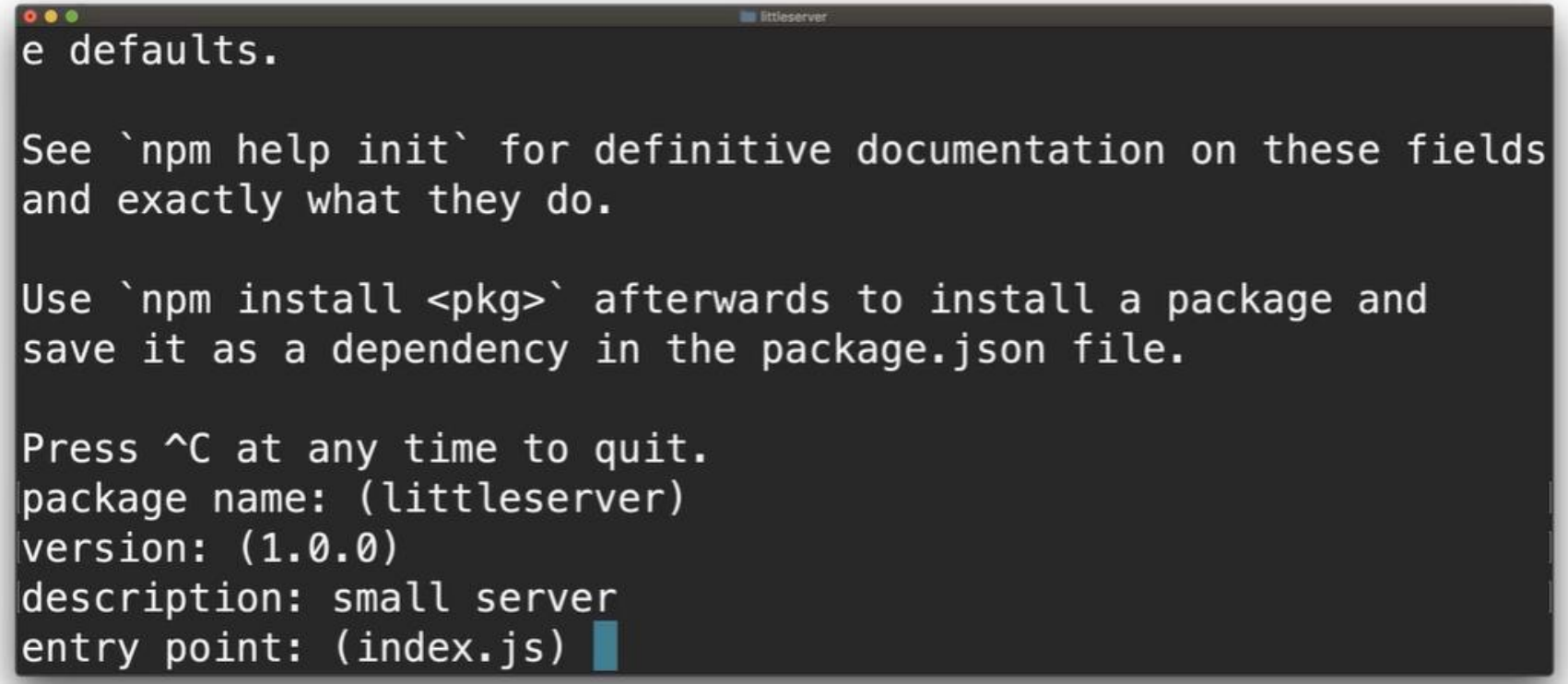
Little Web Server



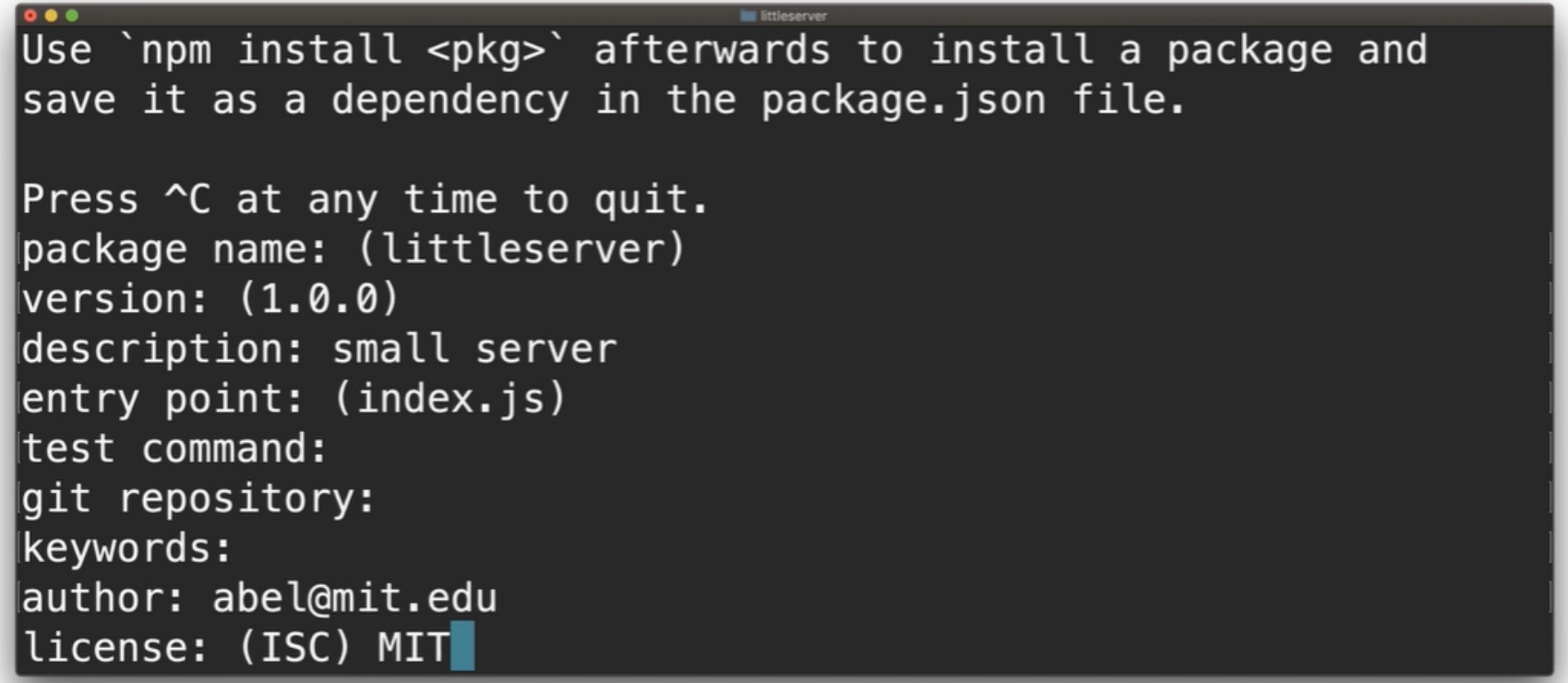
Creating Little Server (1/20)



Creating Little Server (2/20)



Creating Little Server (3/20)



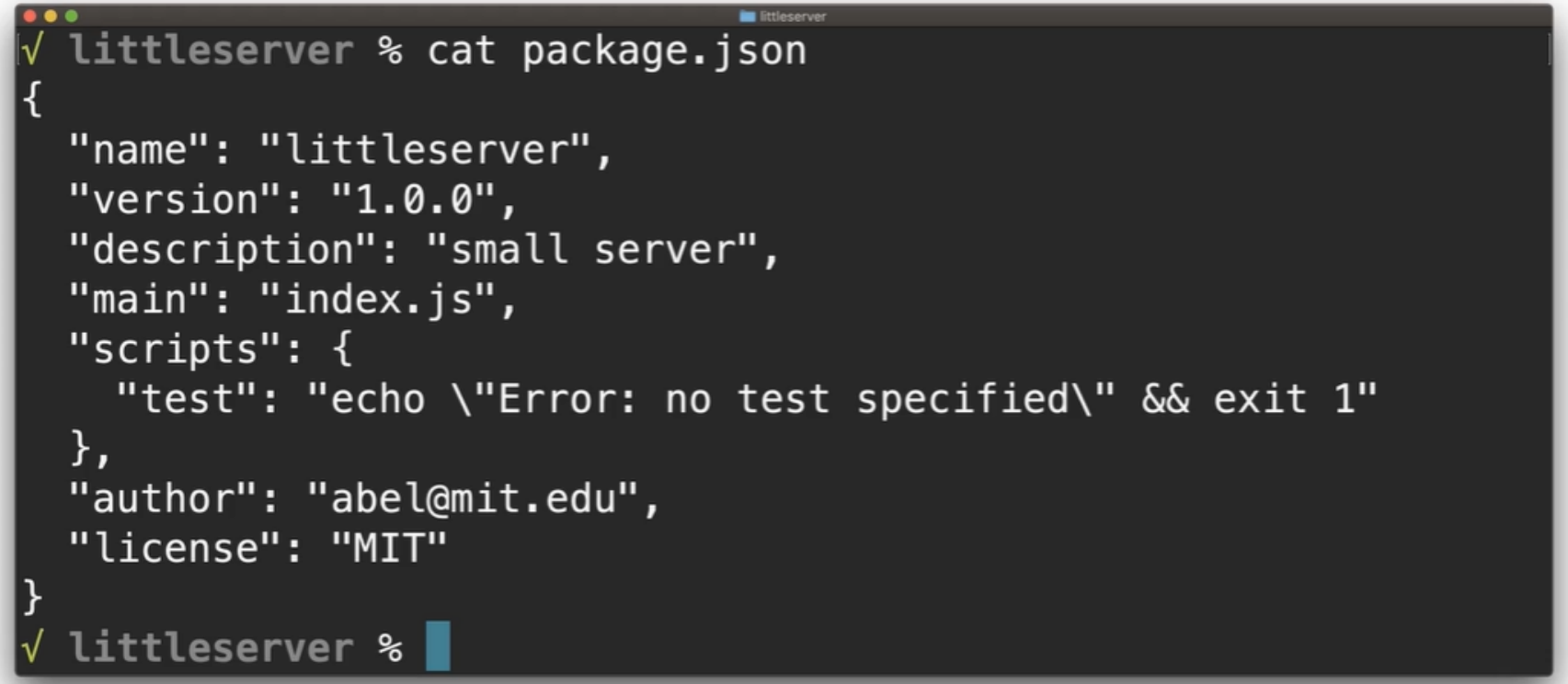
Creating Little Server (4/20)

littleserver

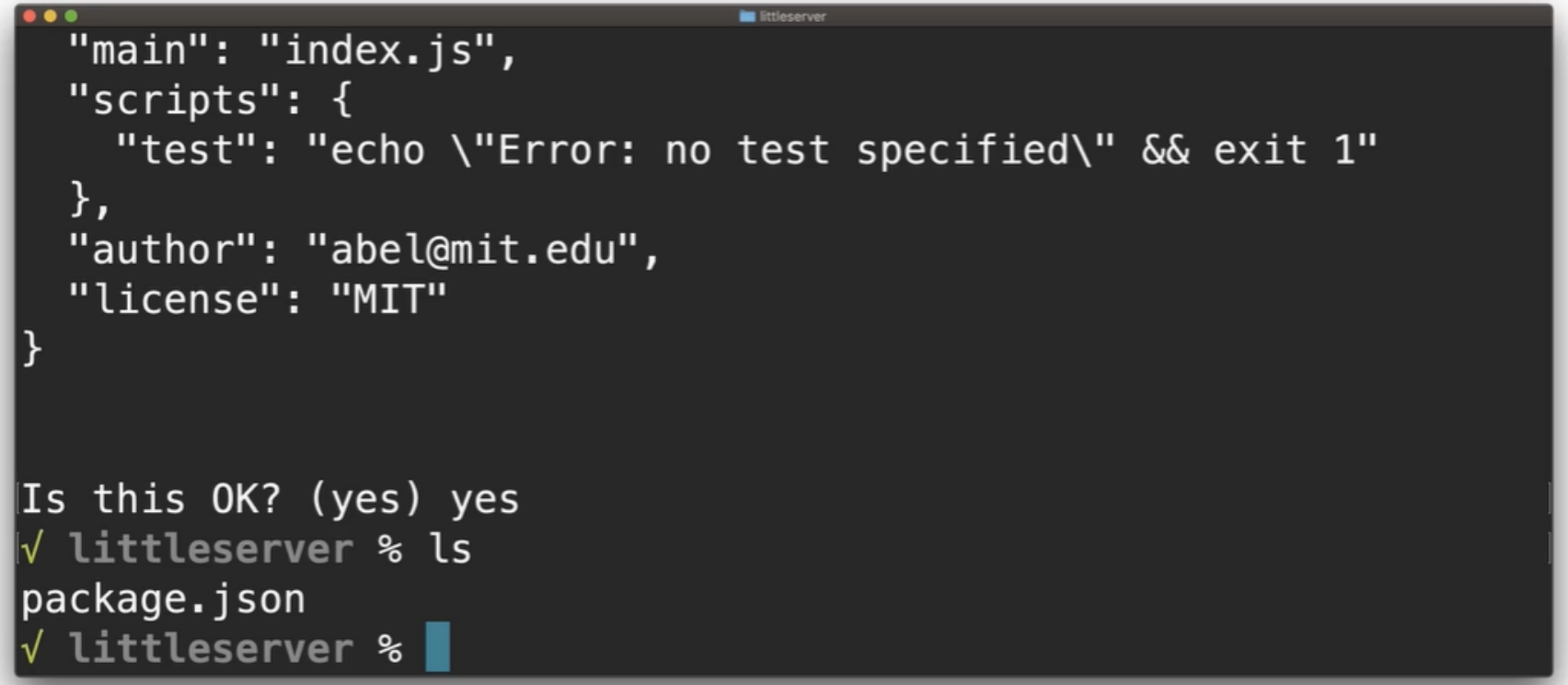
```
  "version": "1.0.0",
  "description": "small server",
  "main": "index.js",
  "scripts": {
    "test": "echo \"Error: no test specified\" && exit 1"
  },
  "author": "abel@mit.edu",
  "license": "MIT"
}


Is this OK? (yes) yes
√ littleserver %
```

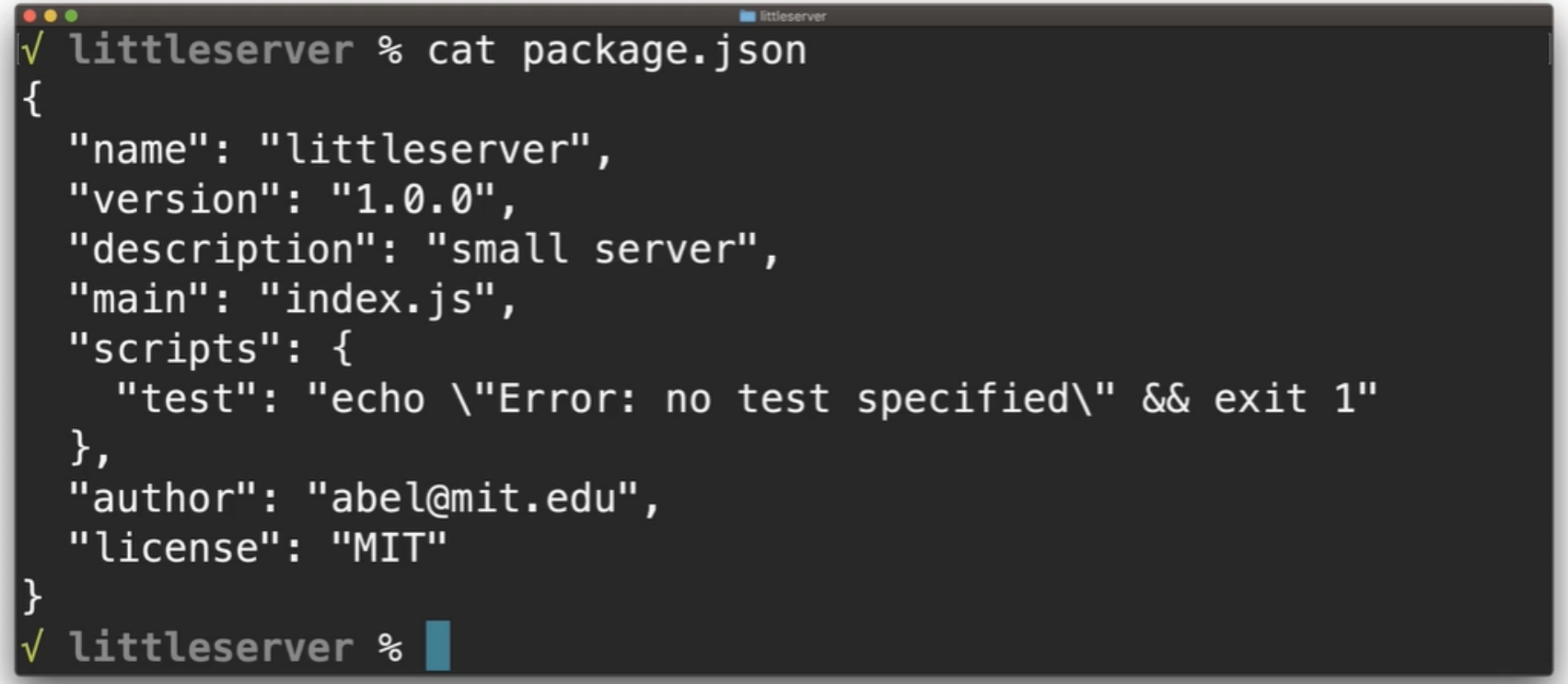
Creating Little Server (5/20)



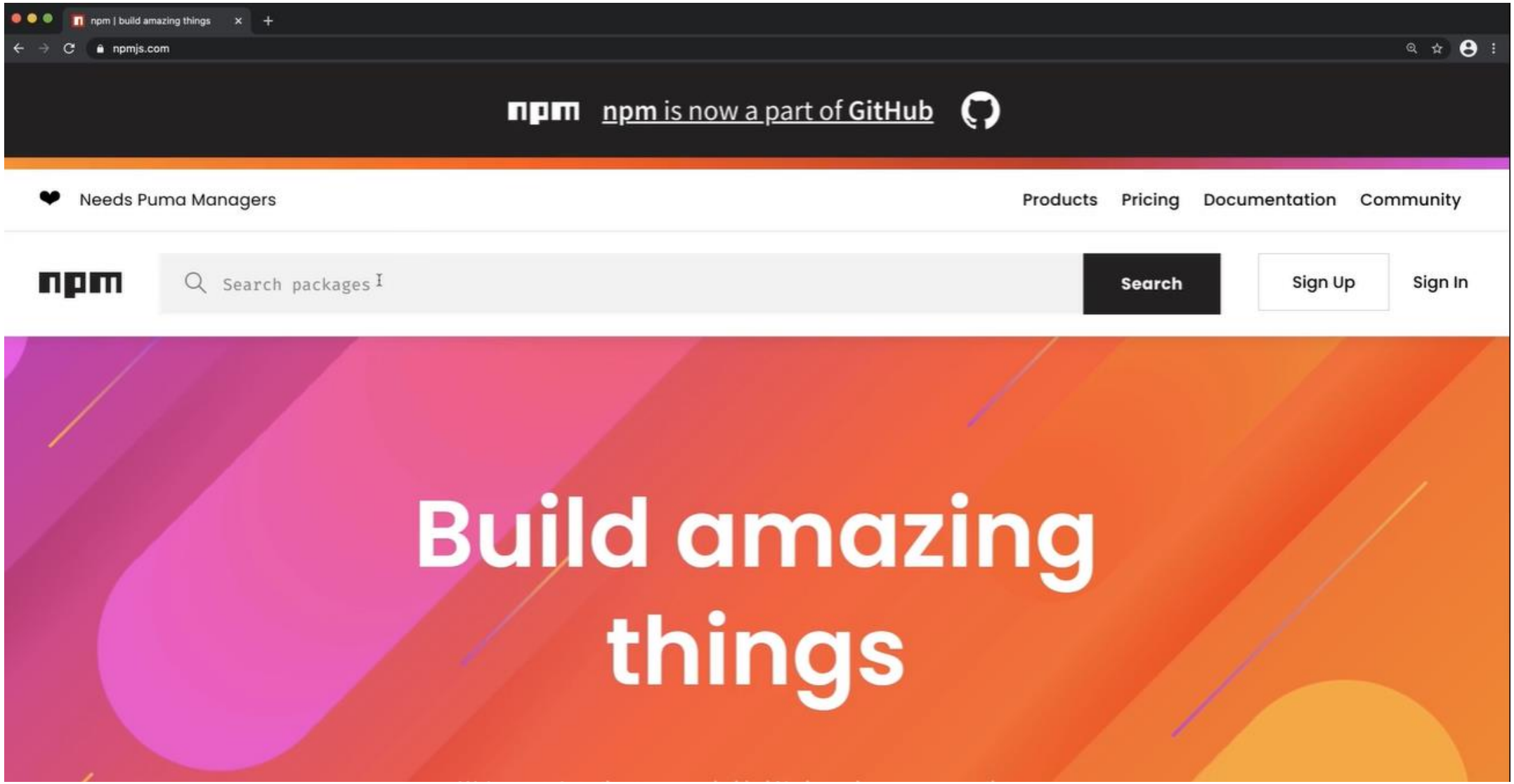
Creating Little Server (6/20)



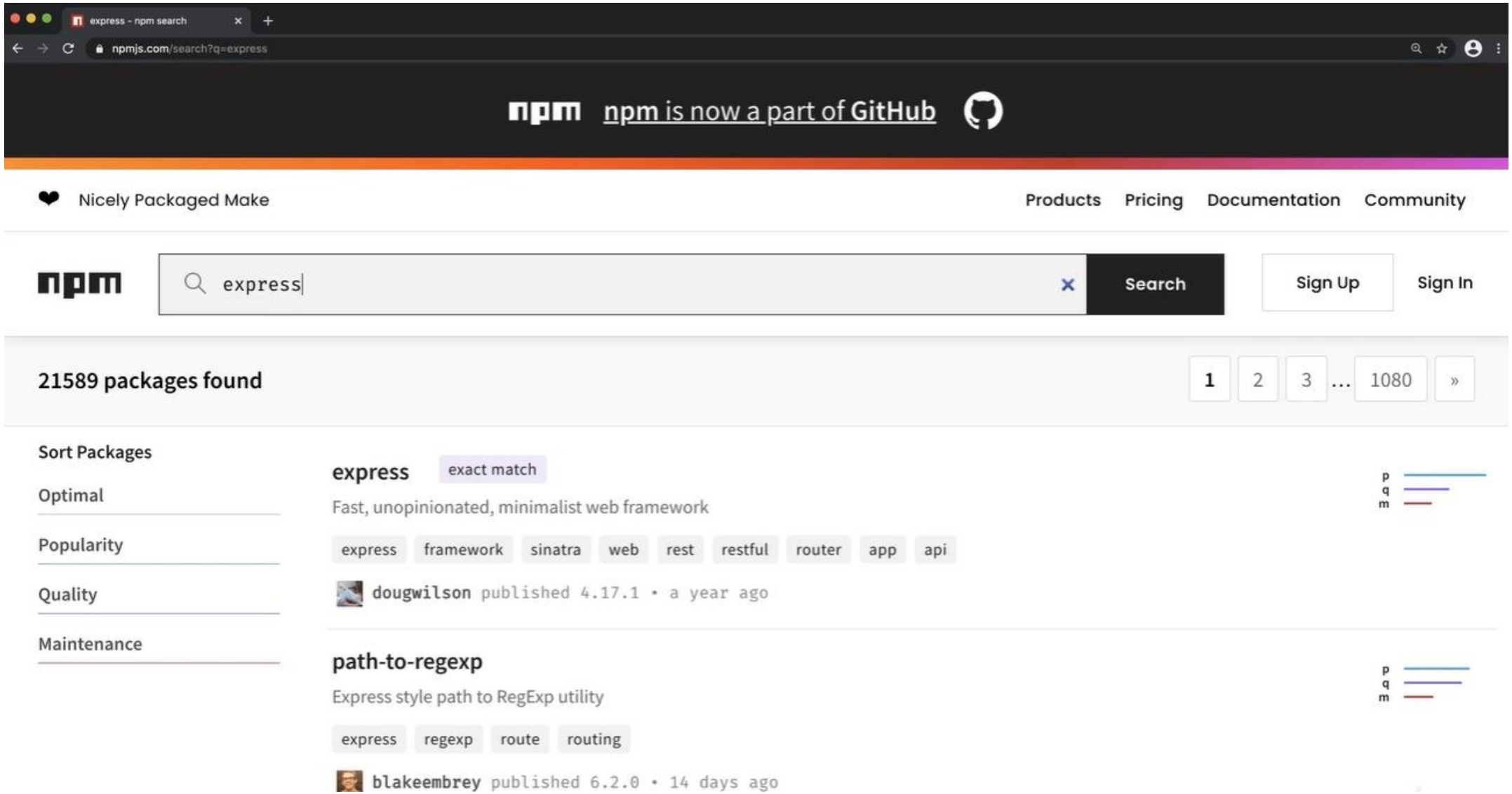
Creating Little Server (7/20)



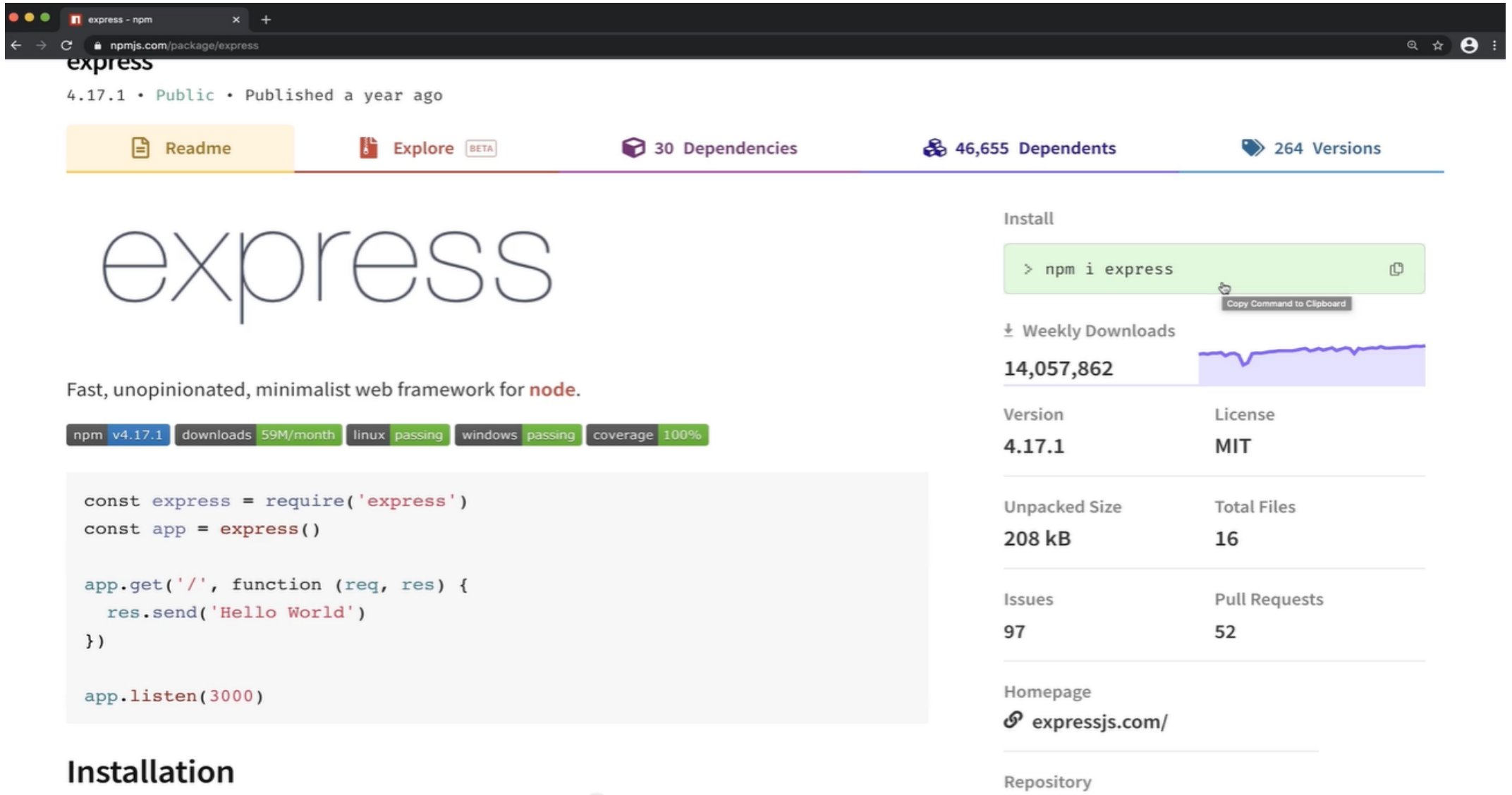
Creating Little Server (7/20)



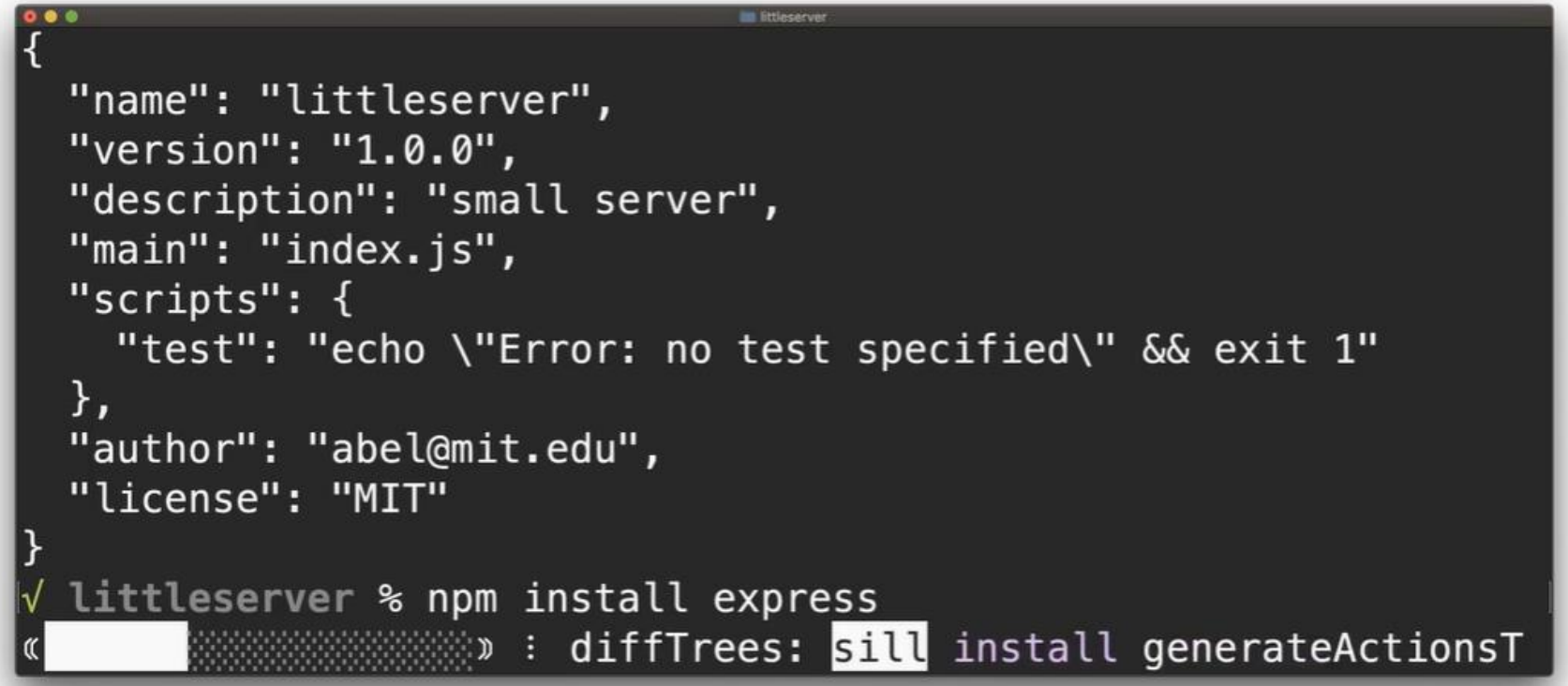
Creating Little Server (8/20)



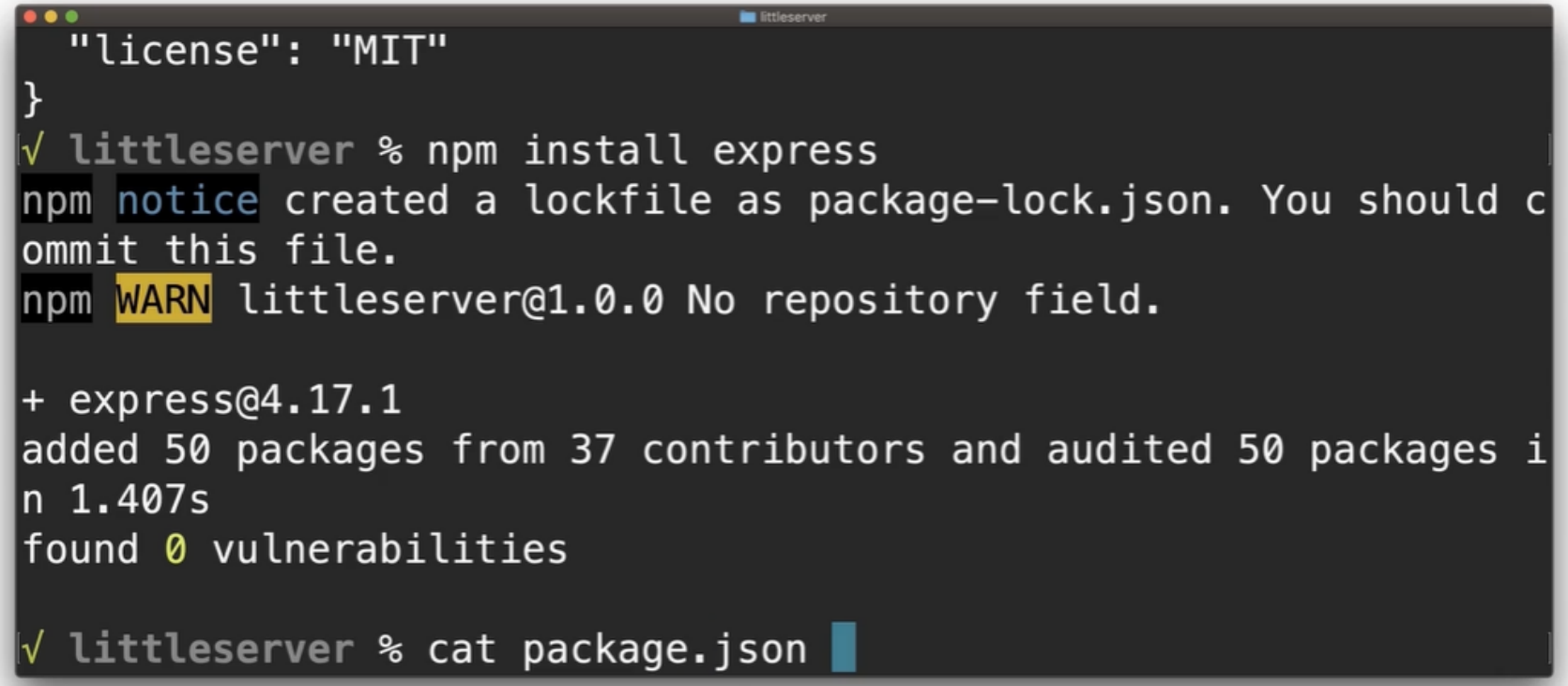
Creating Little Server (9/20)



Creating Little Server (10/20)



Creating Little Server (11/20)

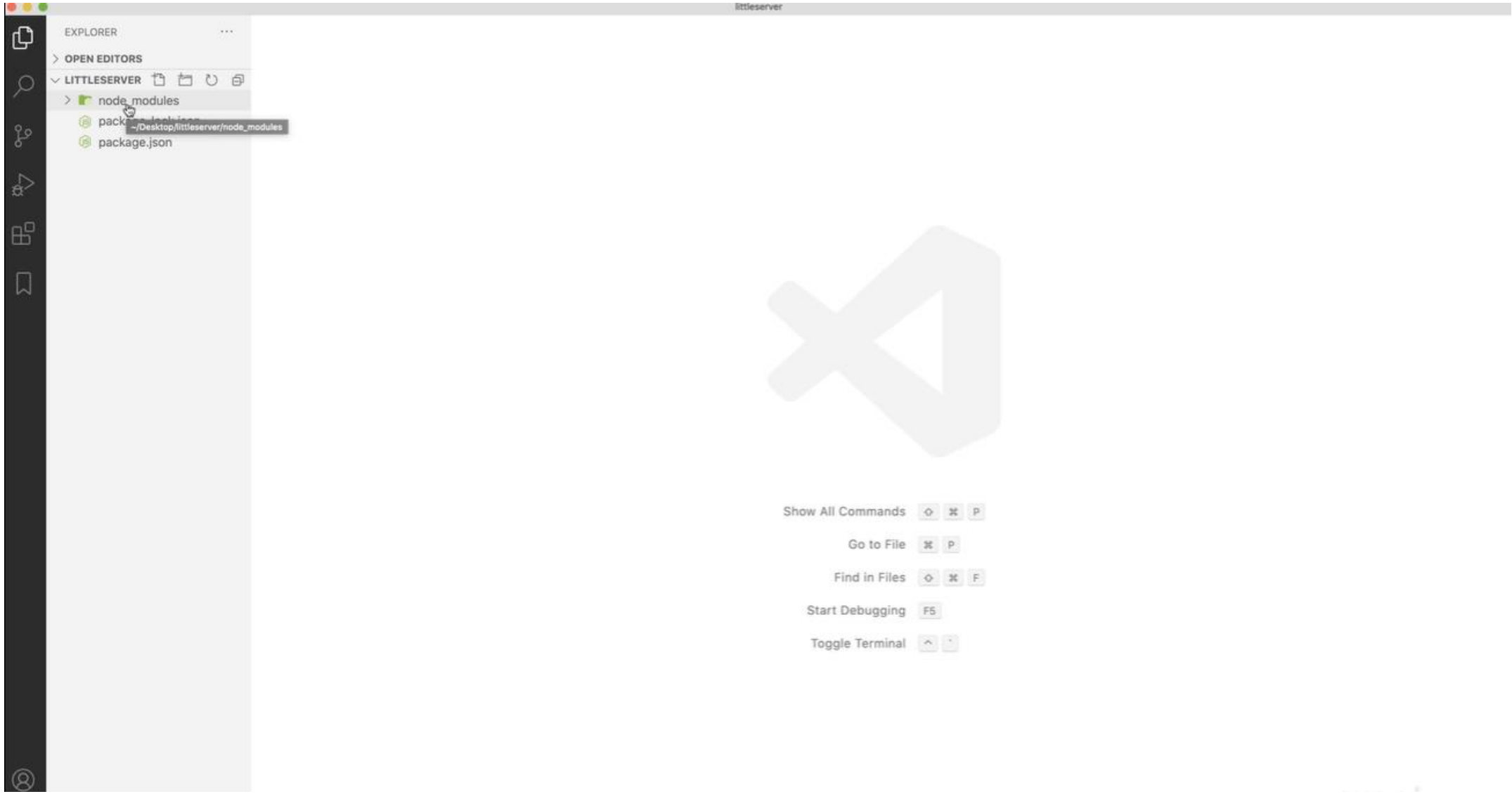


Creating Little Server (12/20)

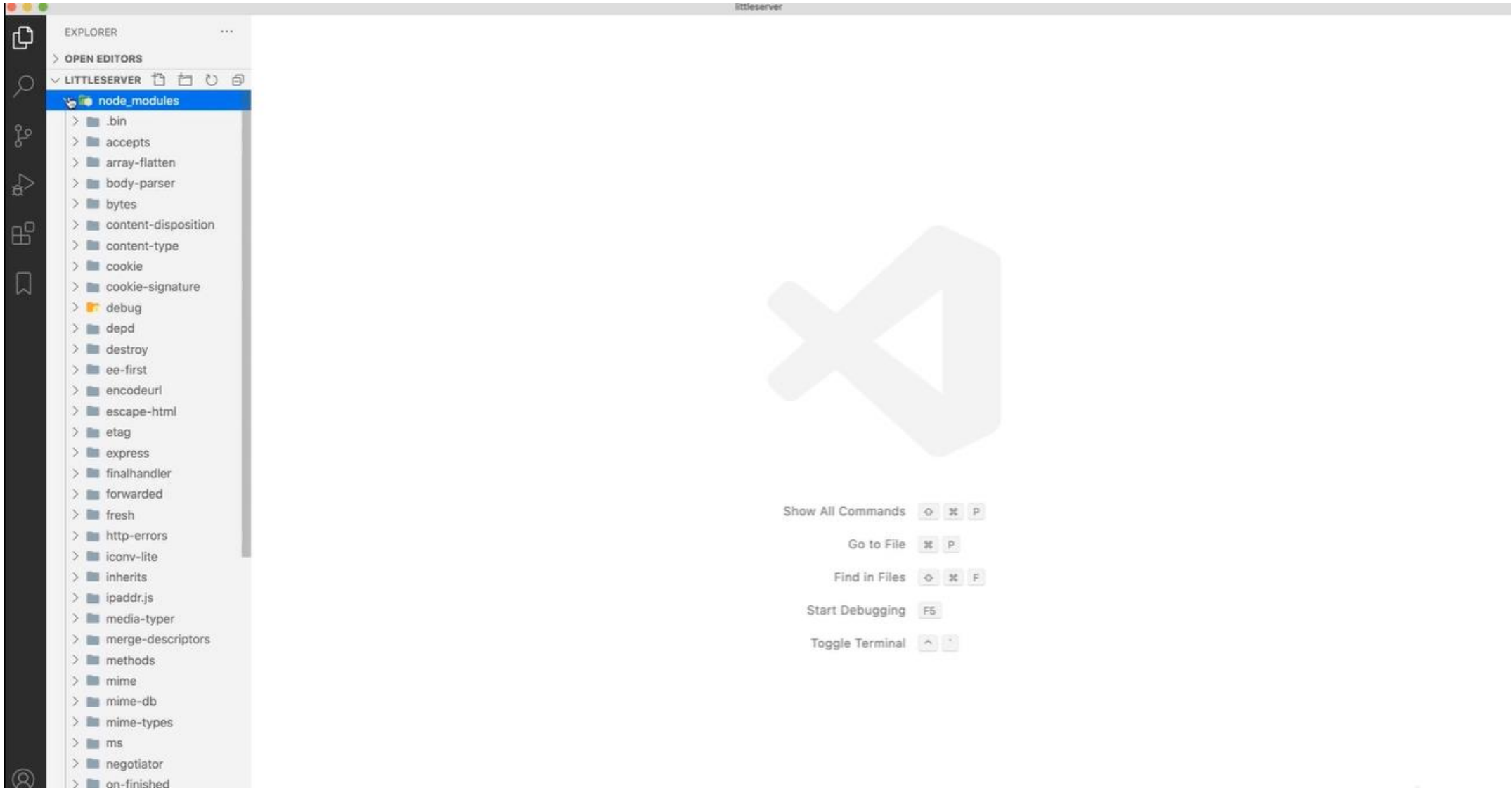
littleserver

```
  "version": "1.0.0",
  "description": "small server",
  "main": "index.js",
  "scripts": {
    "test": "echo \"Error: no test specified\" && exit 1"
  },
  "author": "abel@mit.edu",
  "license": "MIT",
  "dependencies": {
    "express": "^4.17.1"
  }
}
√ littleserver %
```

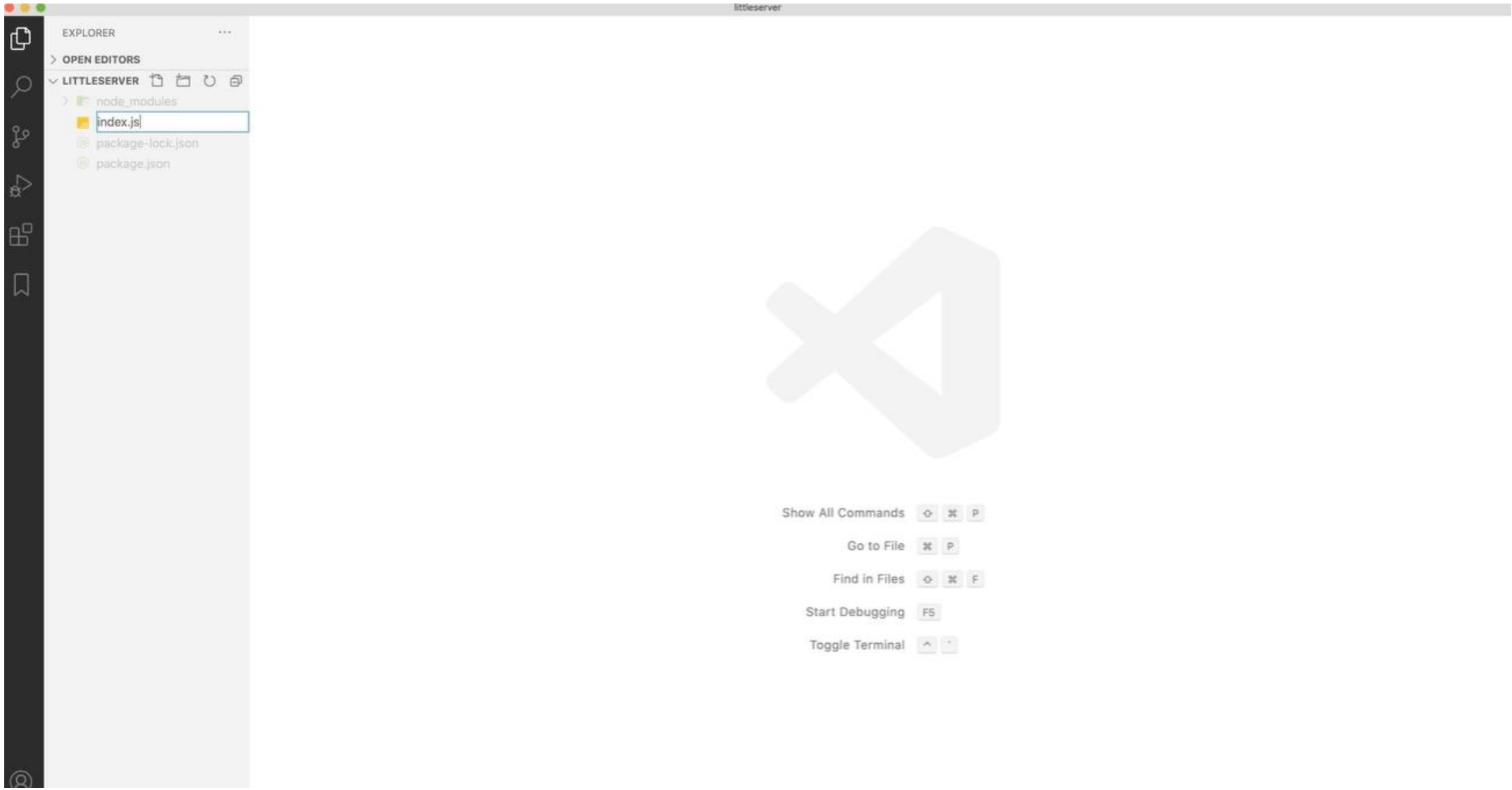
Creating Little Server (13/20)



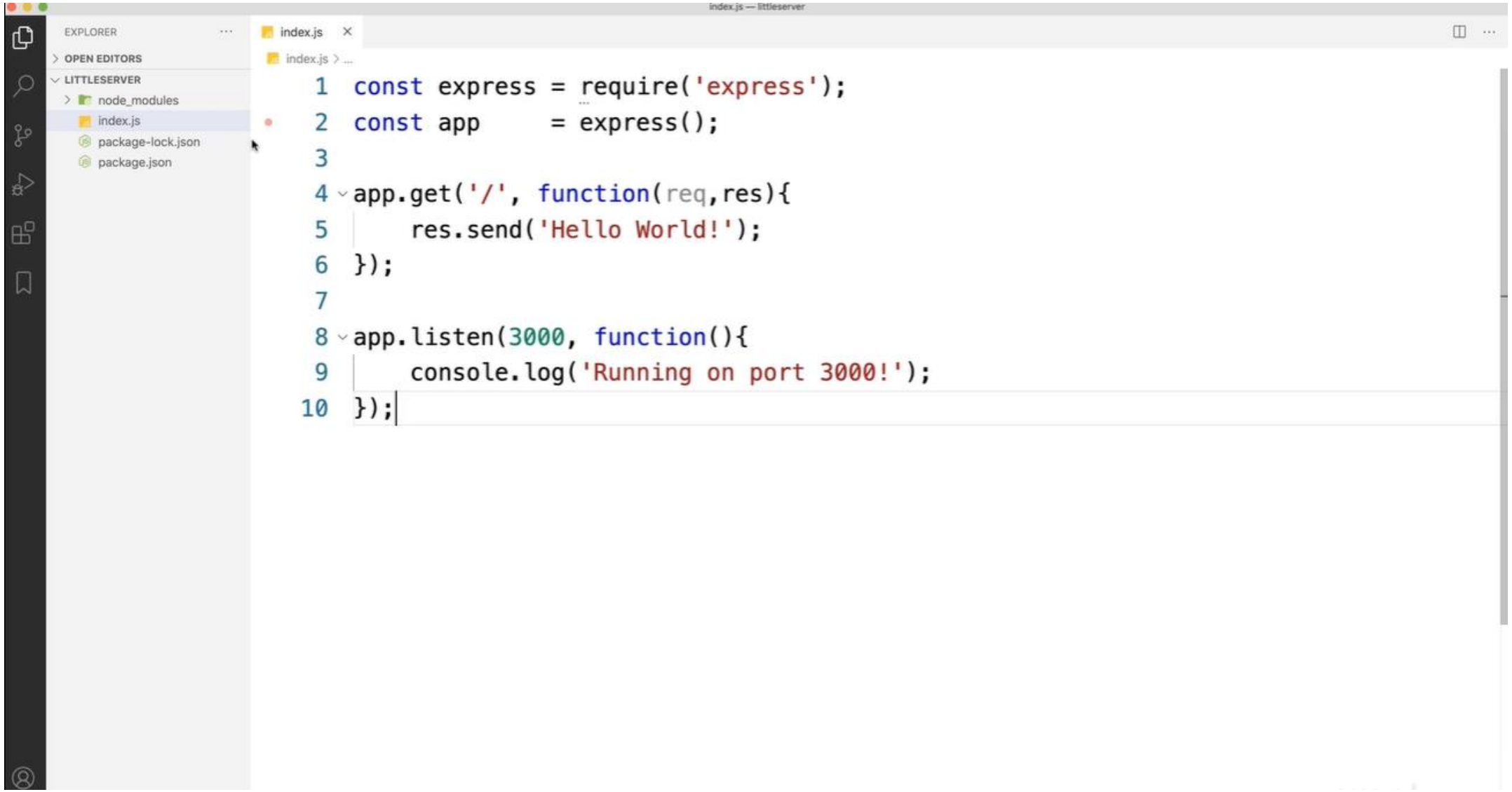
Creating Little Server (14/20)



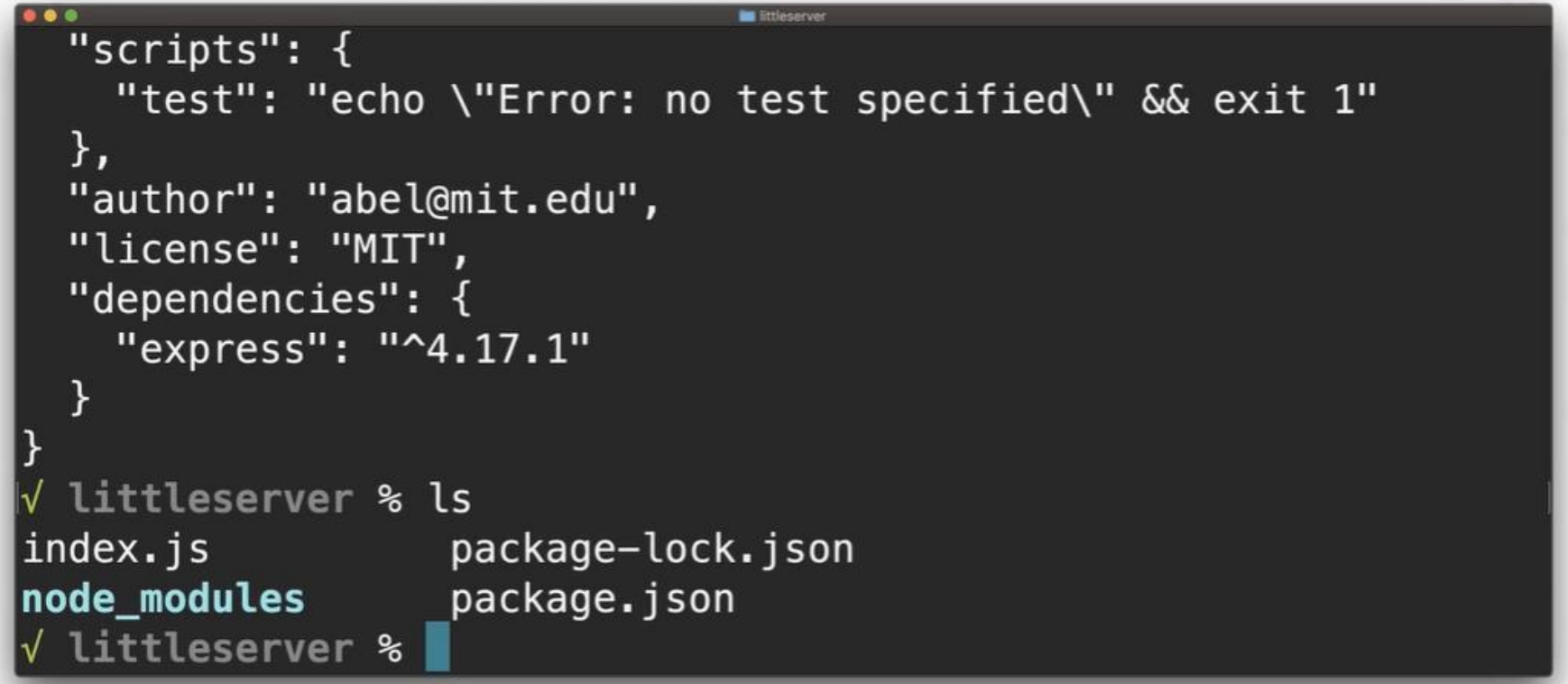
Creating Little Server (15/20)



Creating Little Server (16/20)

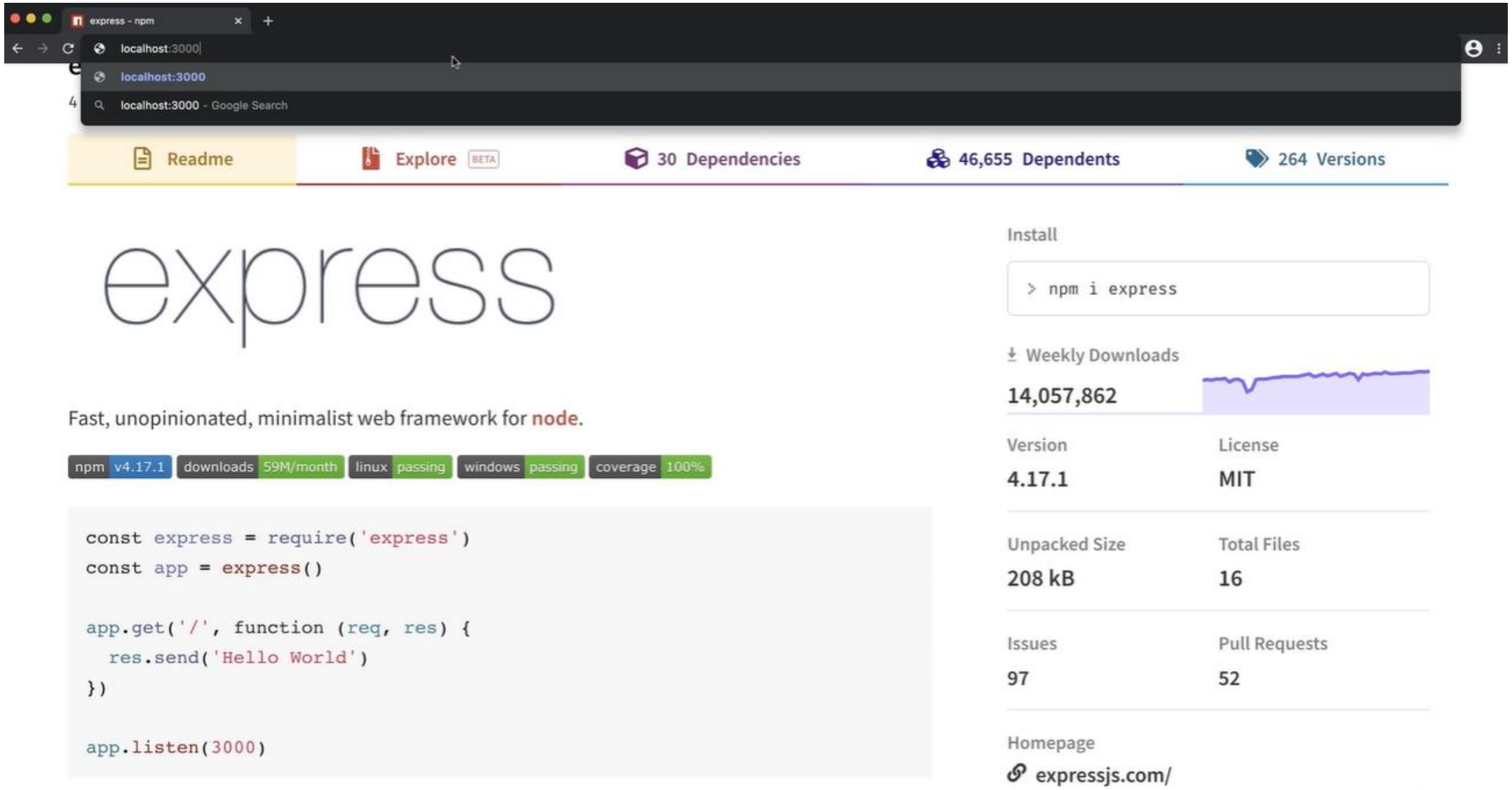


Creating Little Server (17/20)

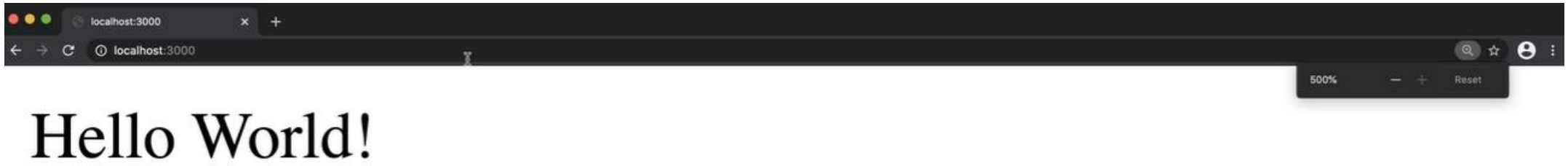


Creating Little Server (18/20)

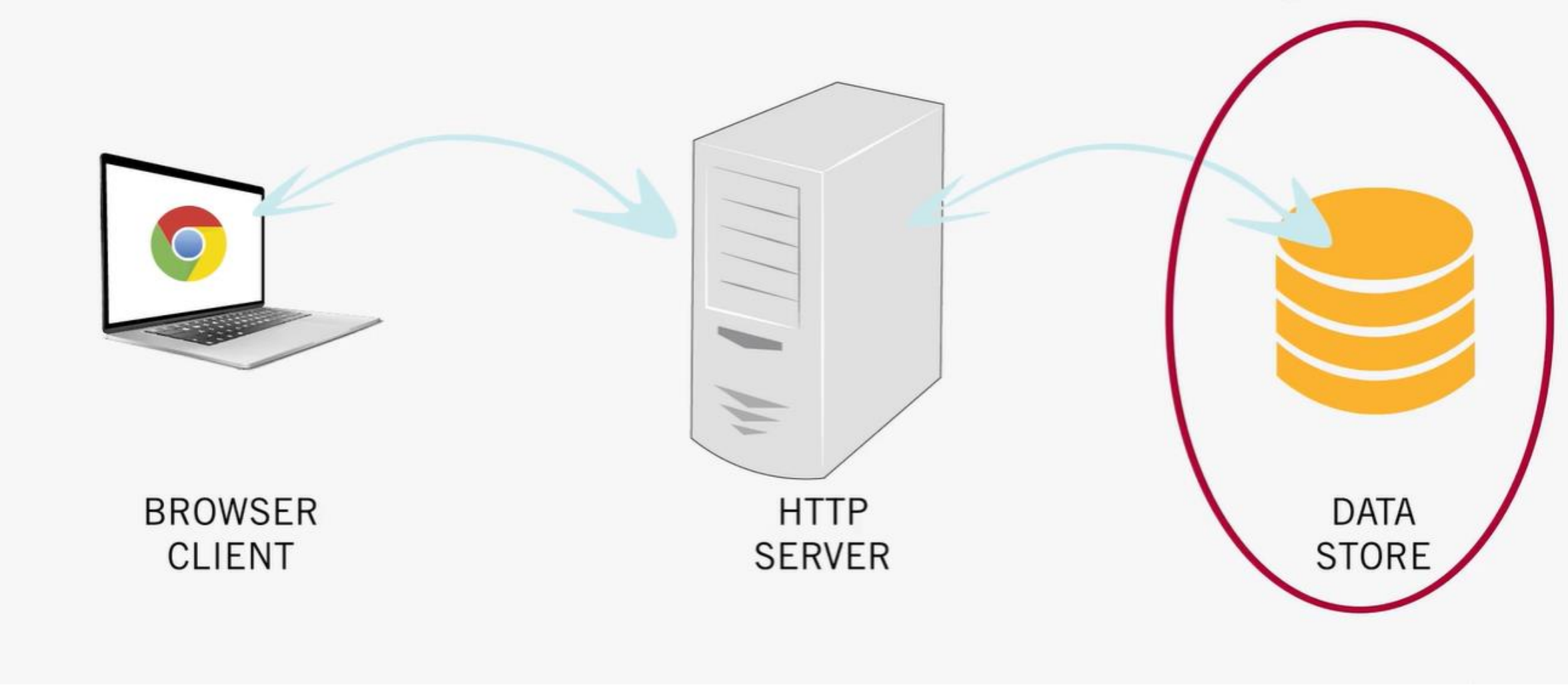
Creating Little Server (19/20)



Creating Little Server (20/20)

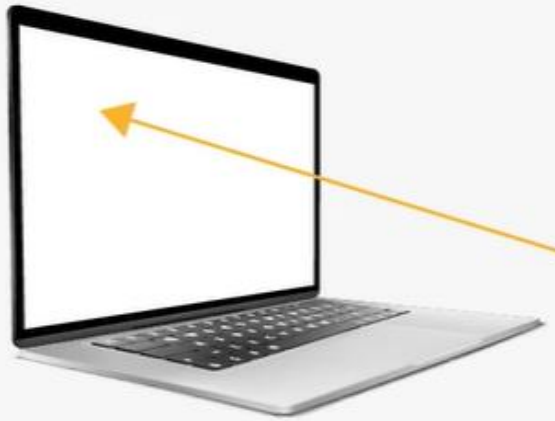


Three Tiers: Client, Server, & Storage



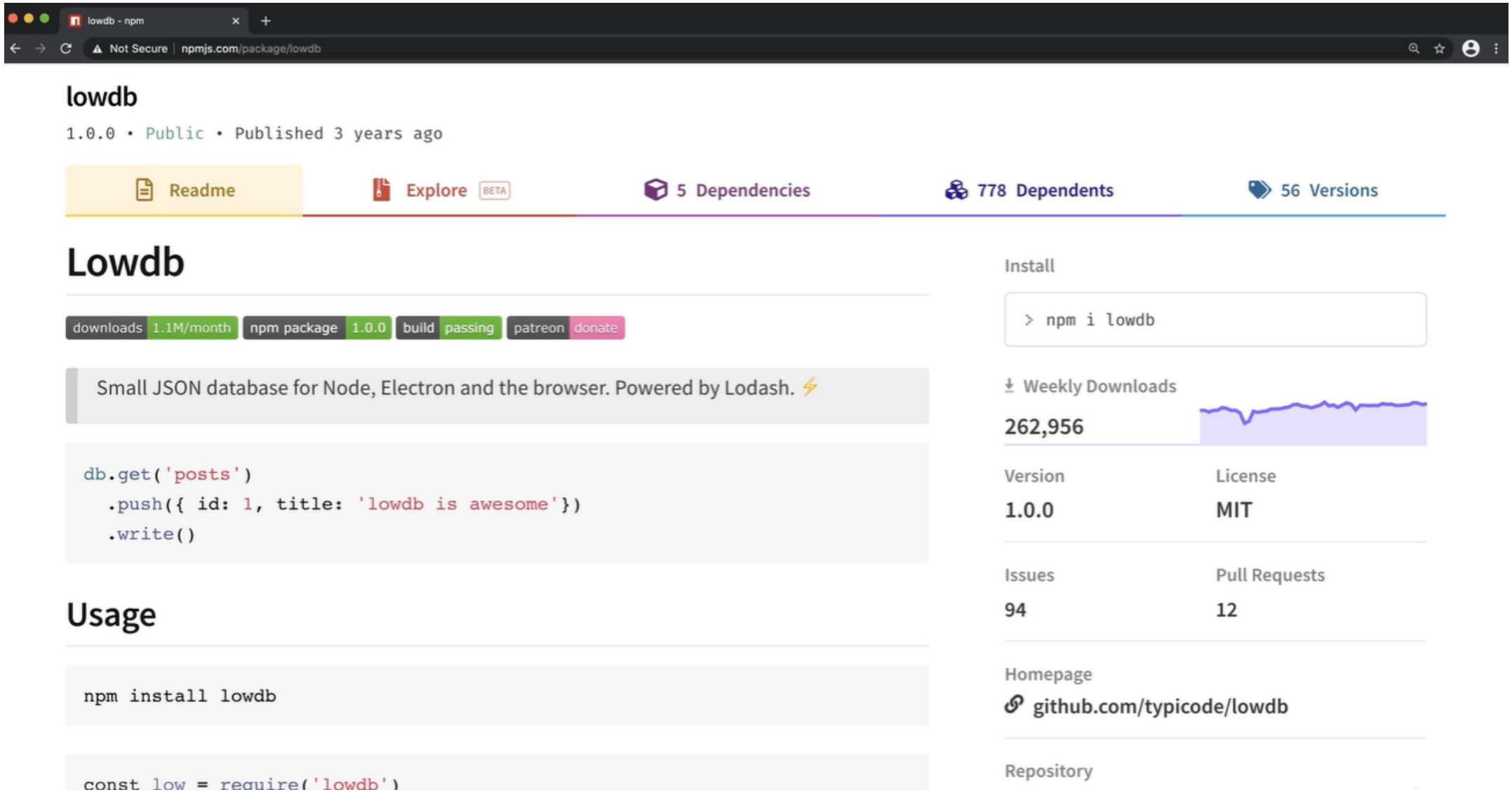
Little DB

Low DB

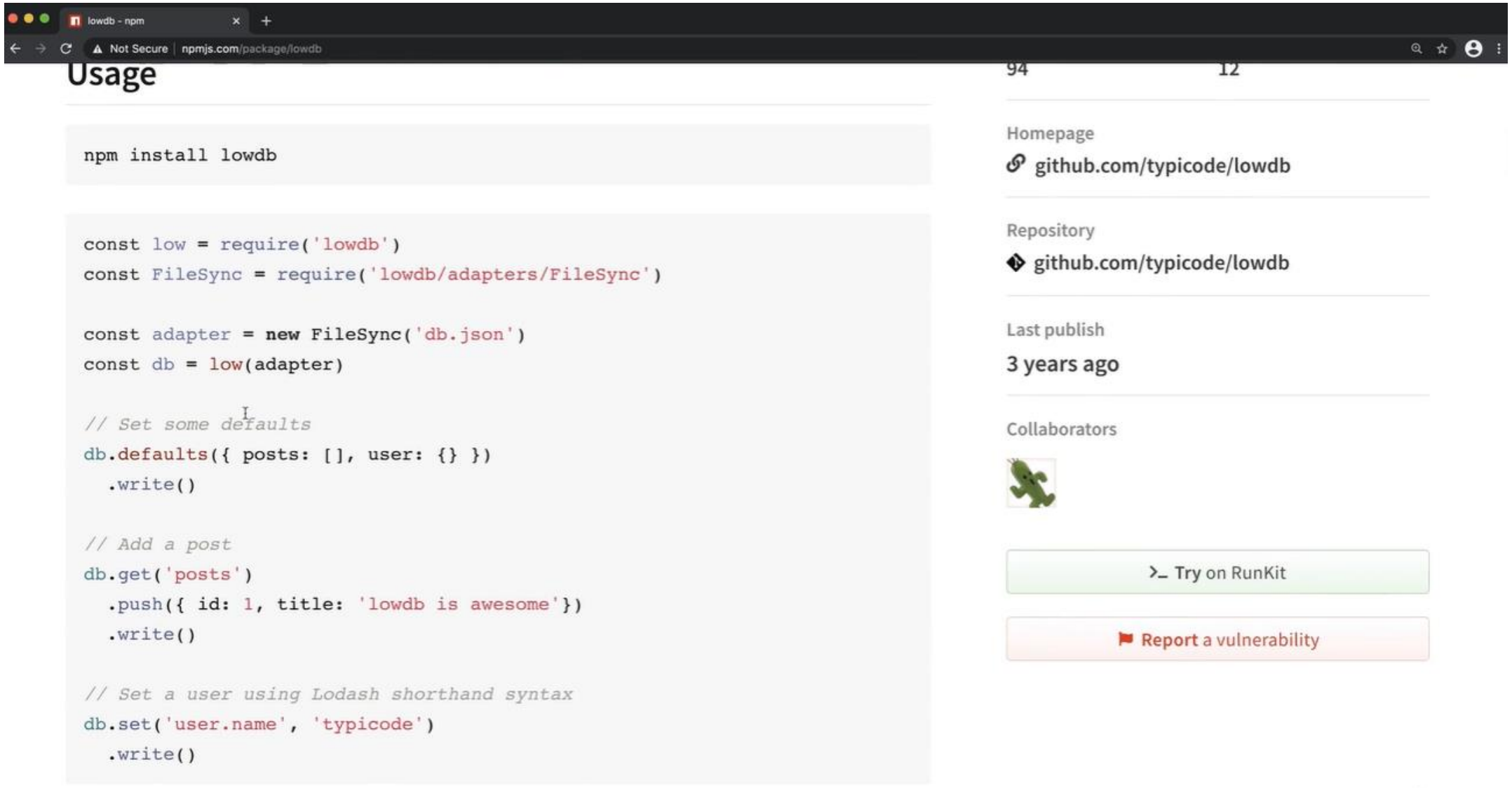


```
{ id: 4, title: 'great', published : 'true' } ]
Done reading data store!
abel@mbp: /dropbox/courses/100/github/one_2019/badbank/02_littleDB$ node simple_
read.js
[ { id: 1, title: 'lowdb is awesome', published: 'false' },
  { id: 2, title: 'good', published: 'false' },
  { id: 3, title: 'cool', published: 'true' },
  { id: 4, title: 'great', published: 'true' } ]
Done reading data store!
abel@mbp: /dropbox/courses/100/github/one_2019/badbank/02_littleDB$ node simple_
write.js
Done writing to data store!
abel@mbp: /dropbox/courses/100/github/one_2019/badbank/02_littleDB$ node simple_
read.js
[ { id: 1, title: 'lowdb is awesome', published: 'false' },
  { id: 2, title: 'good', published: 'false' },
  { id: 3, title: 'cool', published: 'true' },
  { id: 4, title: 'great', published: 'true' },
  { id: 5, title: 'boston', published: 'false' },
  { id: 6, title: 'NYC', published: 'true' },
  { id: 7, title: 'DC', published: 'true' },
Done reading data store!
abel@mbp: /dropbox/courses/100/github/one_2019/badbank/02_littleDB$ node simple_
```

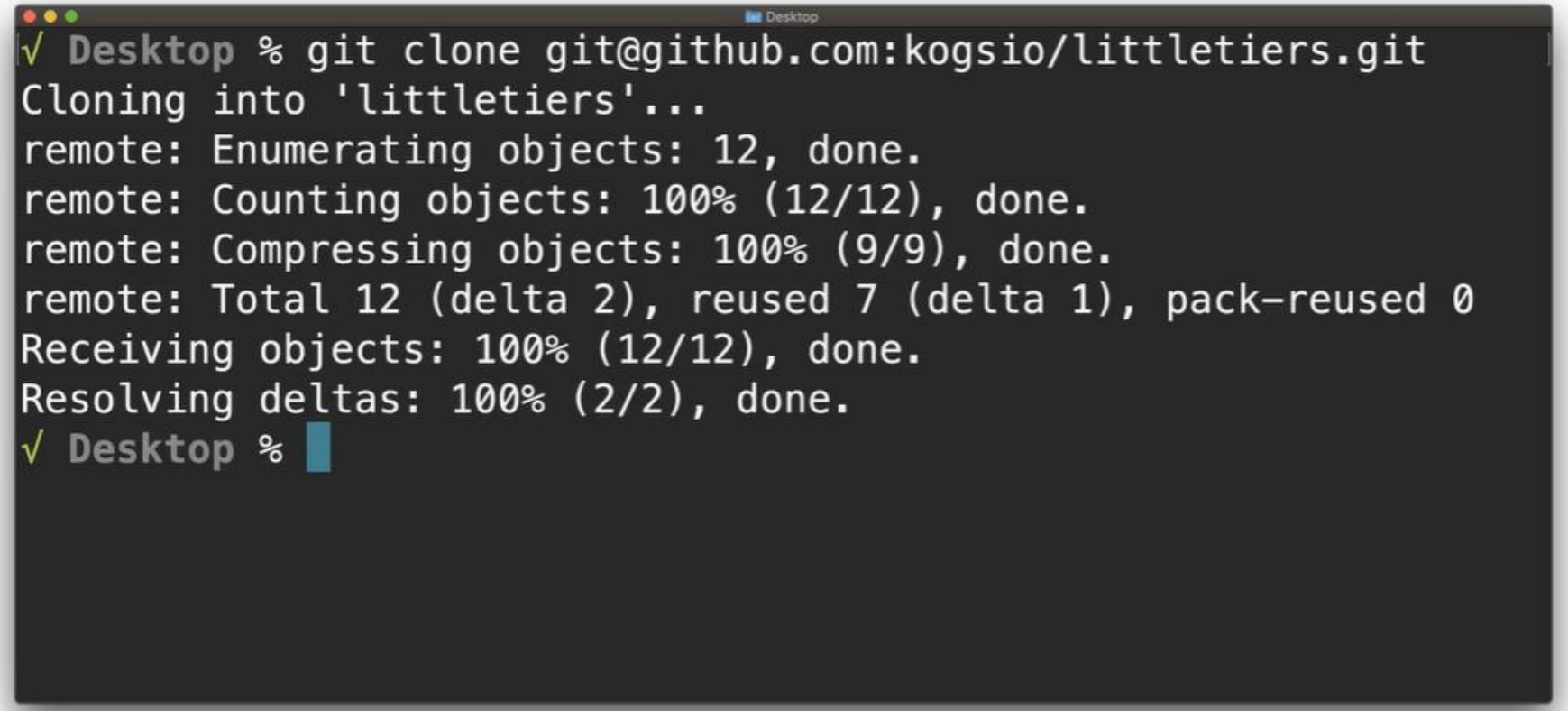
Creating Little DB (1/22)



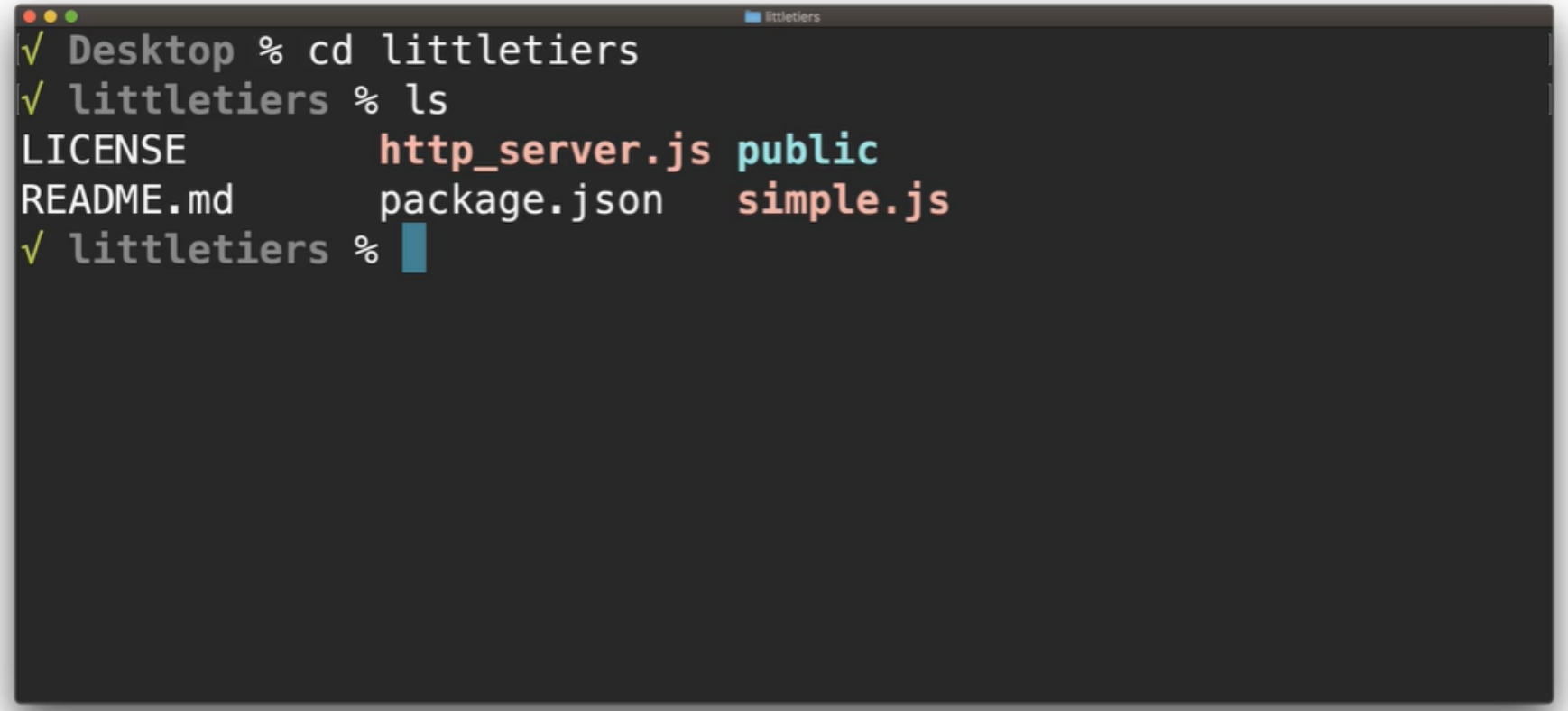
Creating Little DB (2/22)



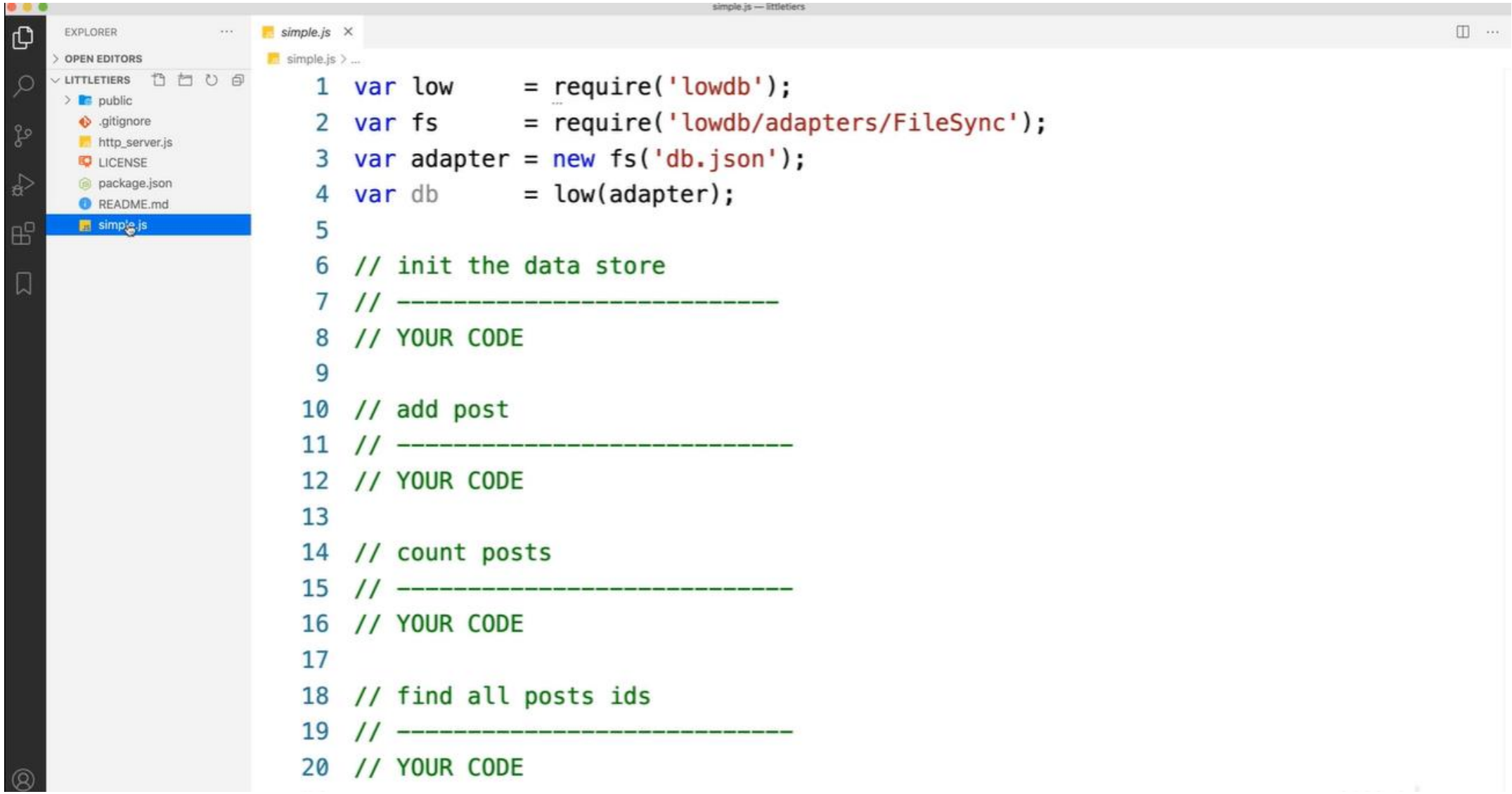
Creating Little DB (3/22)



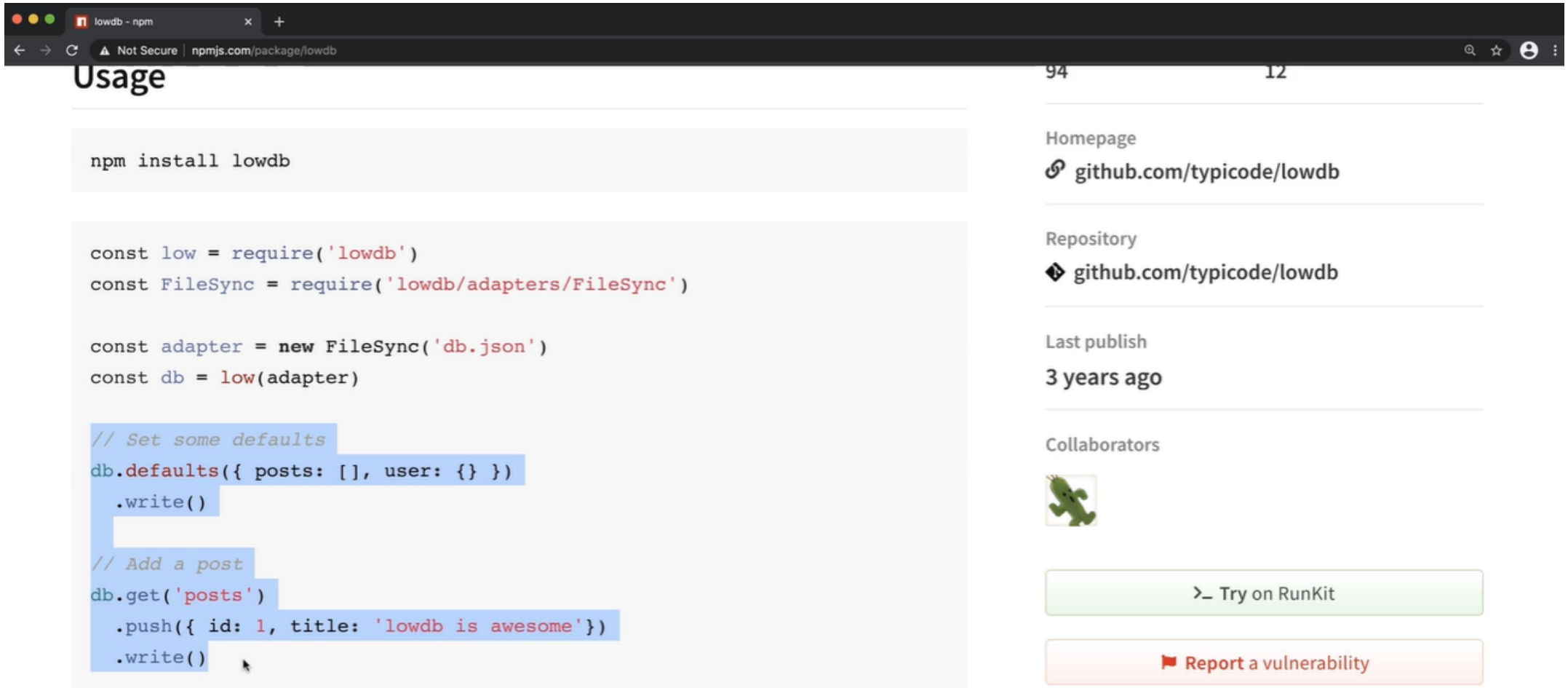
Creating Little DB (4/22)



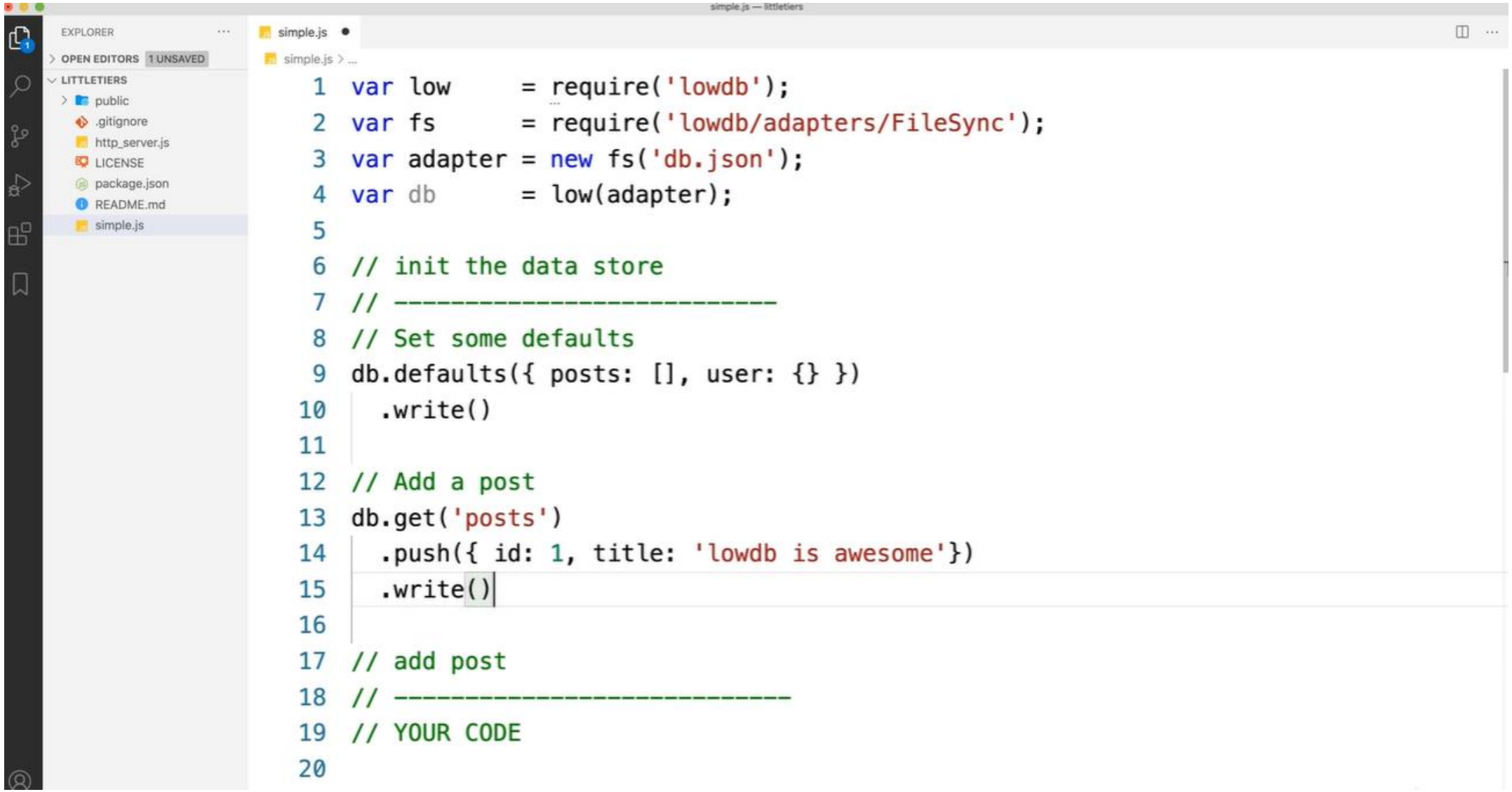
Creating Little DB (5/22)



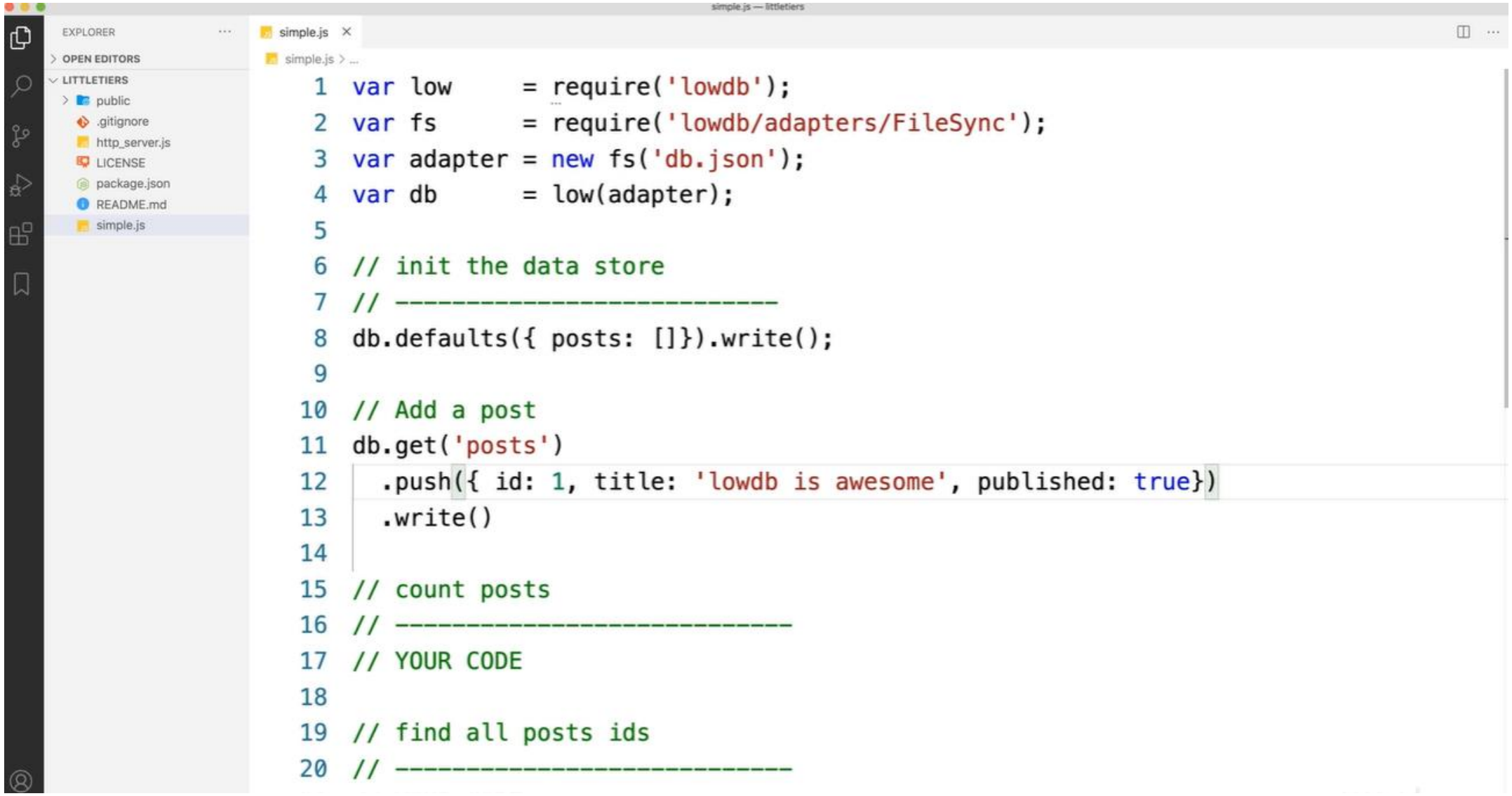
Creating Little DB (6/22)



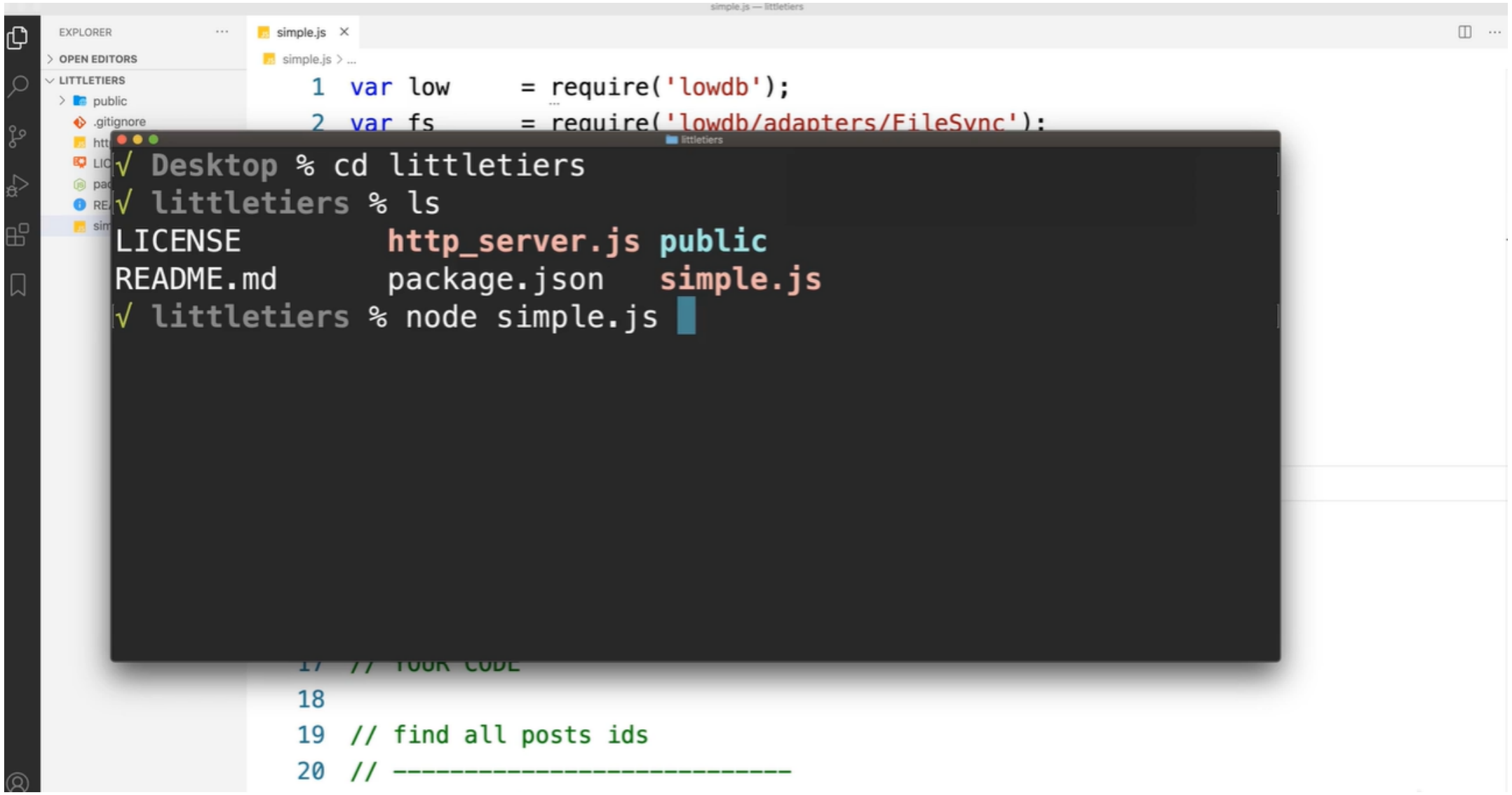
Creating Little DB (7/22)



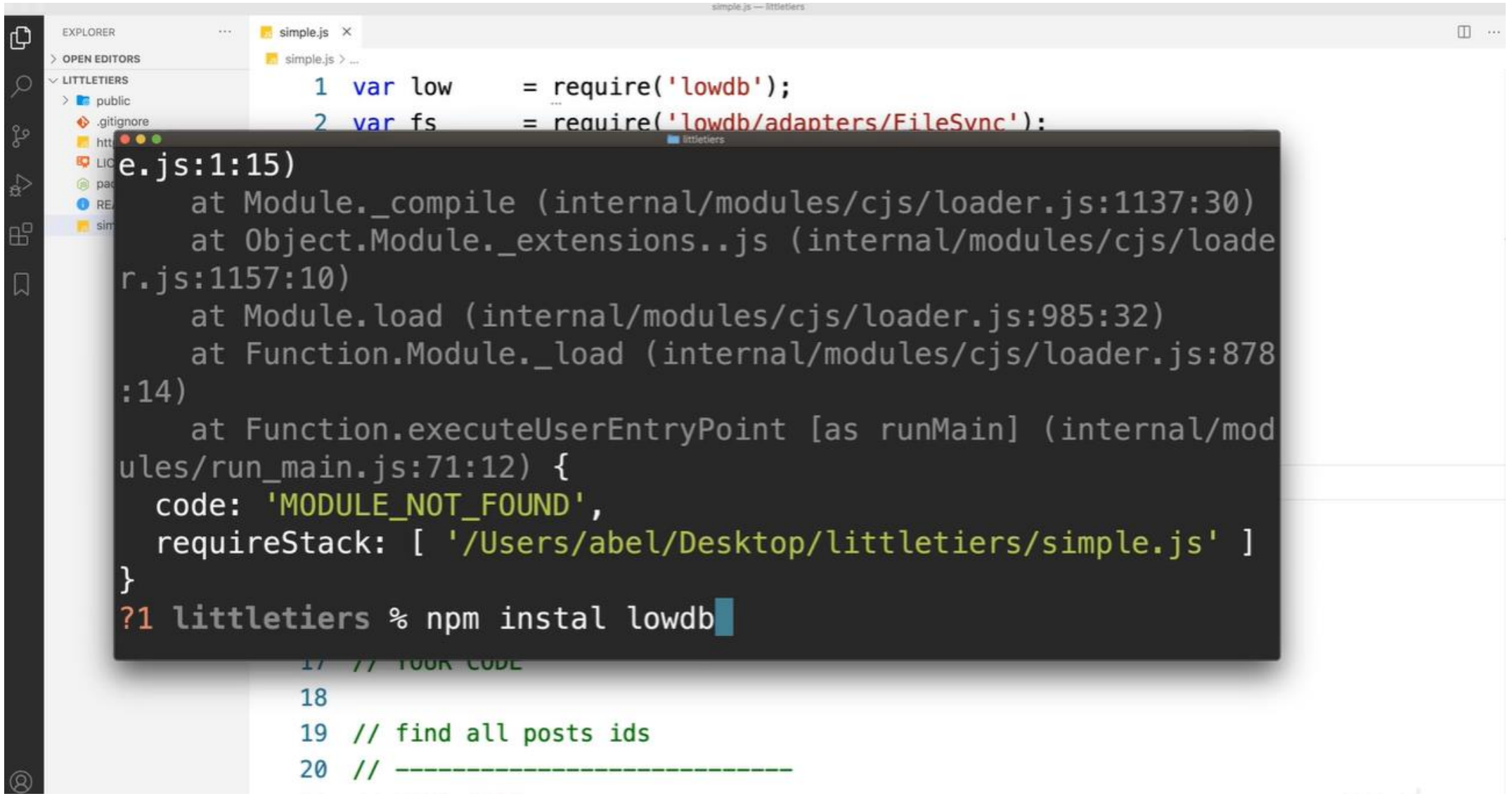
Creating Little DB (8/22)



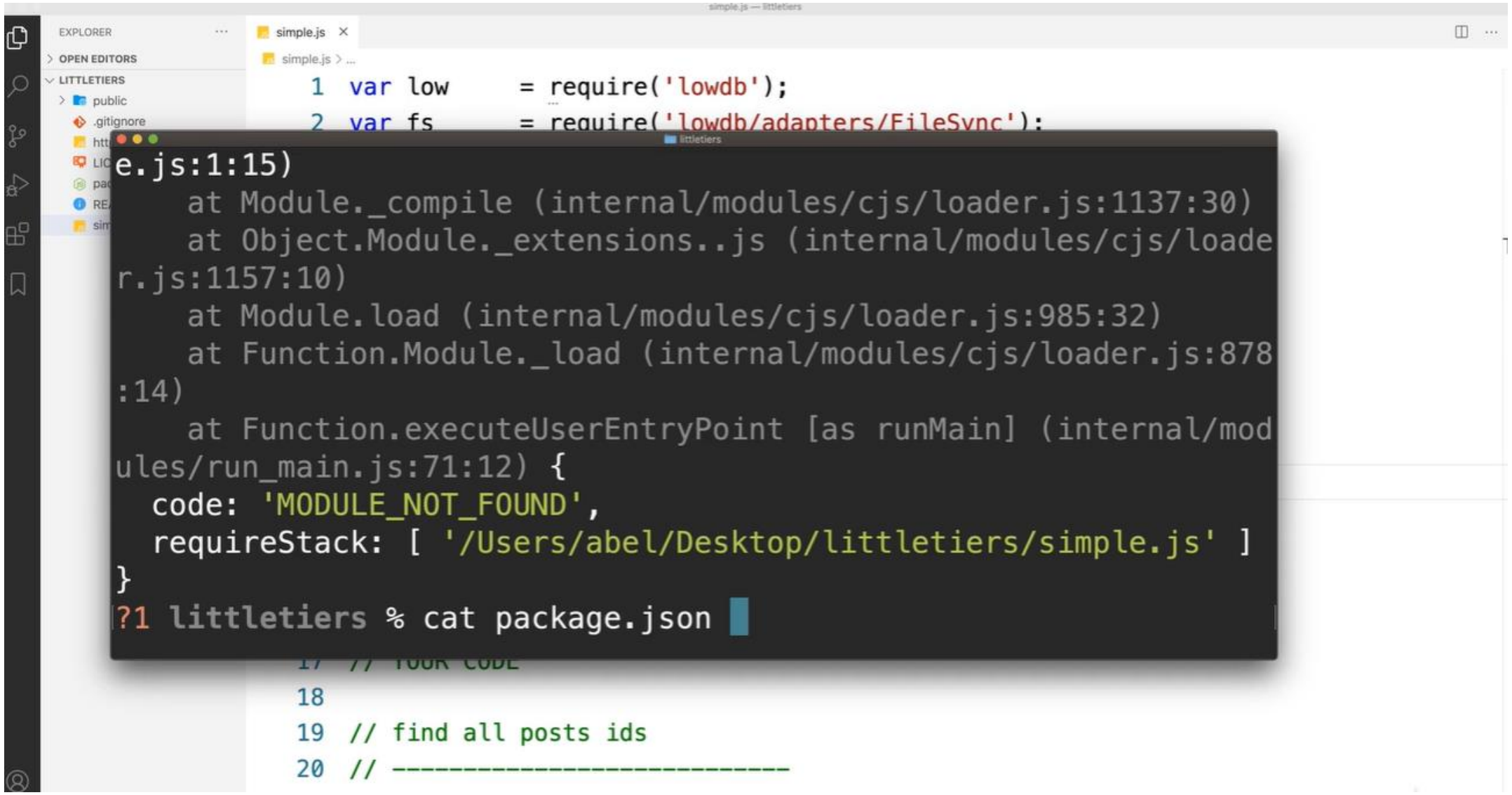
Creating Little DB (9/22)



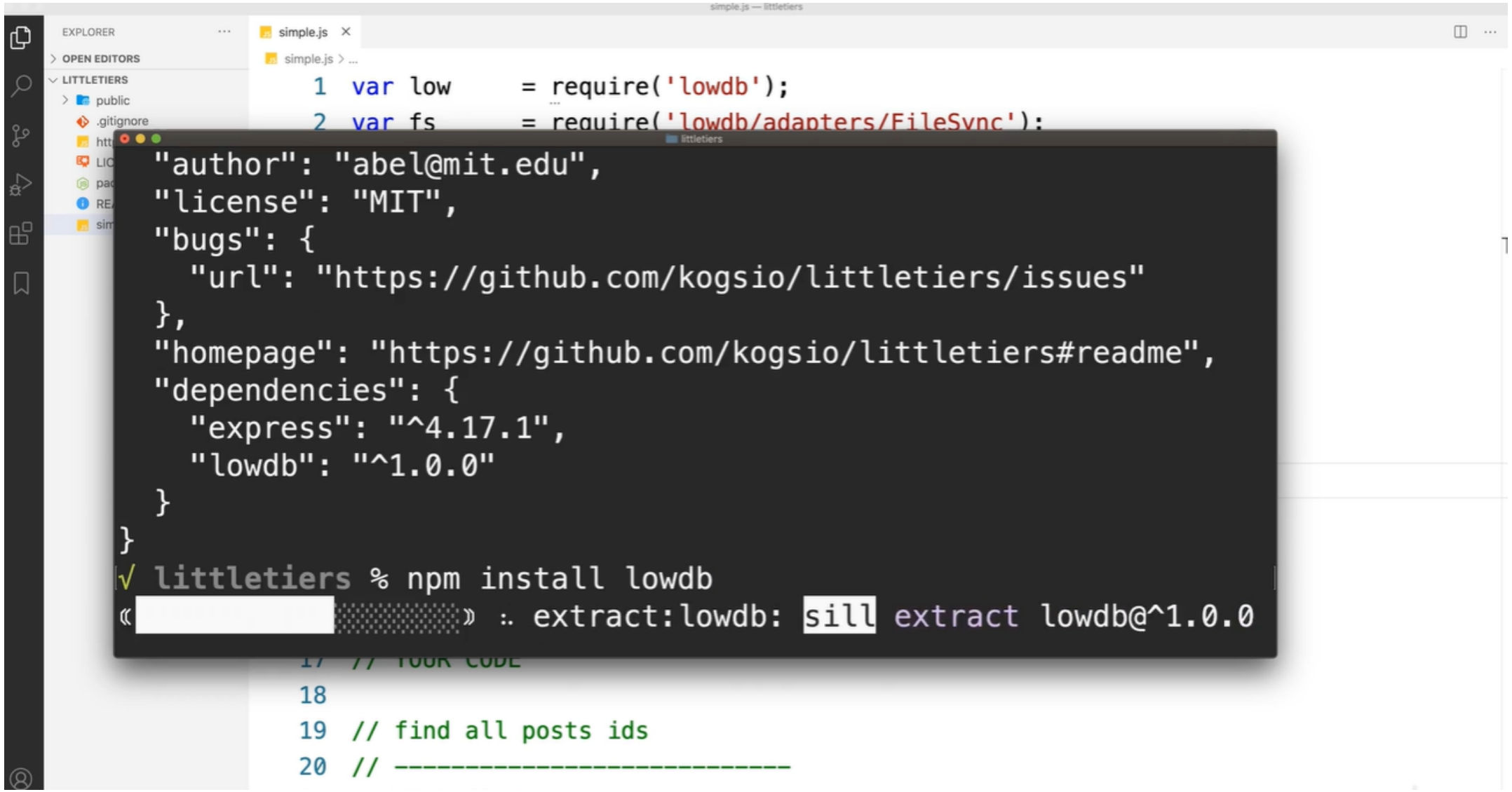
Creating Little DB (10/22)



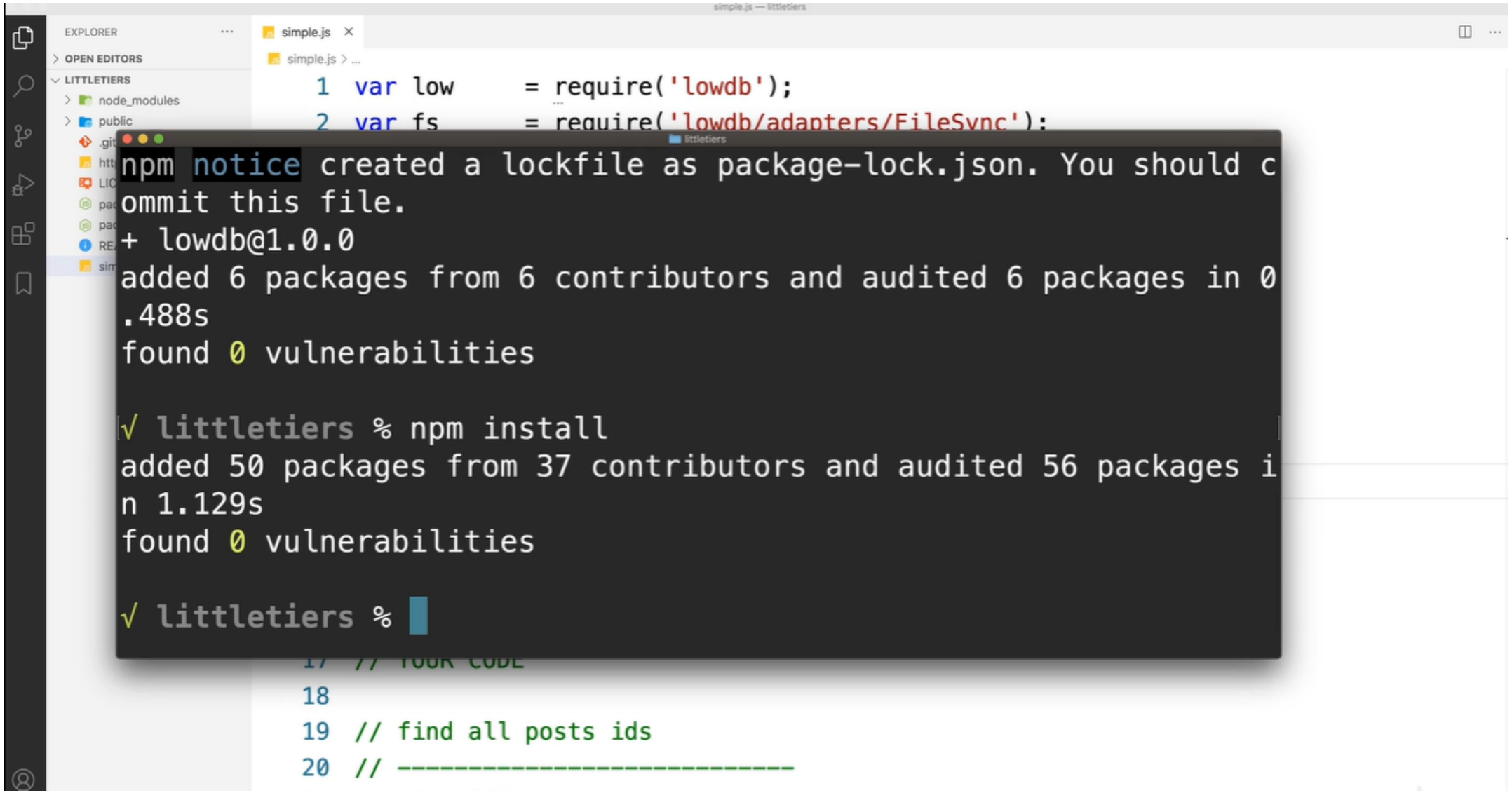
Creating Little DB (11/22)



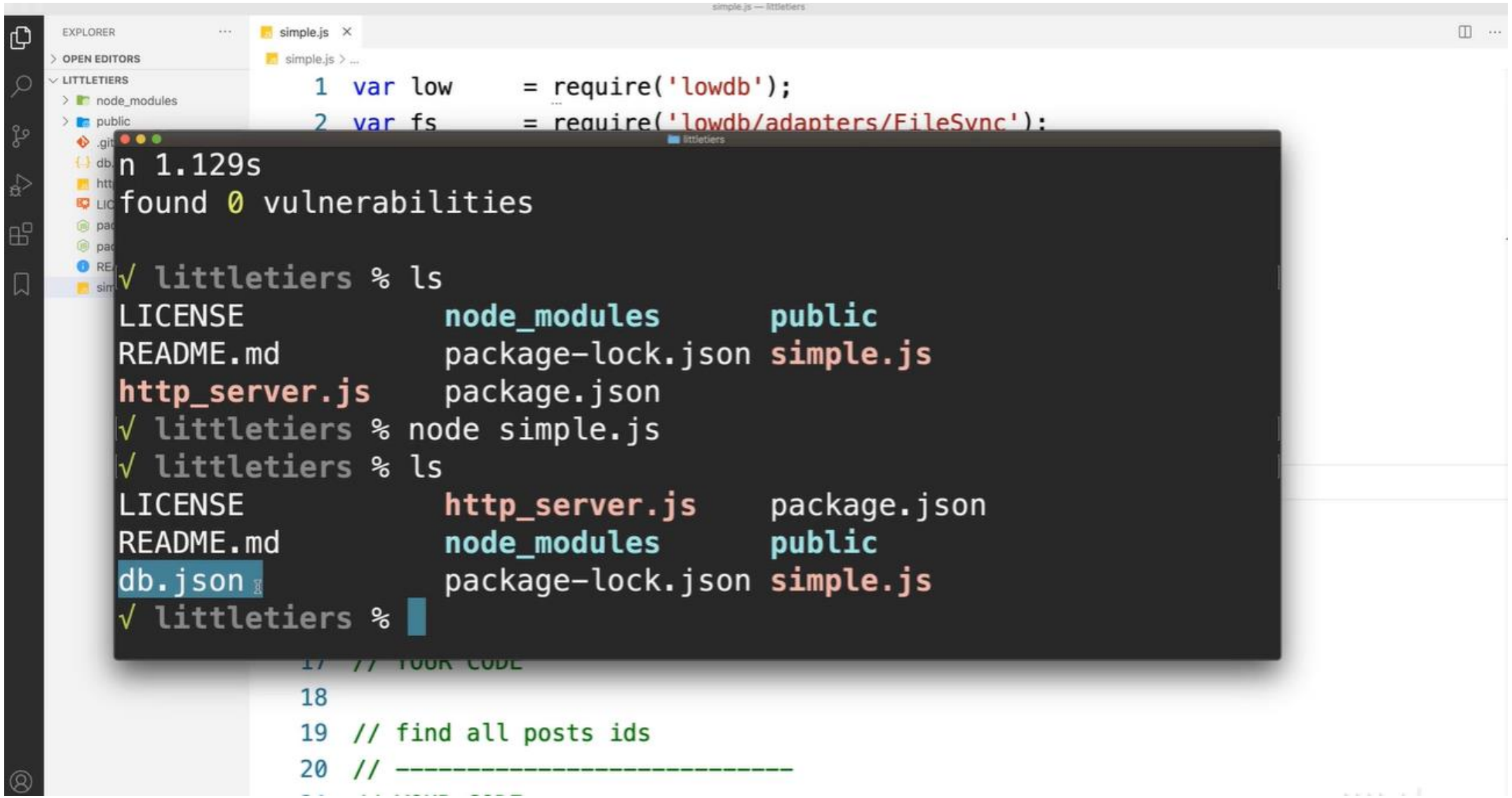
Creating Little DB (12/22)



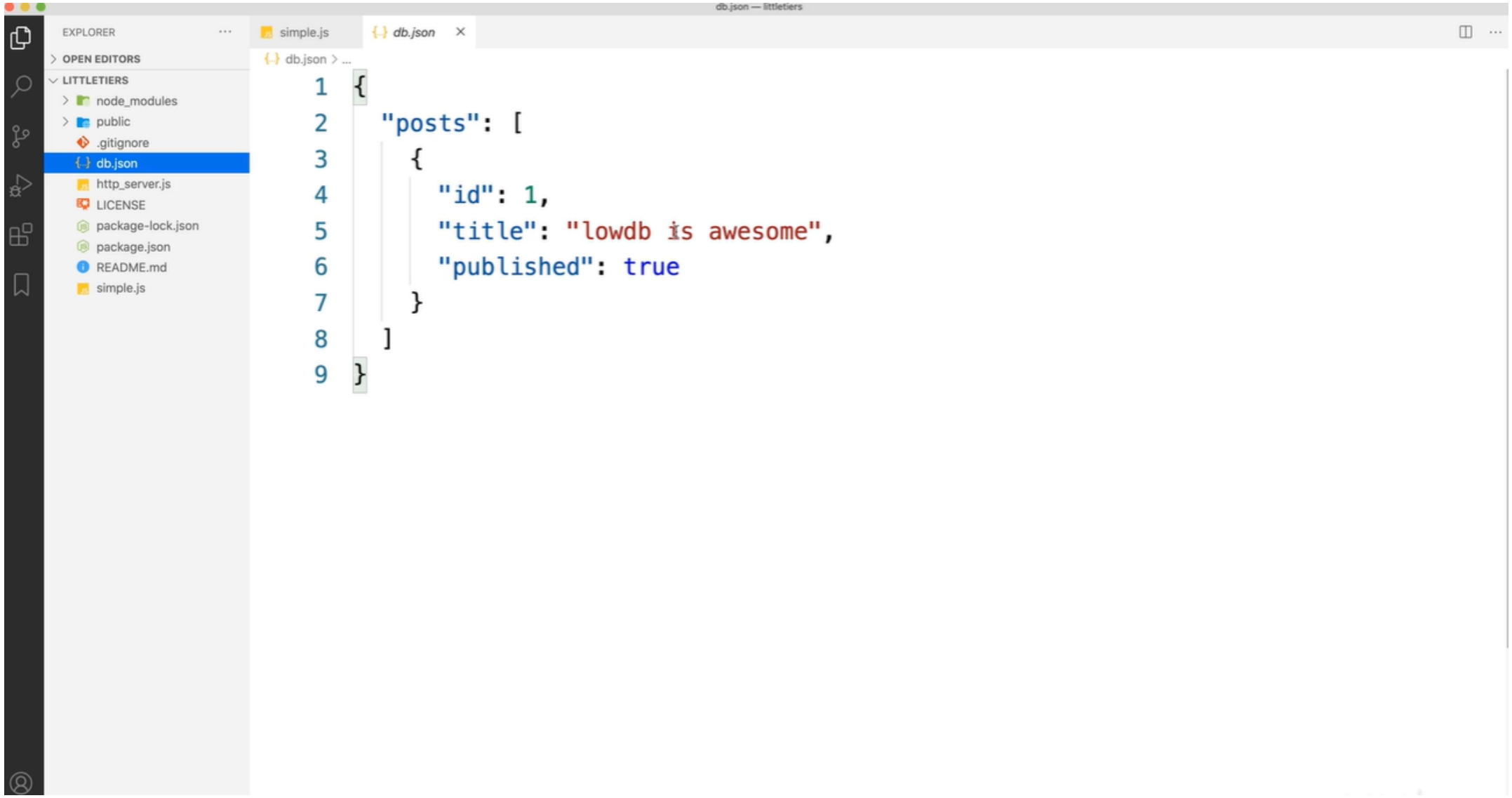
Creating Little DB (13/22)



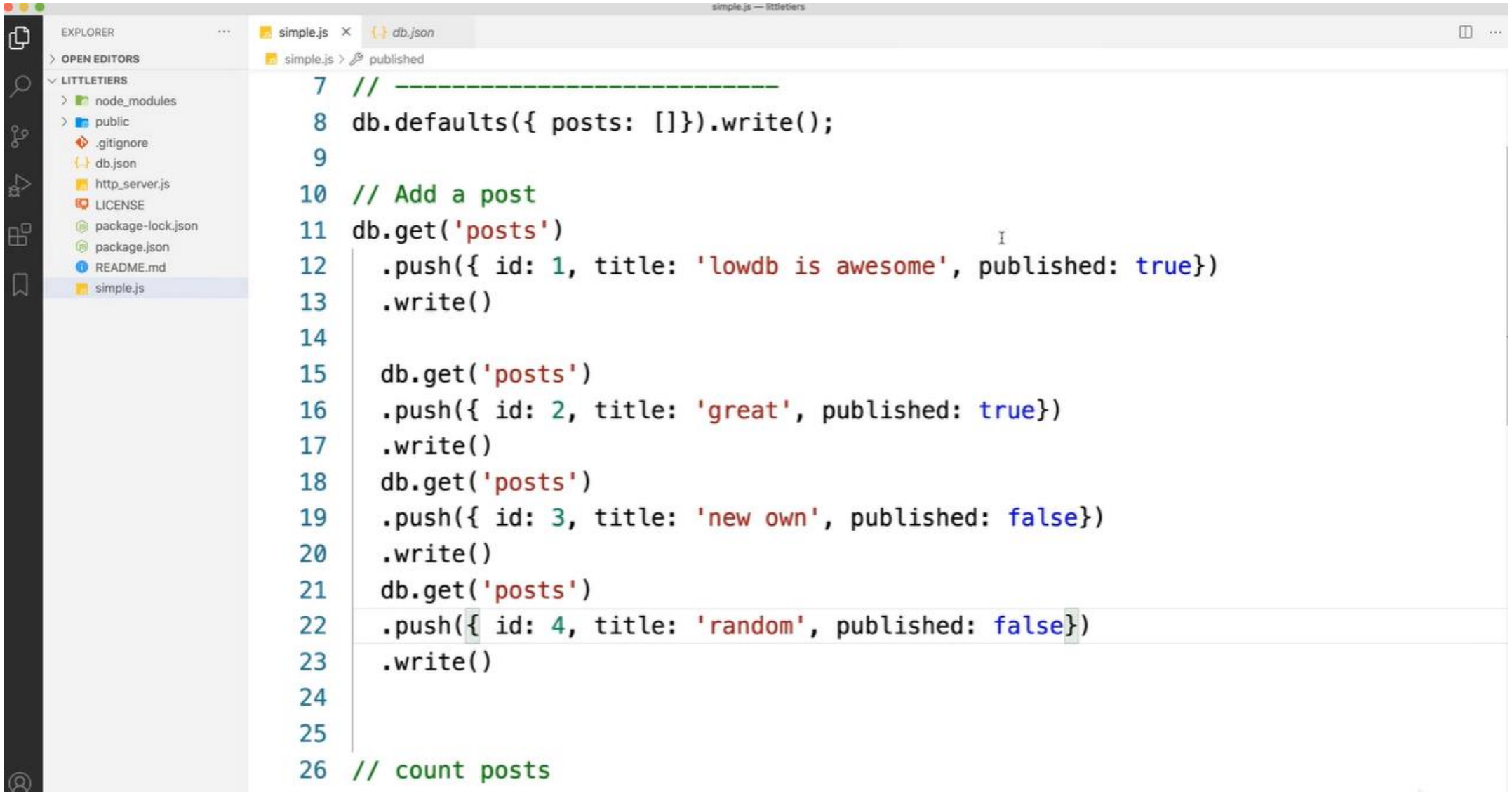
Creating Little DB (14/22)



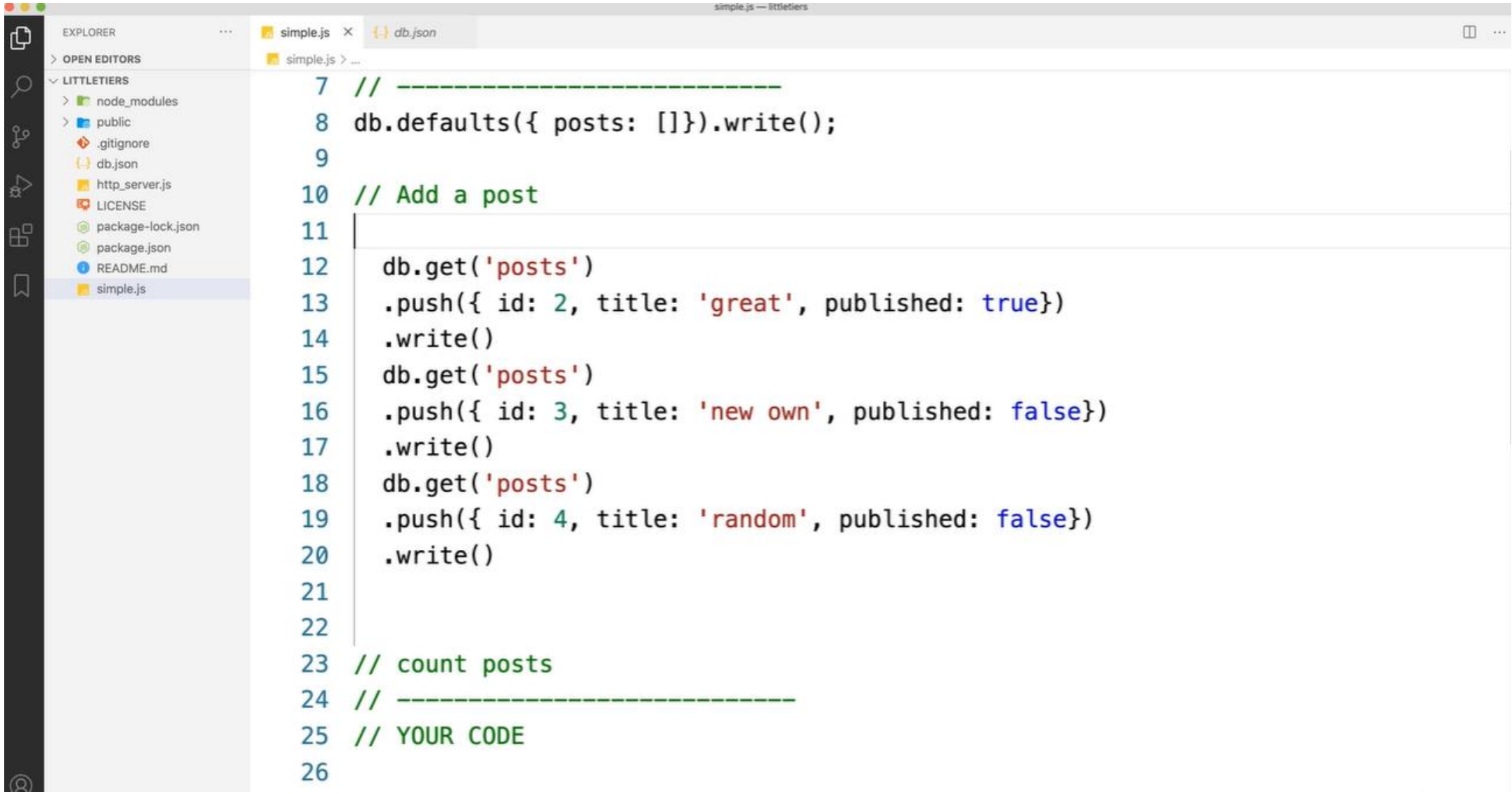
Creating Little DB (15/22)



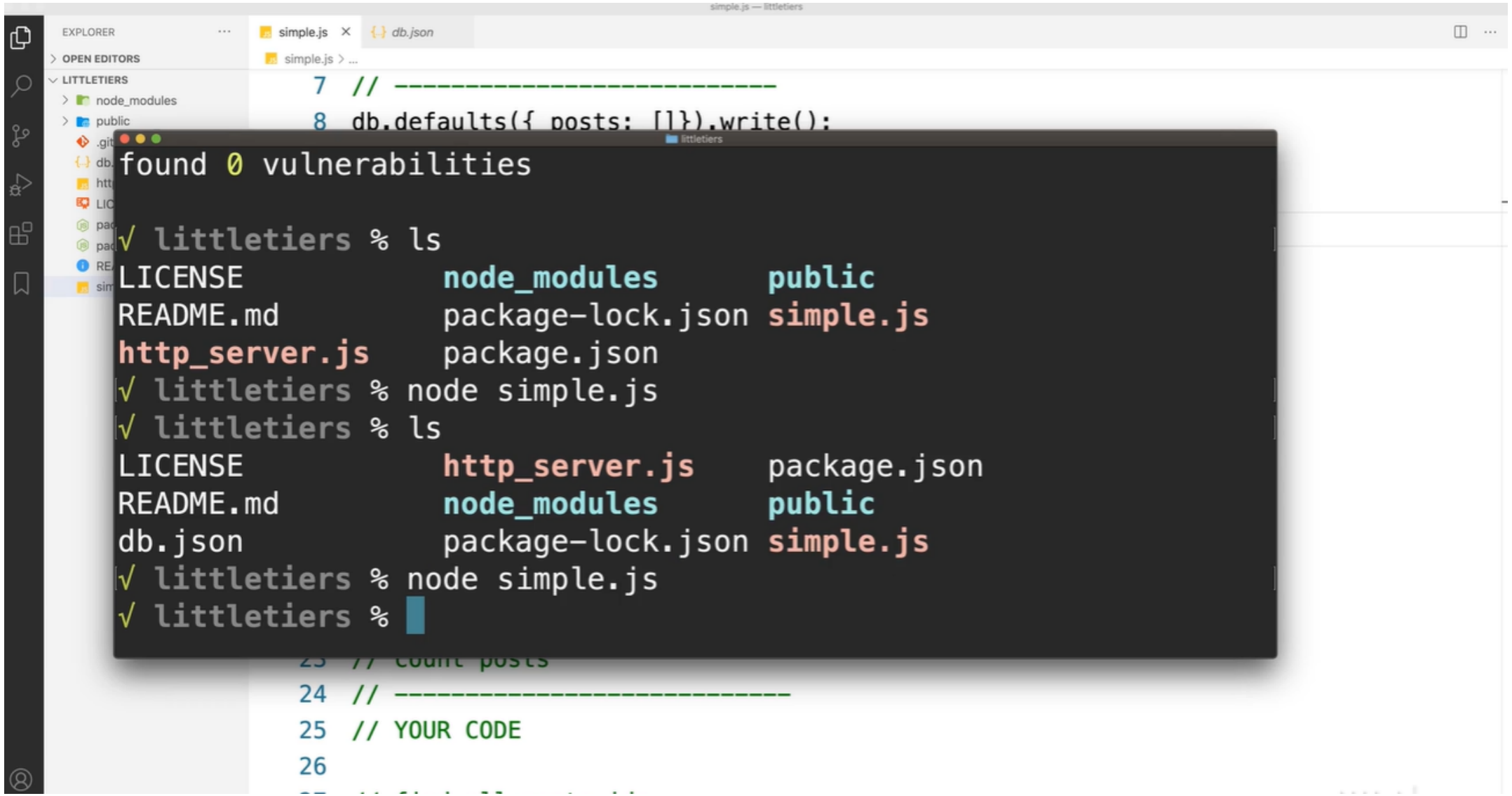
Creating Little DB (16/22)



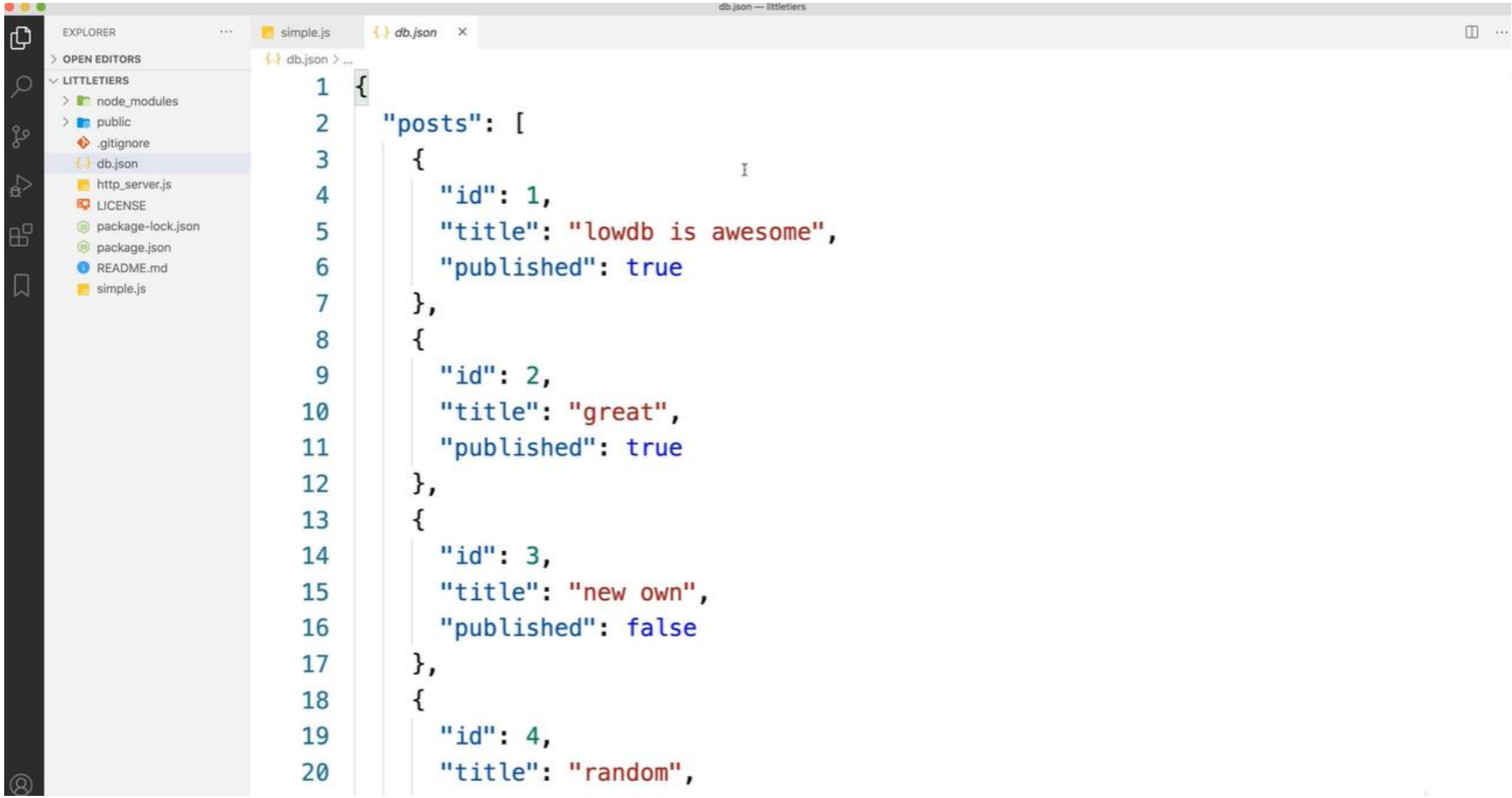
Creating Little DB (17/22)



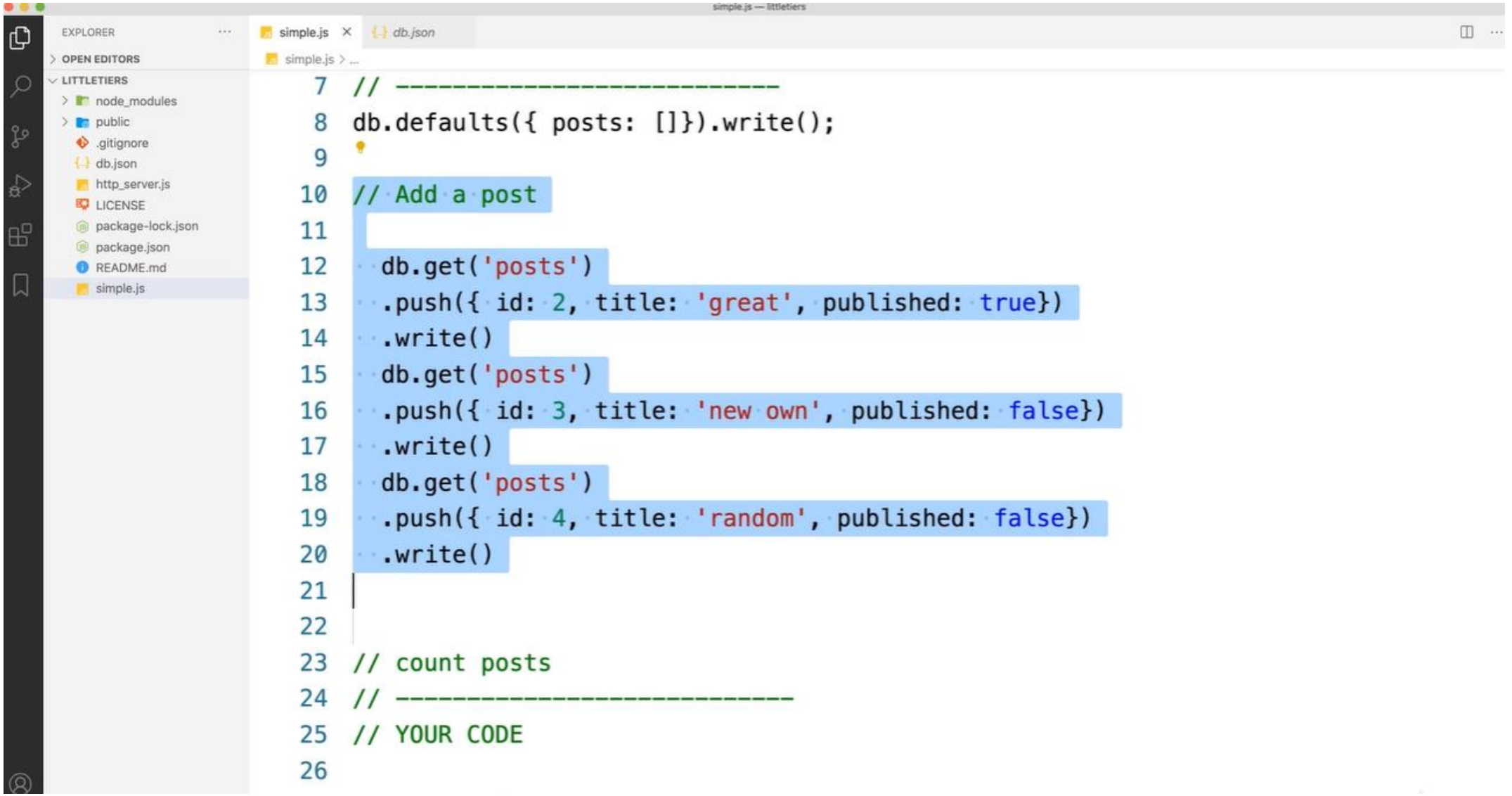
Creating Little DB (18/22)



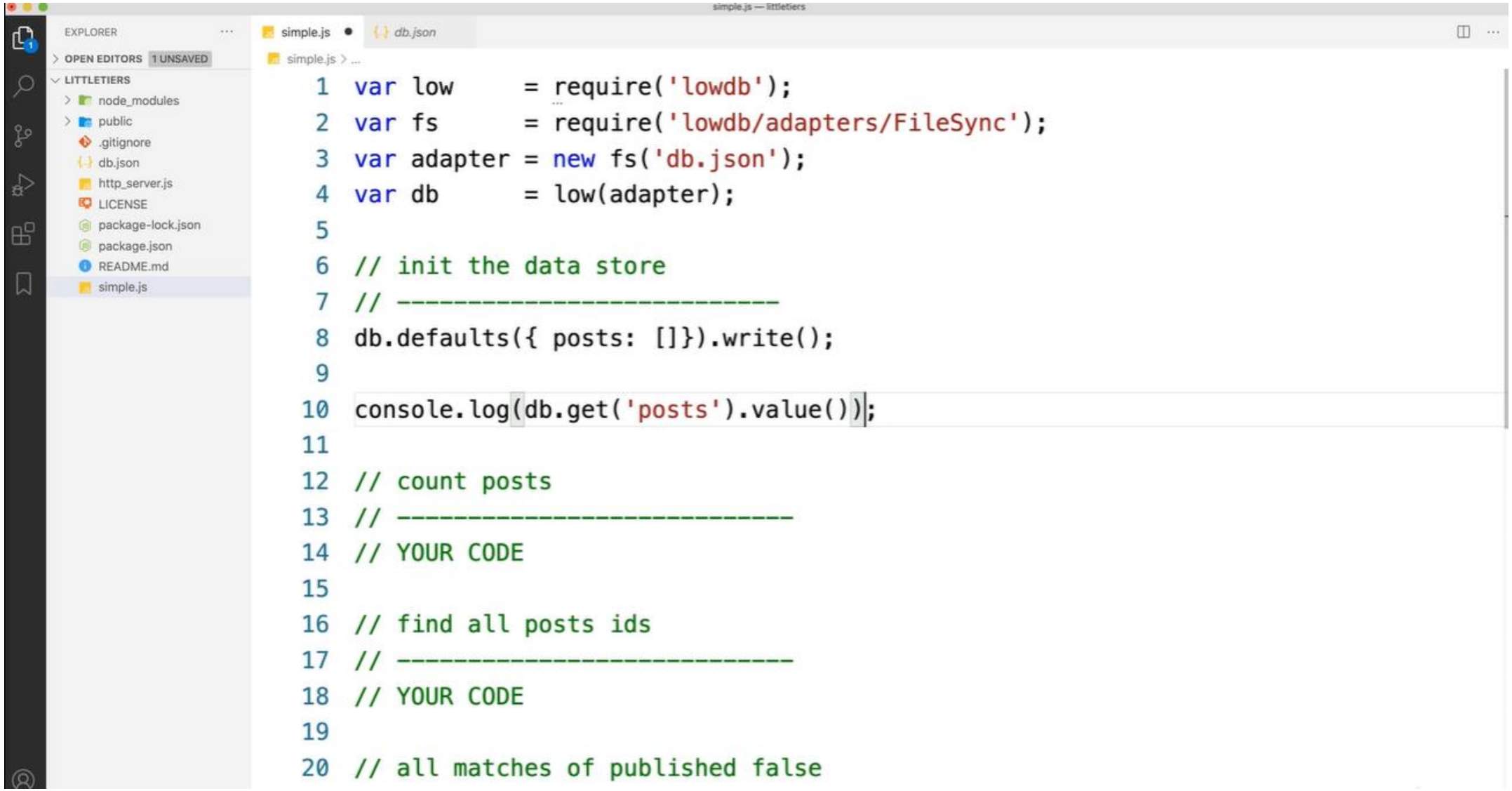
Creating Little DB (19/22)



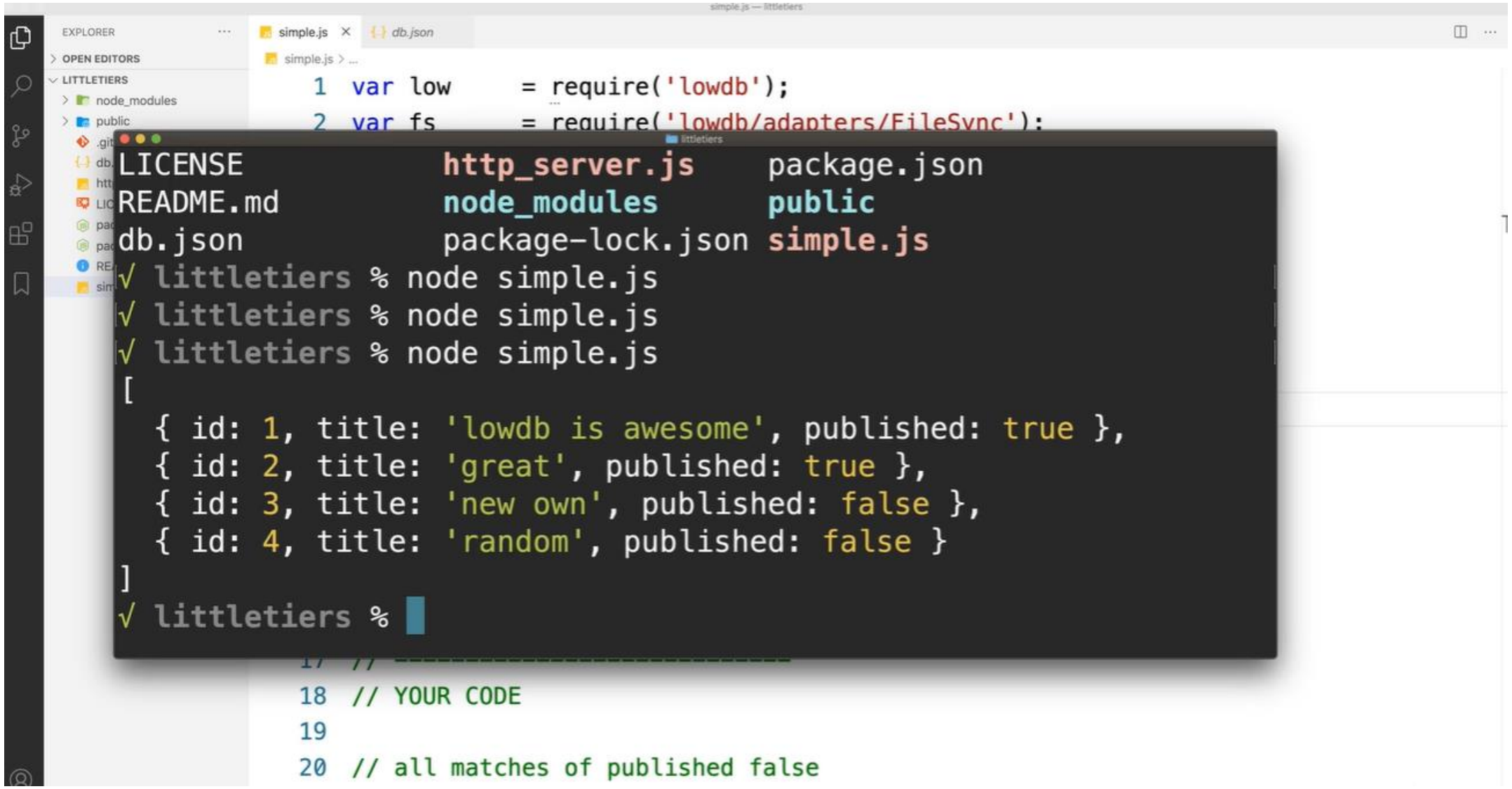
Creating Little DB (20/22)



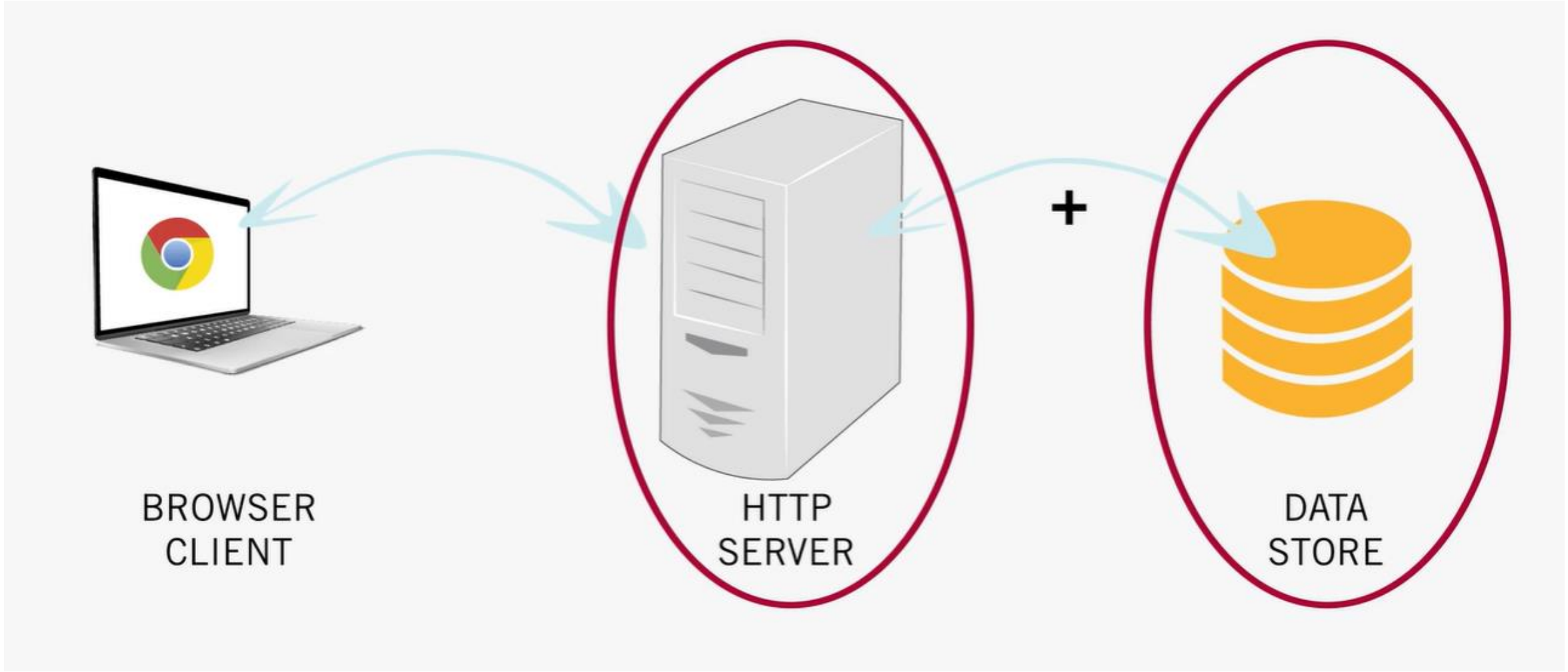
Creating Little DB (21/22)



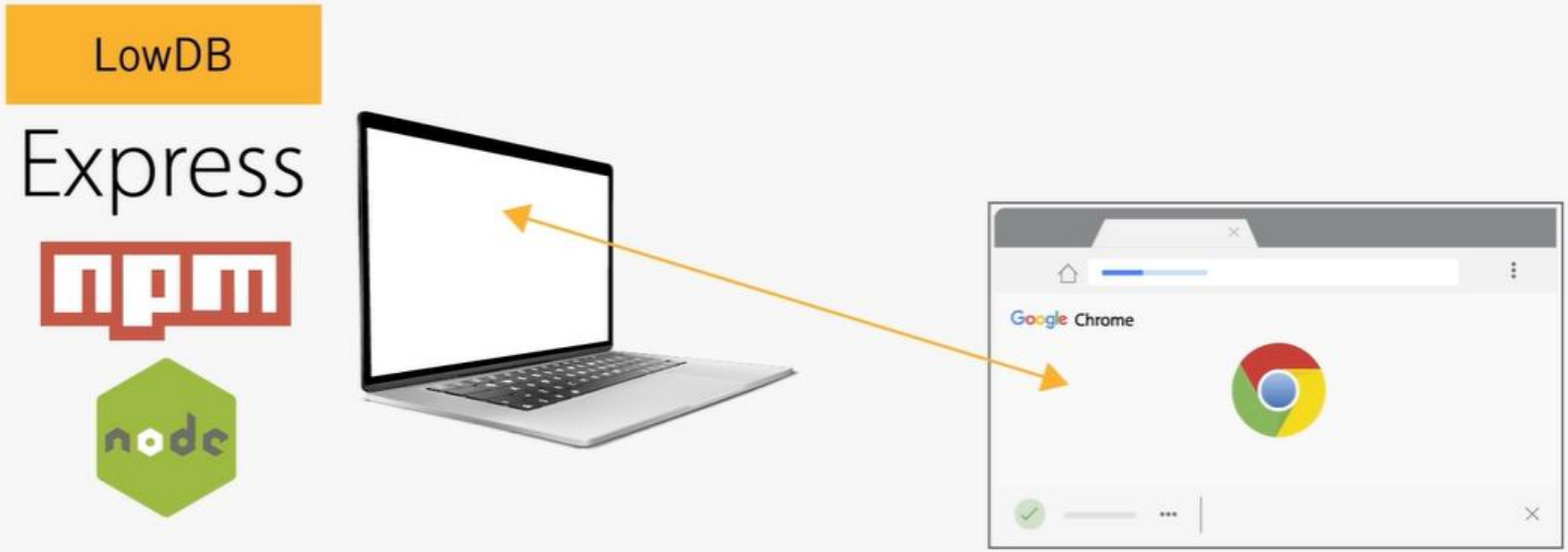
Creating Little DB (22/22)



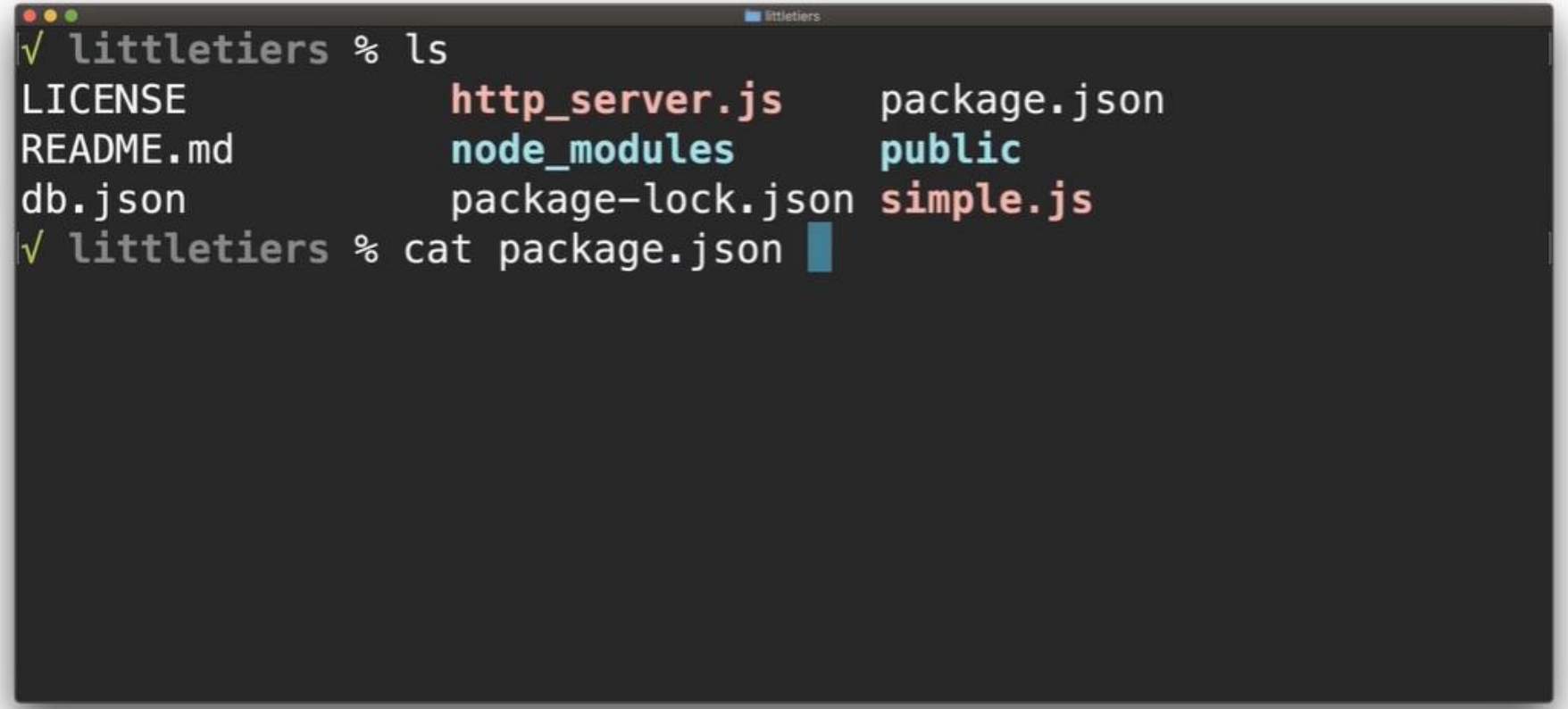
Three Tiers: Client, Server, & Storage



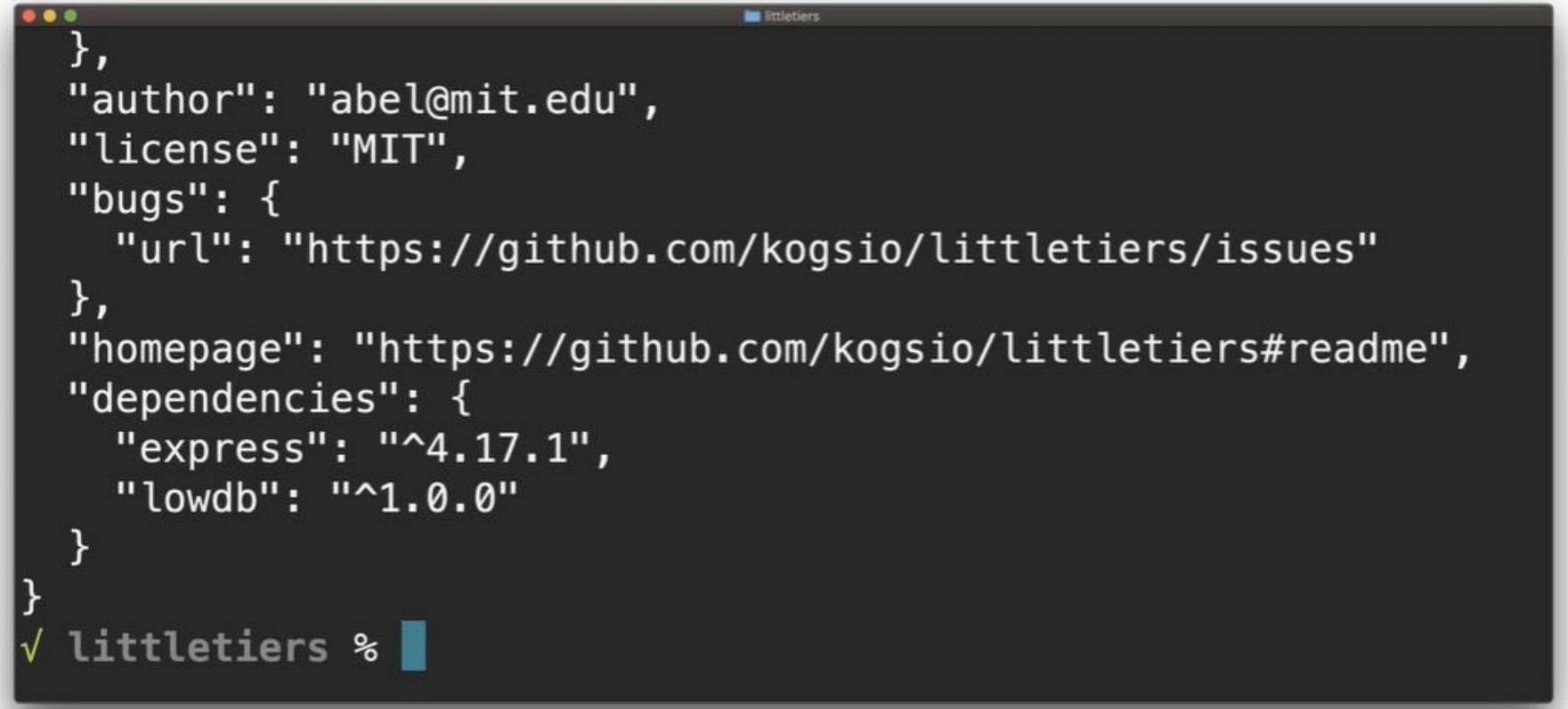
Web Server + Data Store



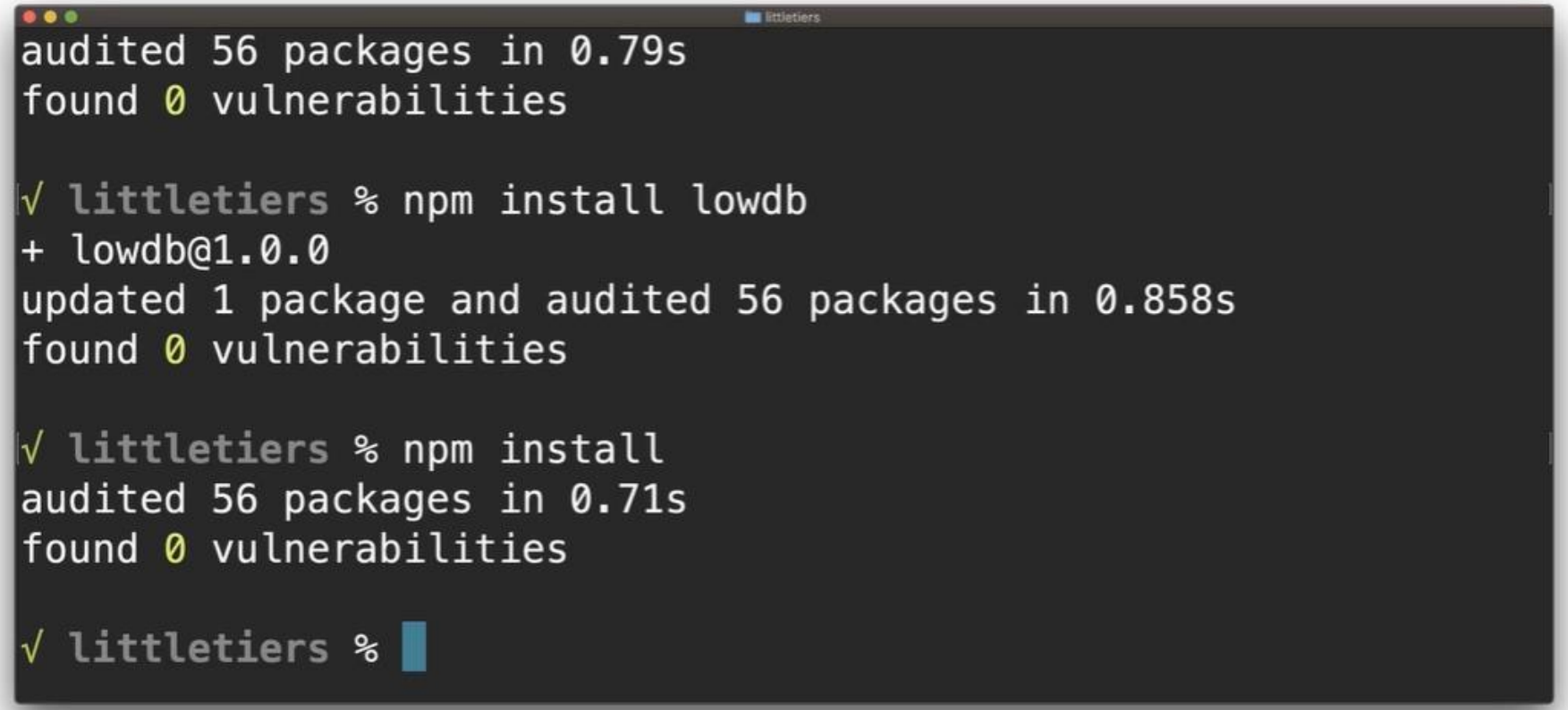
Creating Server Plus Data Storage (1/23)



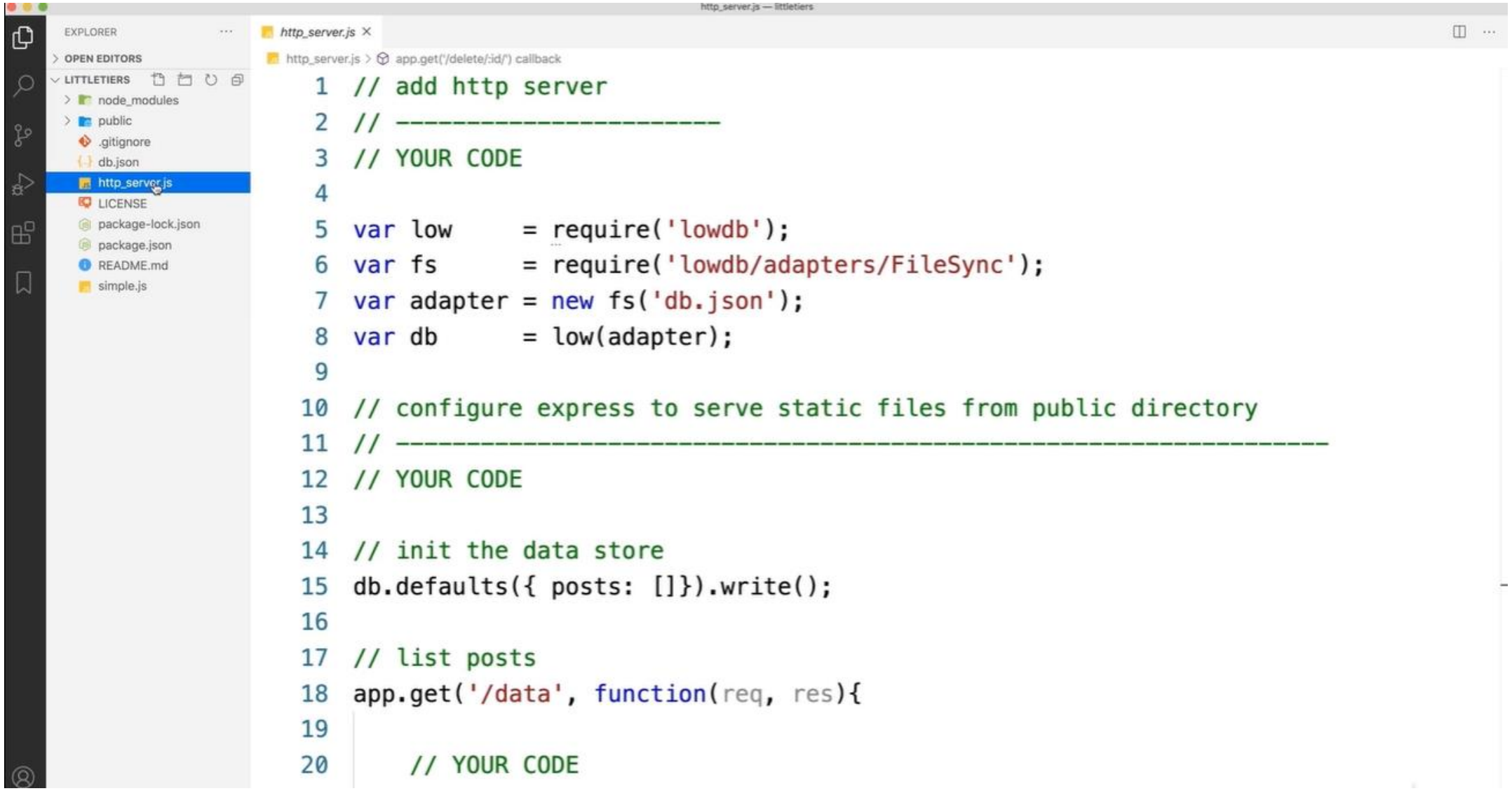
Creating Server Plus Data Storage (2/23)



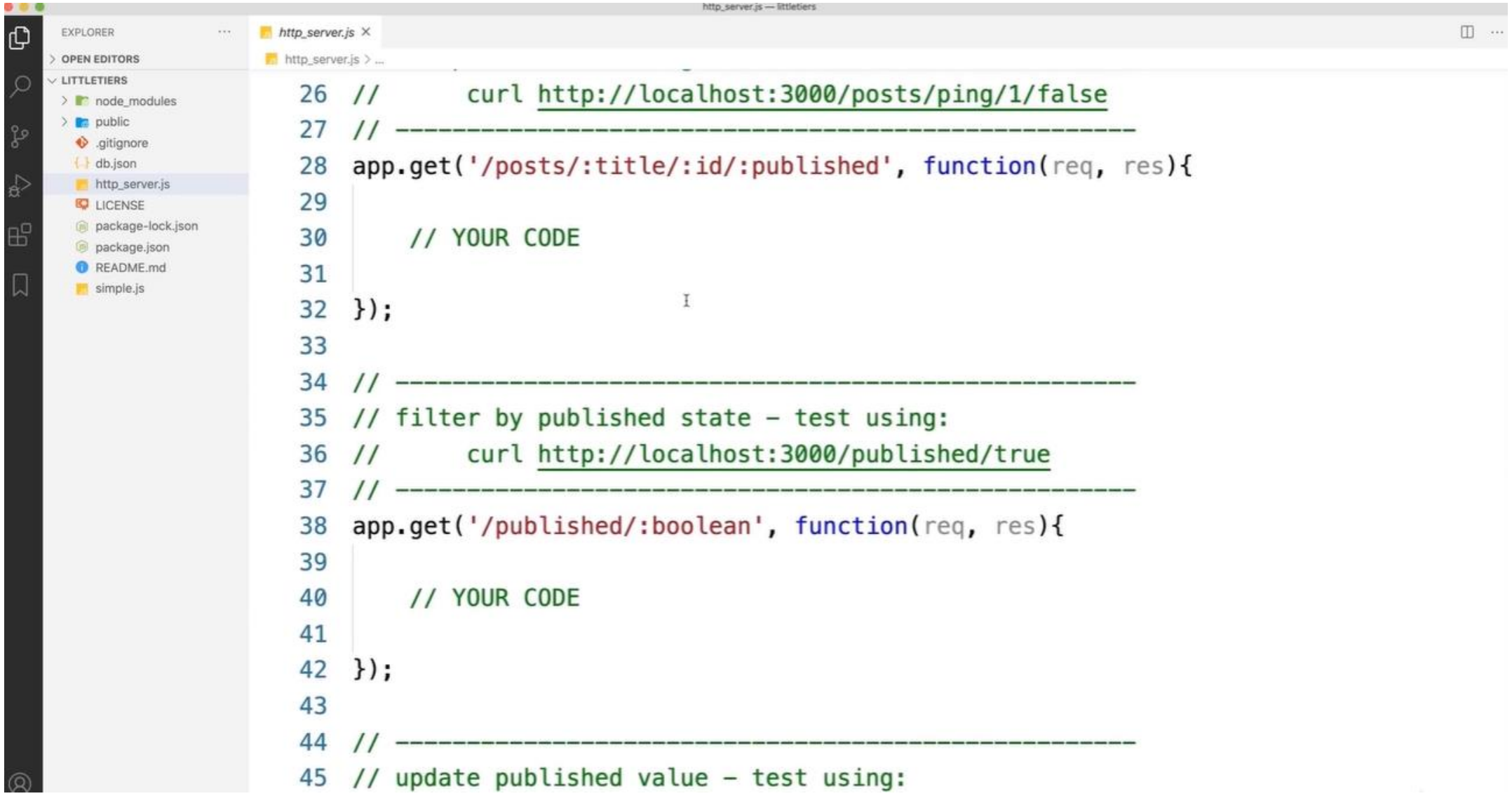
Creating Server Plus Data Storage (3/23)



Creating Server Plus Data Storage (4/23)

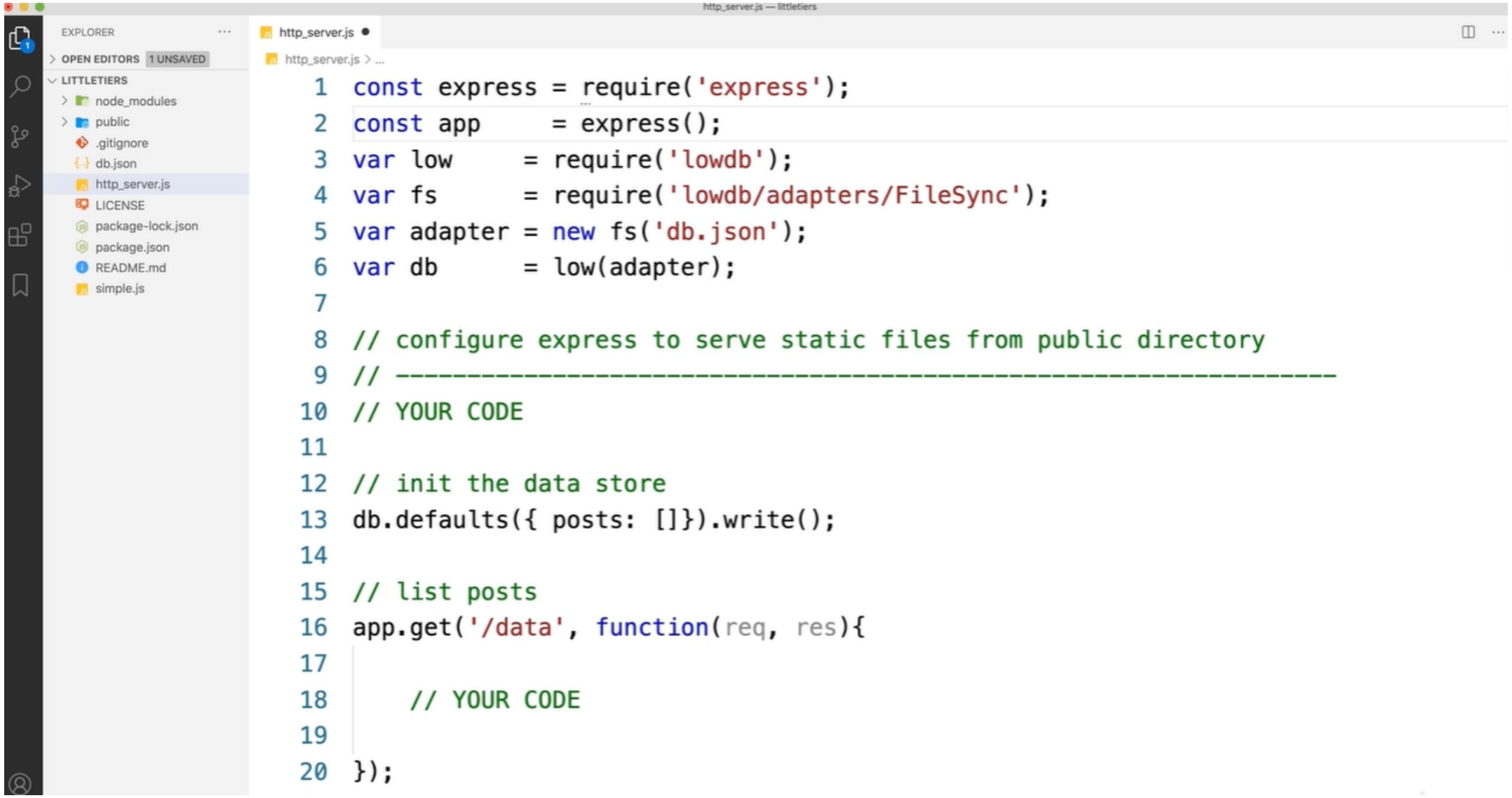


Creating Server Plus Data Storage (5/23)

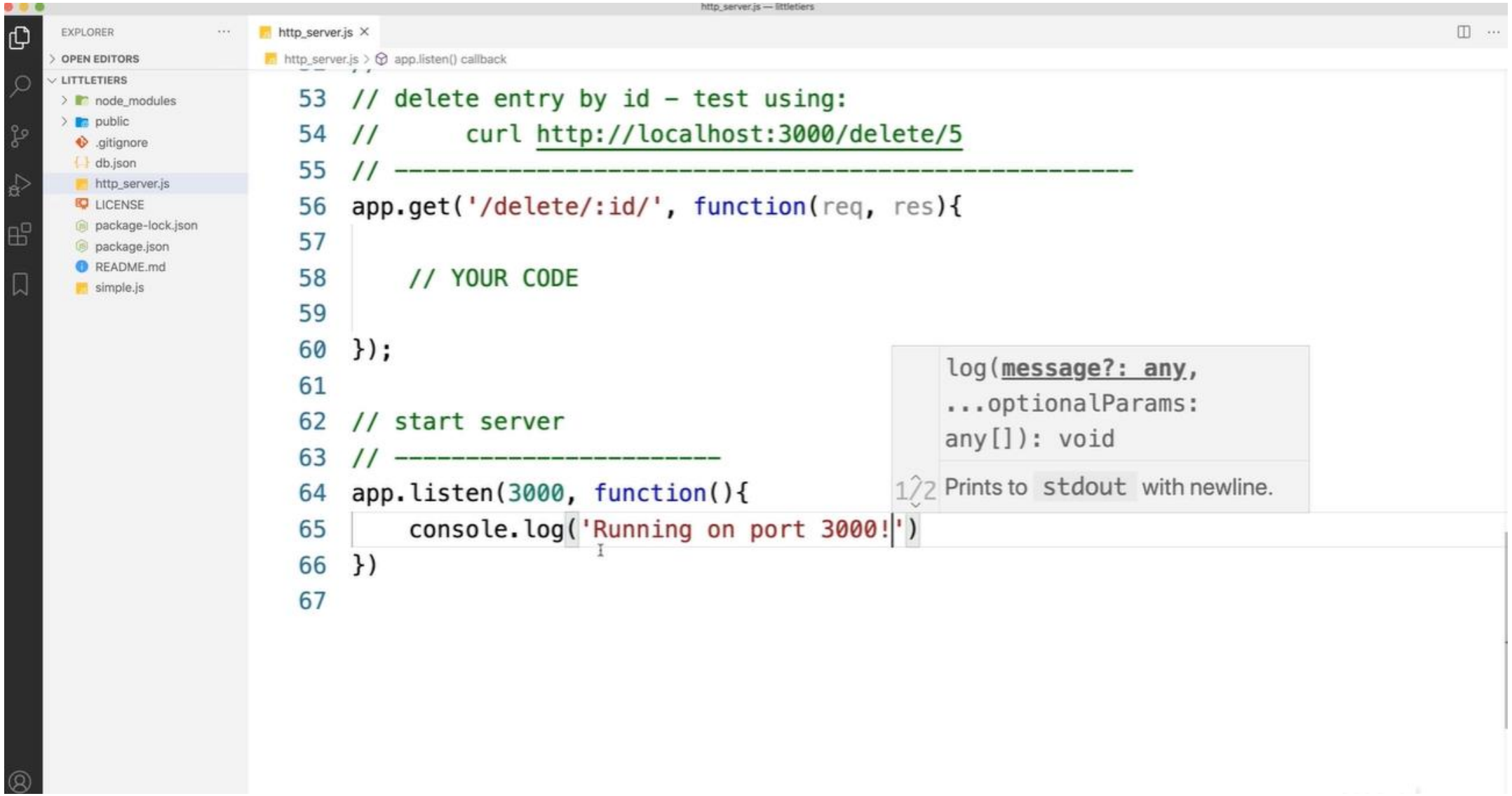


Creating Server Plus Data Storage (6/23)

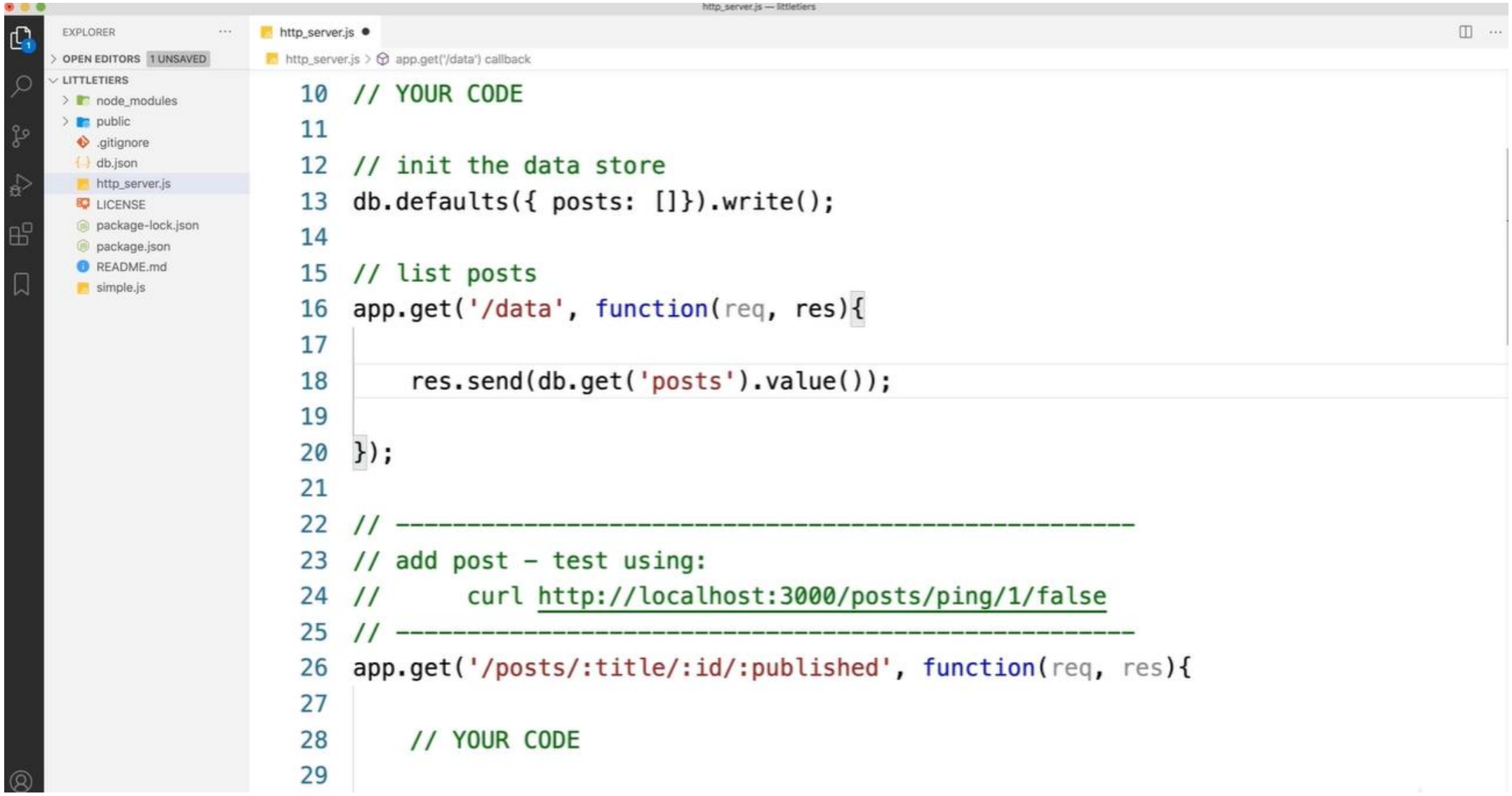
Creating Server Plus Data Storage (7/23)



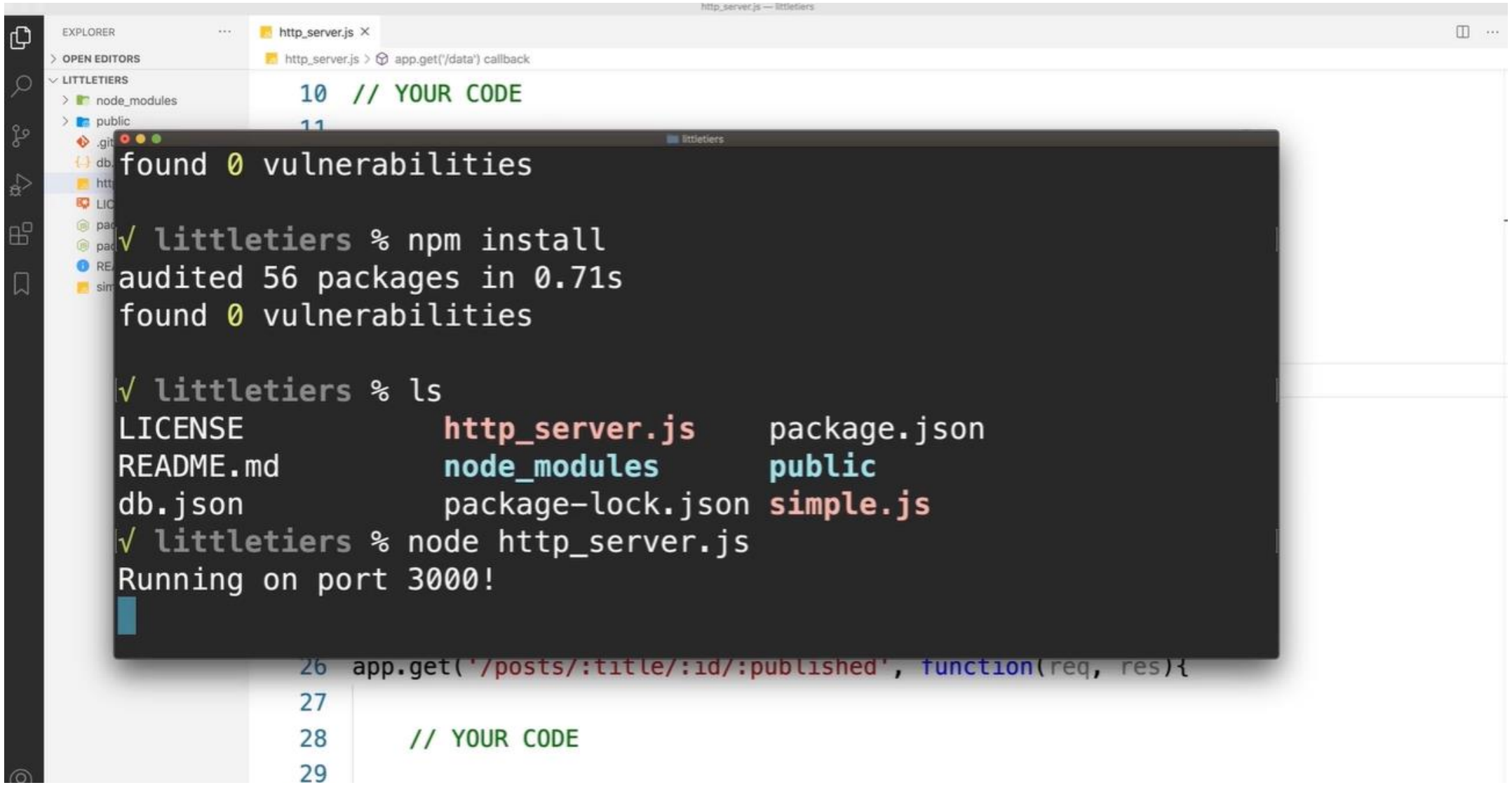
Creating Server Plus Data Storage (8/23)



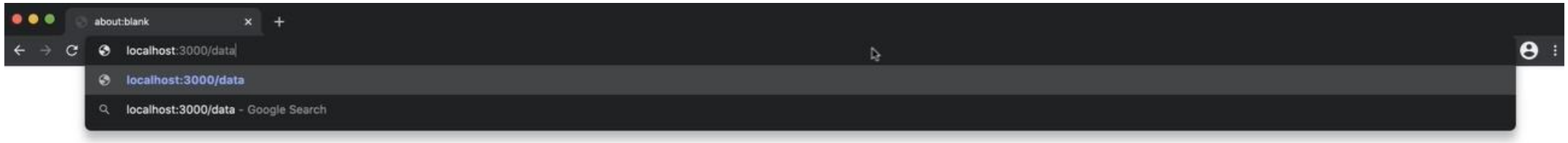
Creating Server Plus Data Storage (9/23)



Creating Server Plus Data Storage (10/23)



Creating Server Plus Data Storage (11/23)



Creating Server Plus Data Storage (12/23)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{"id":2,"title":"great","published":true},
{"id":3,"title":"new own","published":false},
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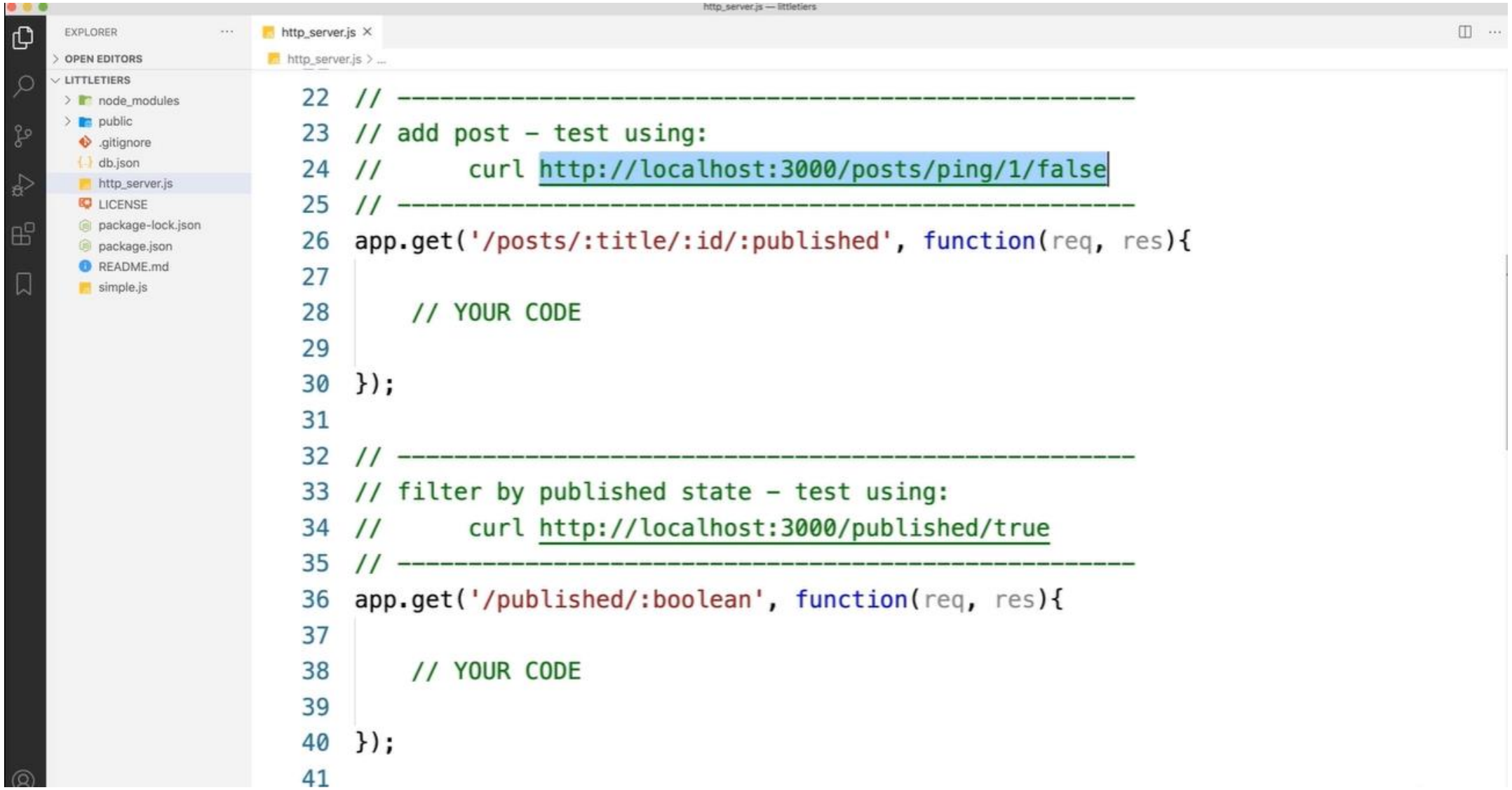
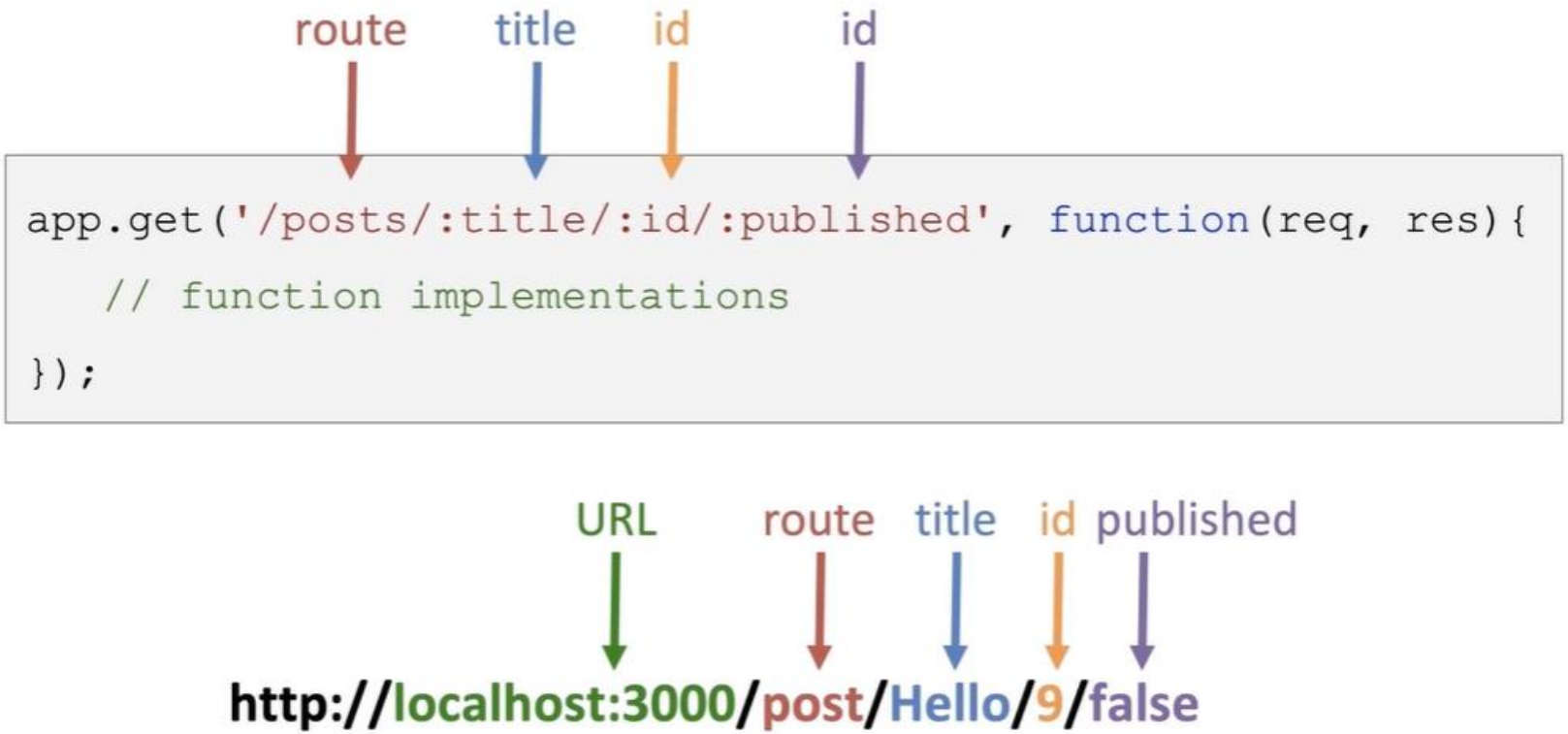
Creating Server Plus Data Storage (13/23)

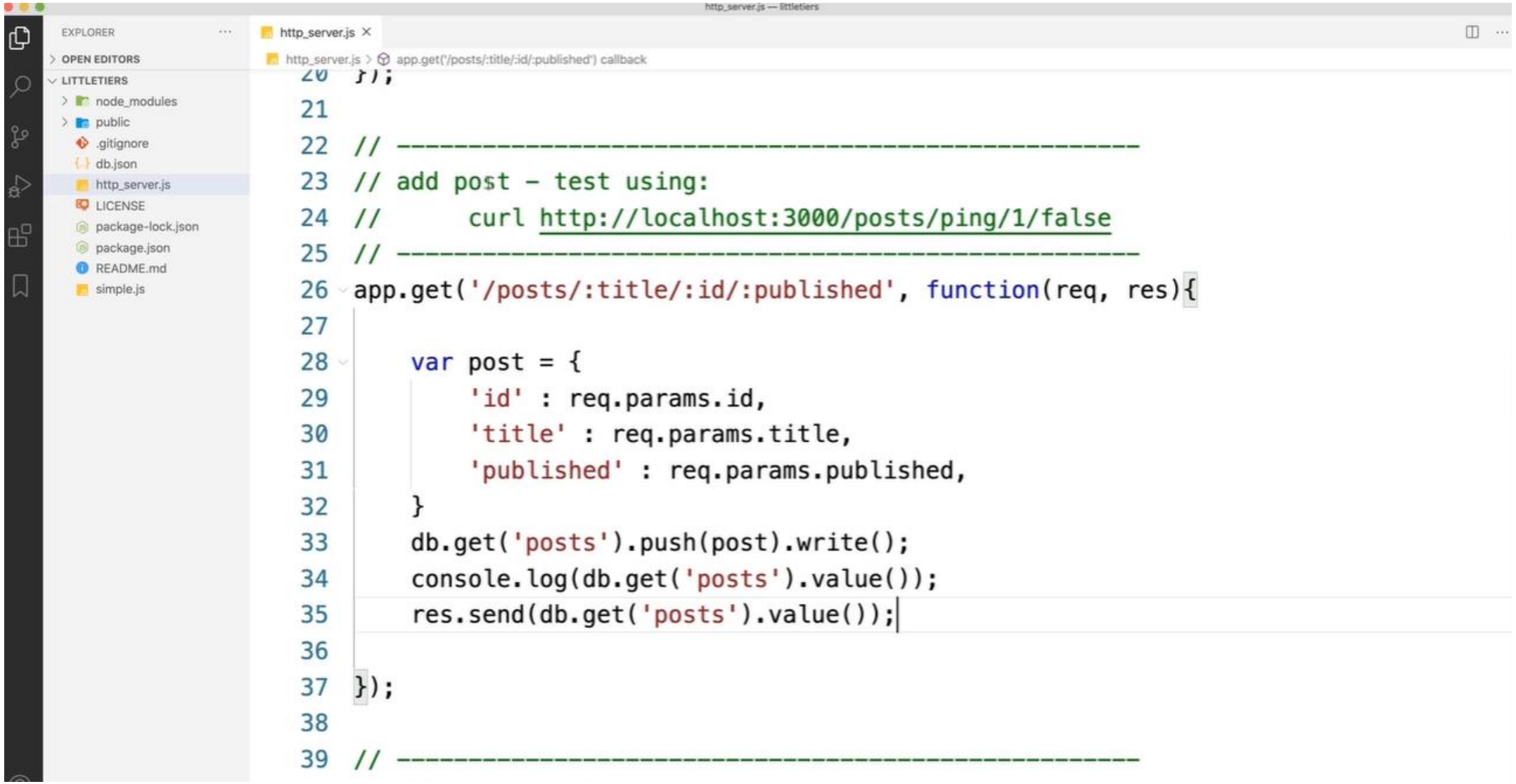


Creating Server Plus Data Storage (14/23)

URL Routes



Creating Server Plus Data Storage (15/23)



Creating Server Plus Data Storage (16/23)


```
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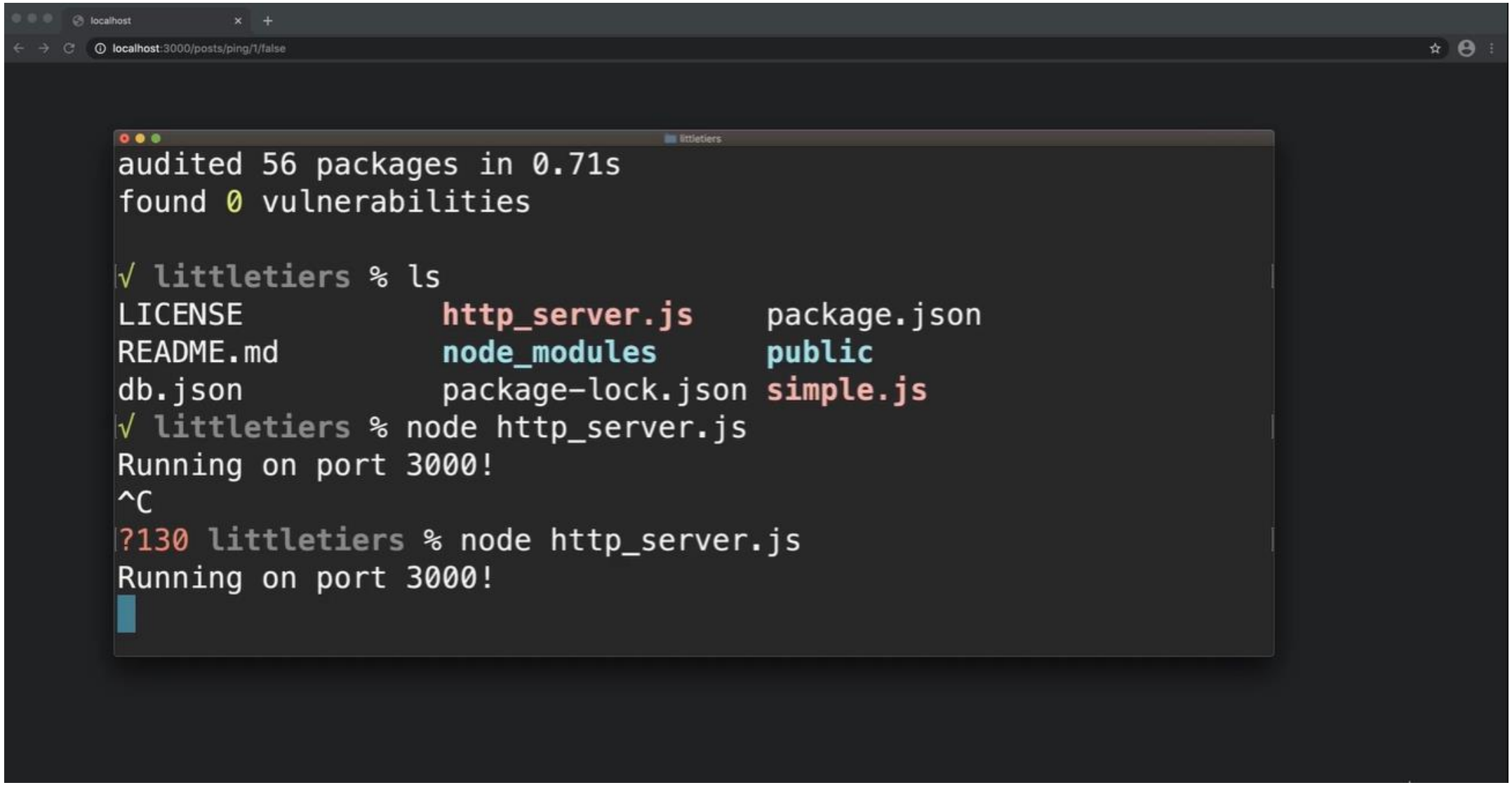
Creating Server Plus Data Storage (17/23)



Creating Server Plus Data Storage (18/23)


```
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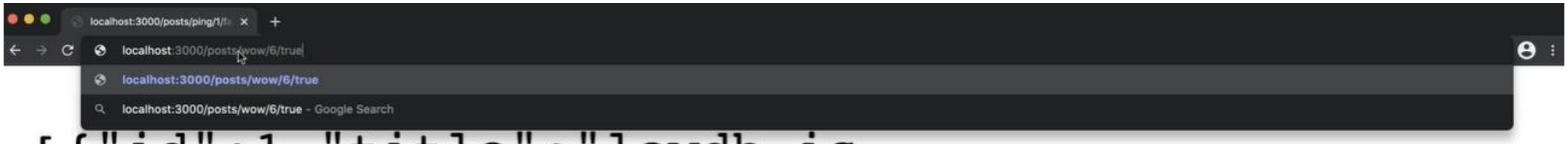
Creating Server Plus Data Storage (19/23)




```
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Creating Server Plus Data Storage (20/23)


```
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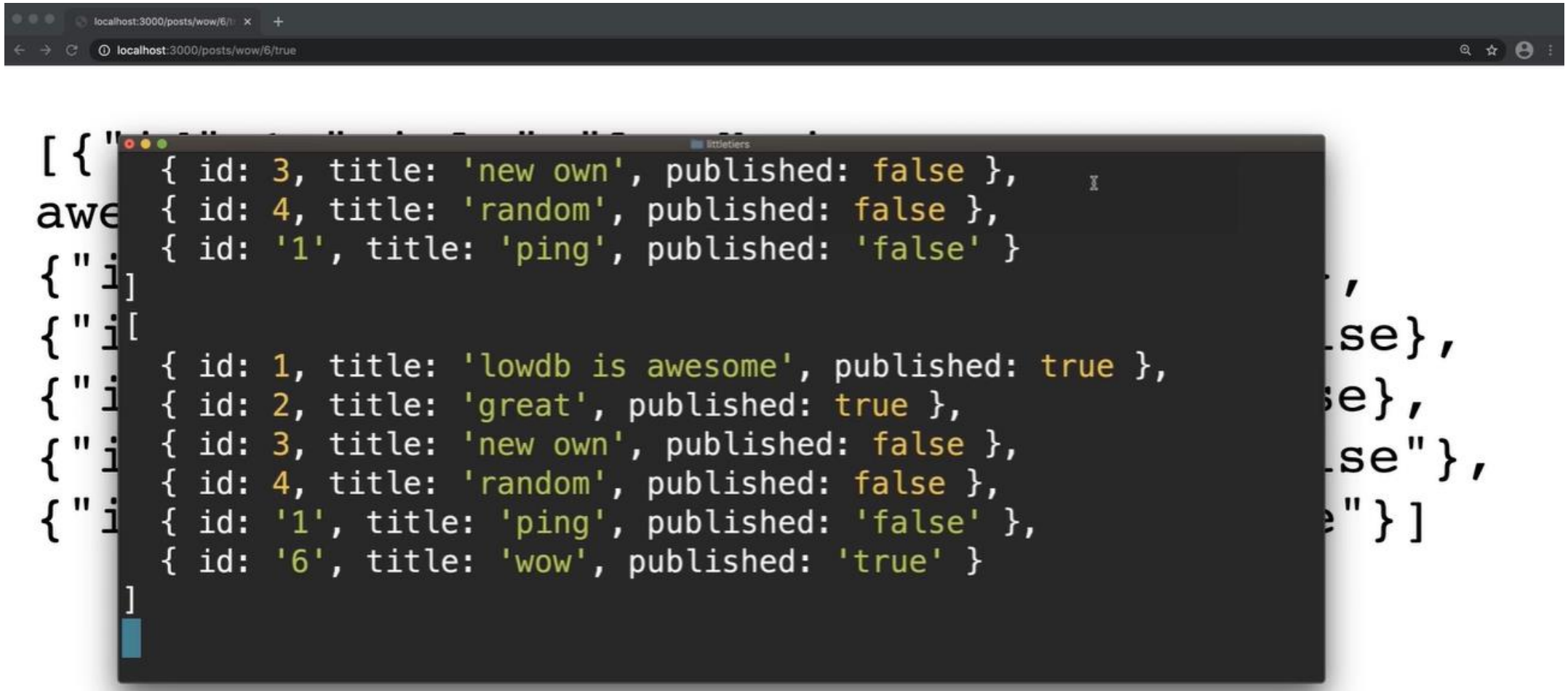
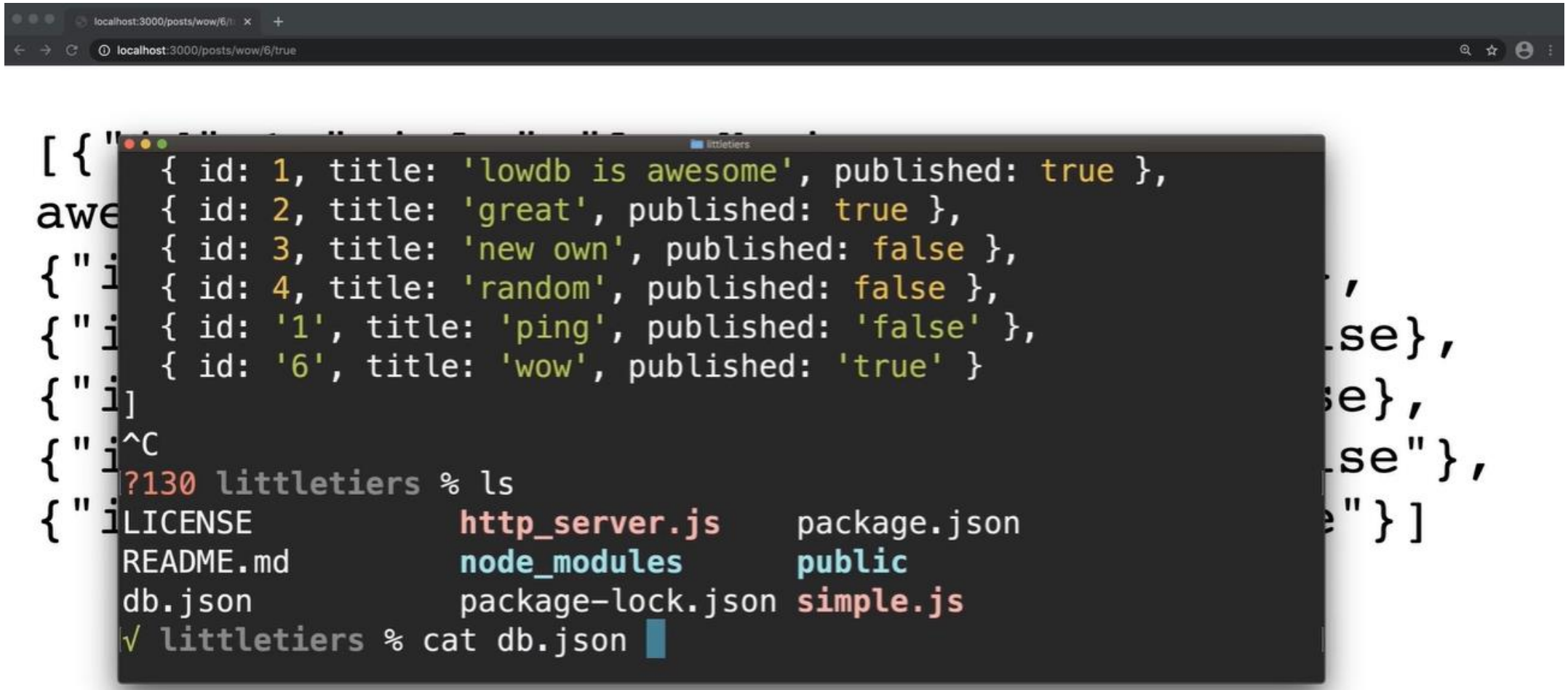
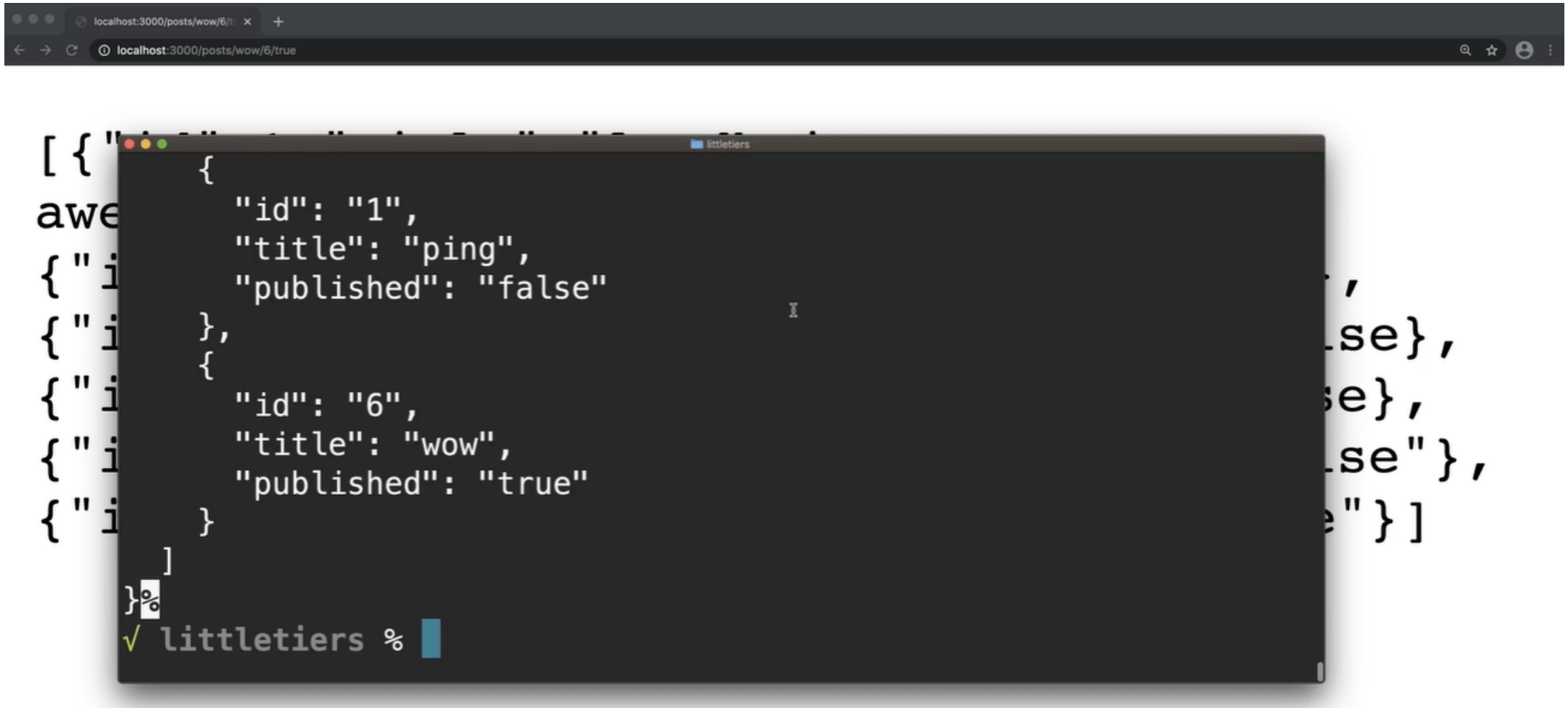
Creating Server Plus Data Storage (21/23)



Creating Server Plus Data Storage (22/23)



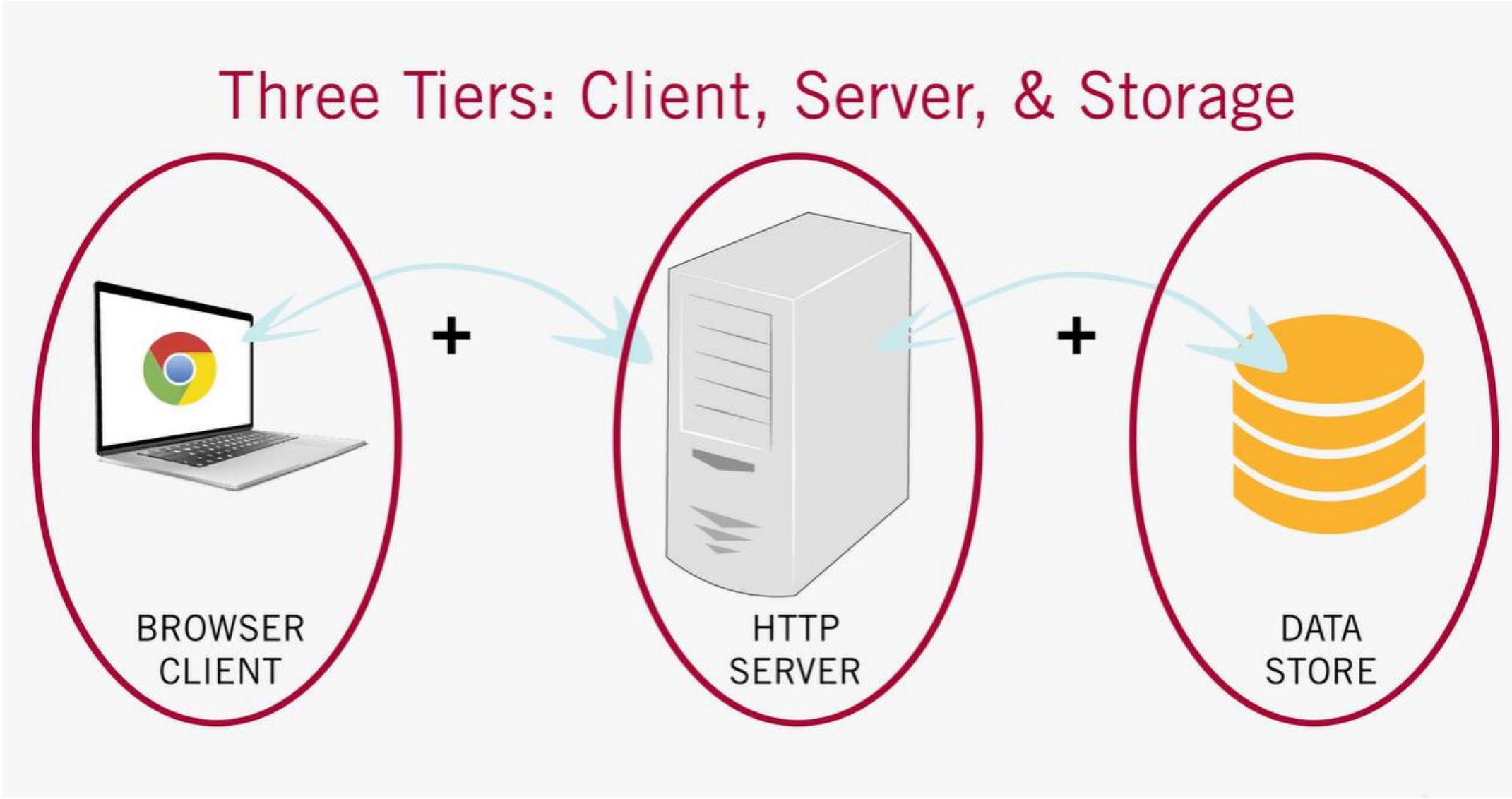
Creating Server Plus Data Storage (23/23)



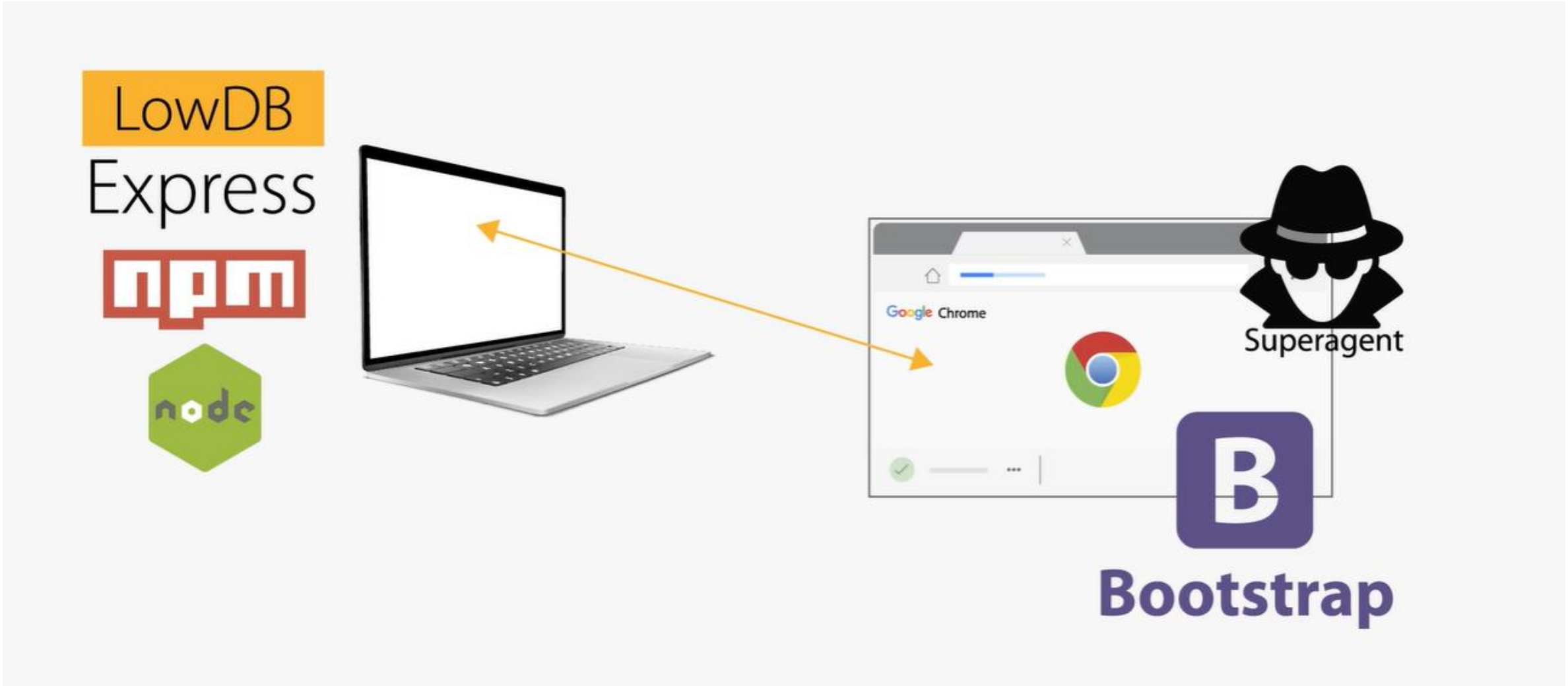
Routing

https://expressjs.com/en/guide/routing.html

Three Tiers: Client, Server, & Storage



Web Server + Data Store + UI



Superagent Helps You Make HTTP Calls

Superagent

https://www.npmjs.com/package/supergent

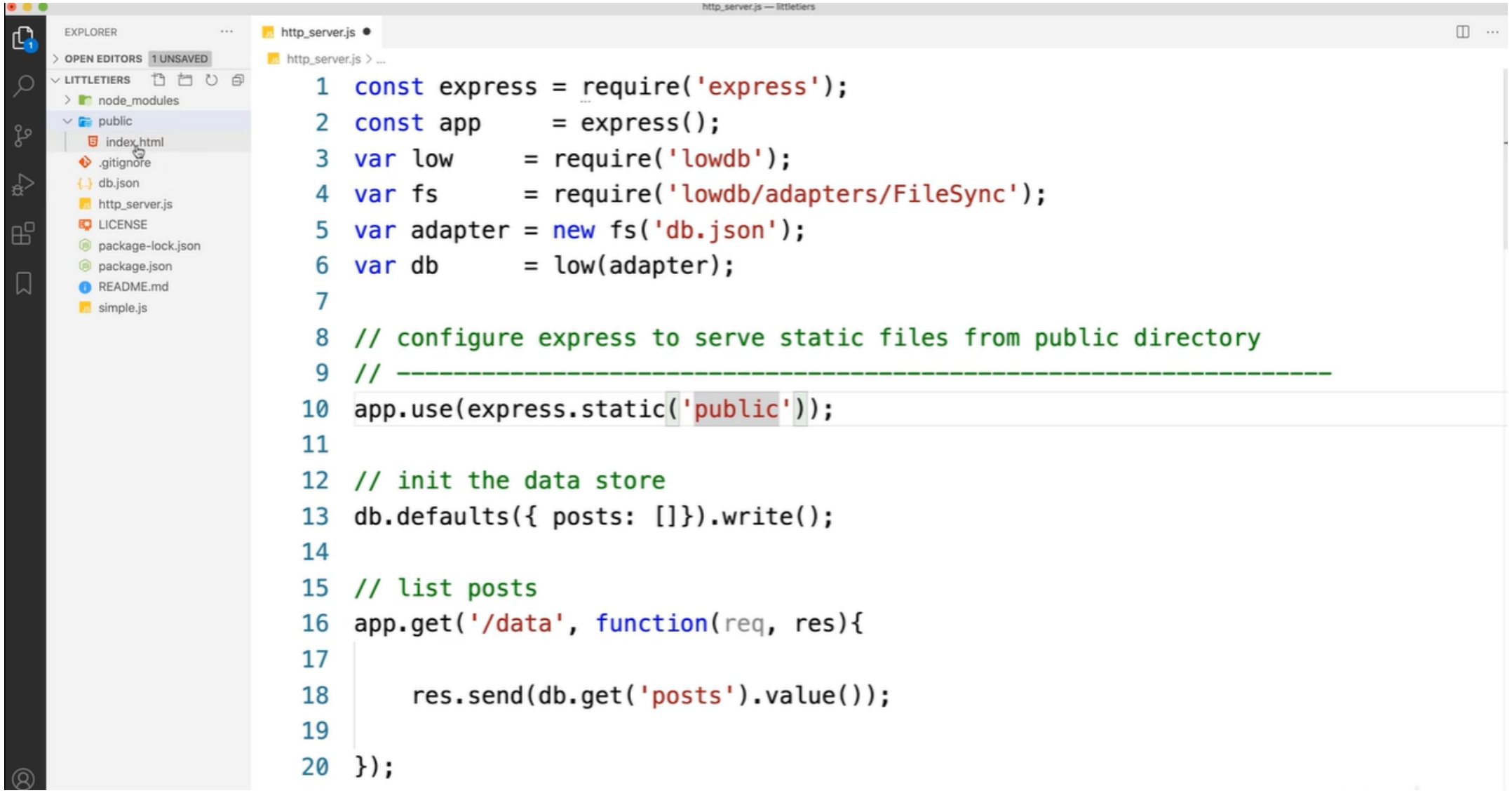
Bootstrap

https://getbootstrap.com/

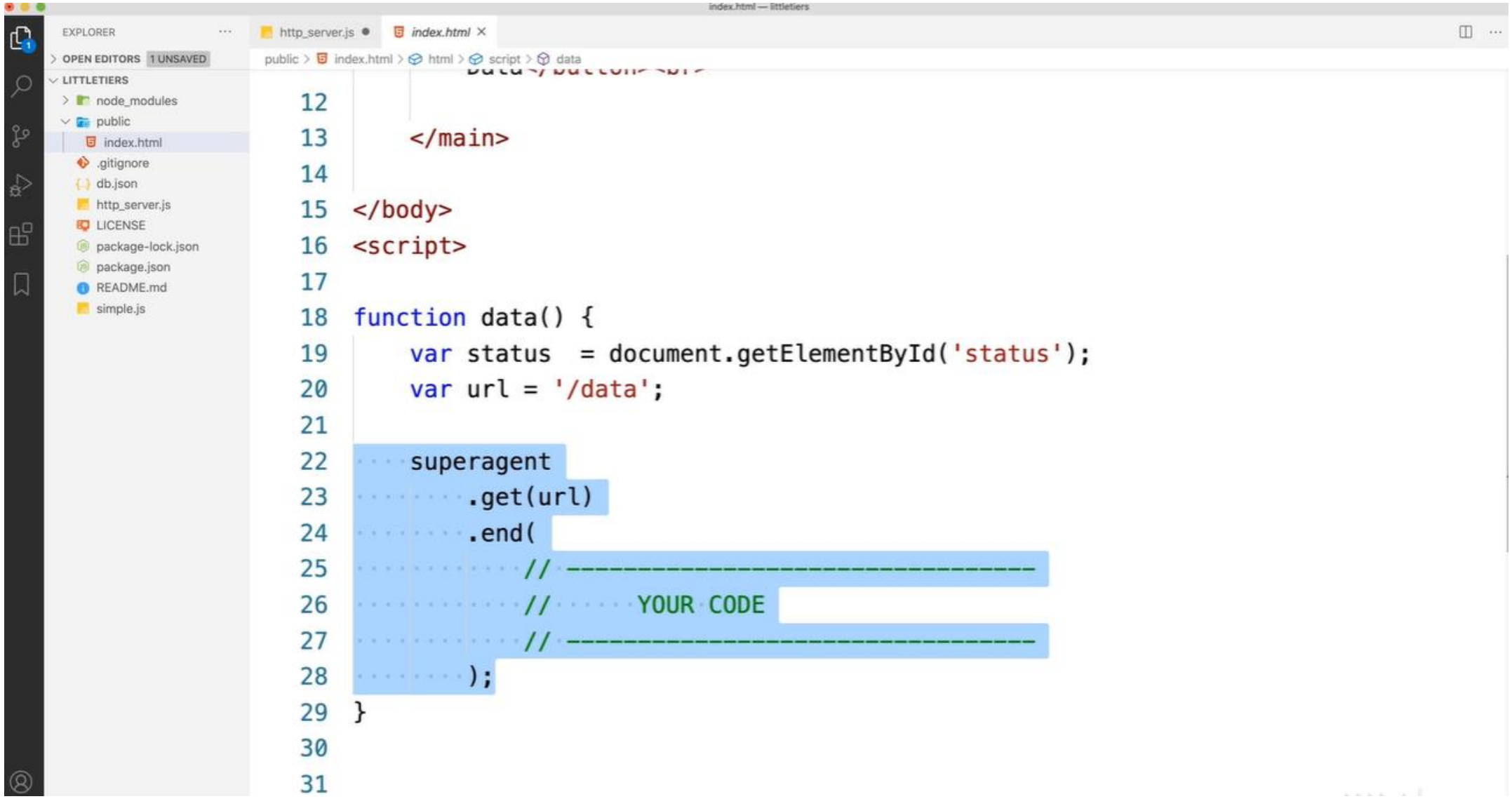
HTTP Server – Serve Static HTML Files

```
// serve static files from "public" directory
app.use(express.static('public'));
```

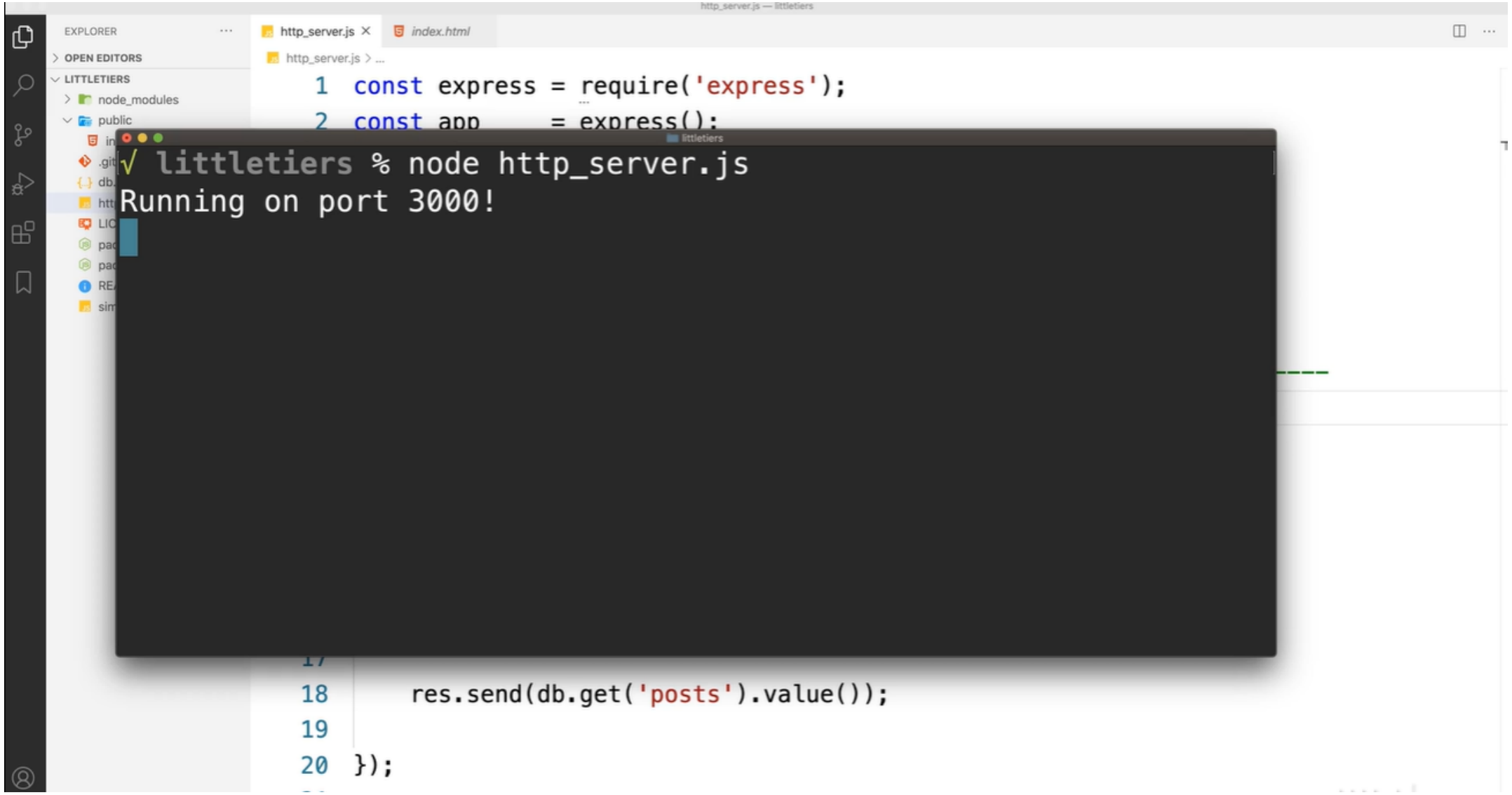
Creating Three Tier Application (1/13)



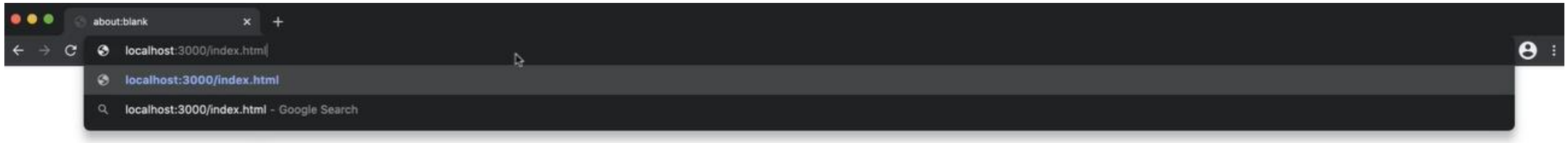
Creating Three Tier Application (2/13)



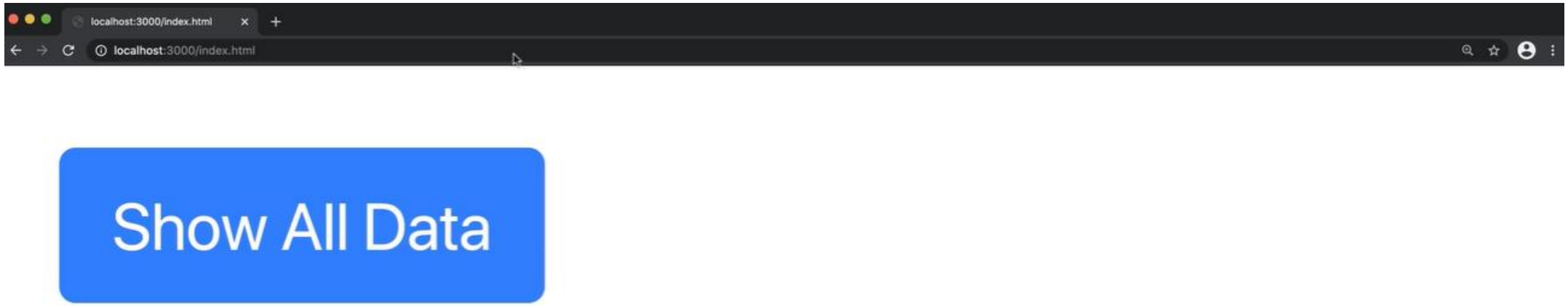
Creating Three Tier Application (3/13)



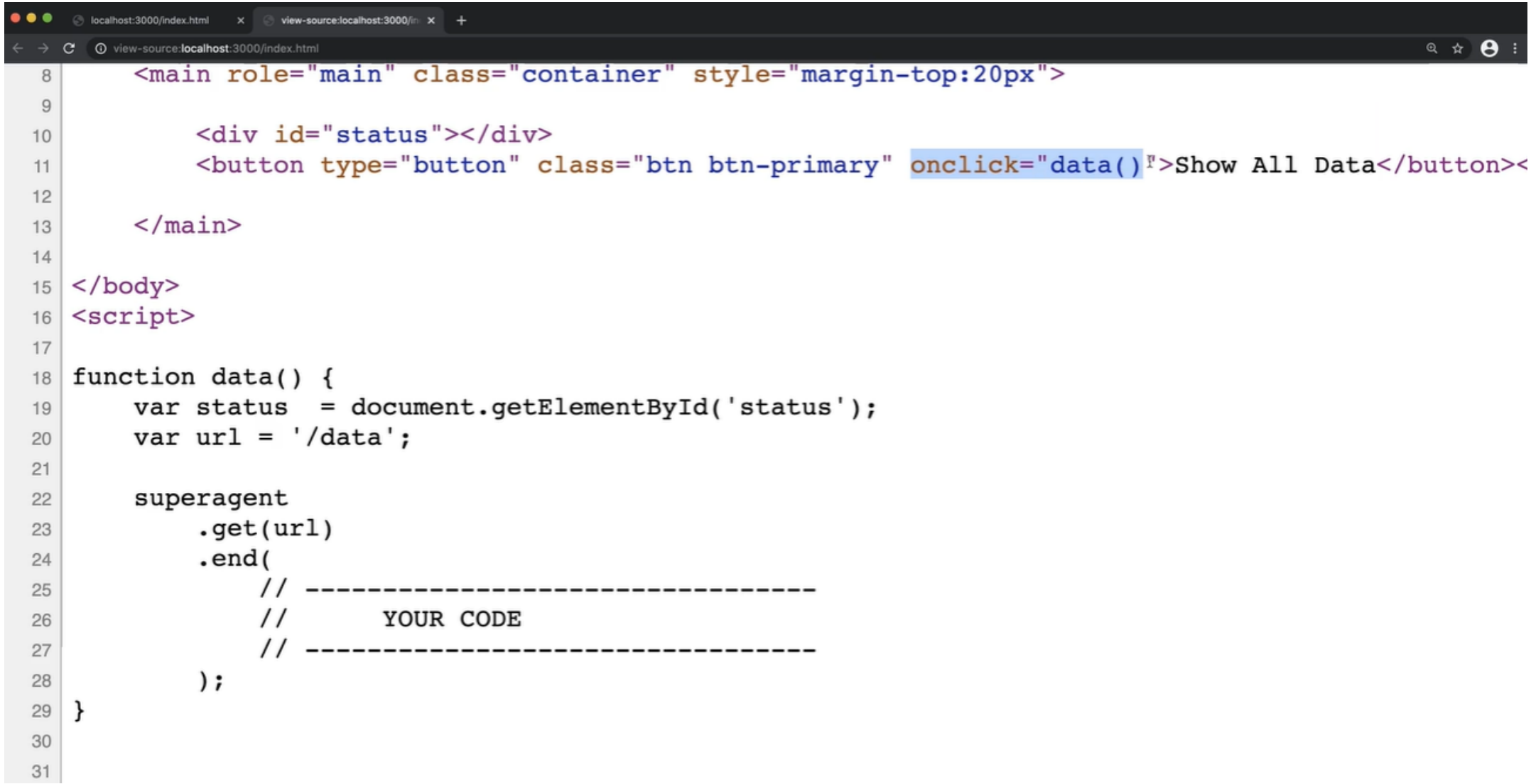
Creating Three Tier Application (4/13)



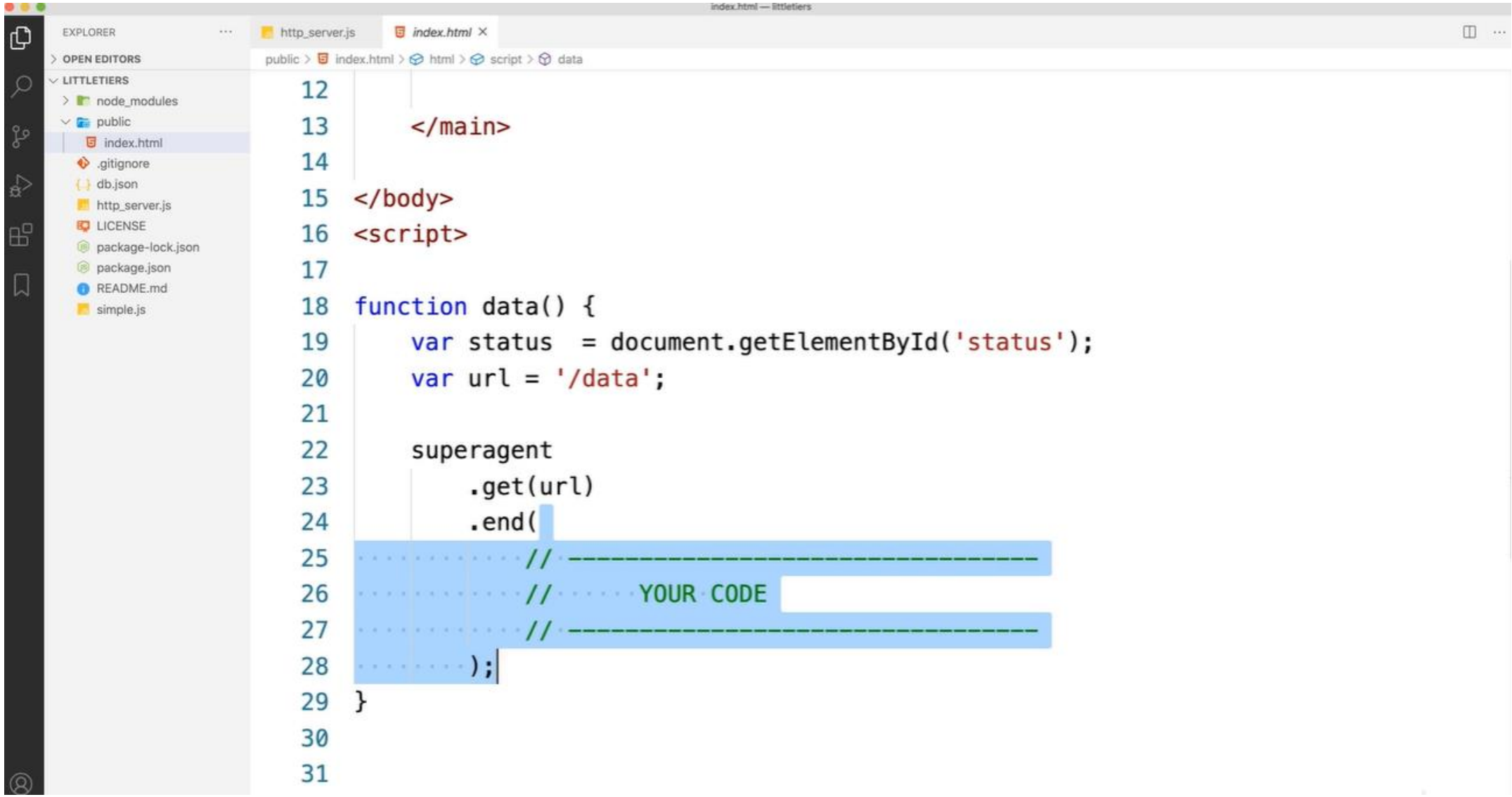
Creating Three Tier Application (5/13)



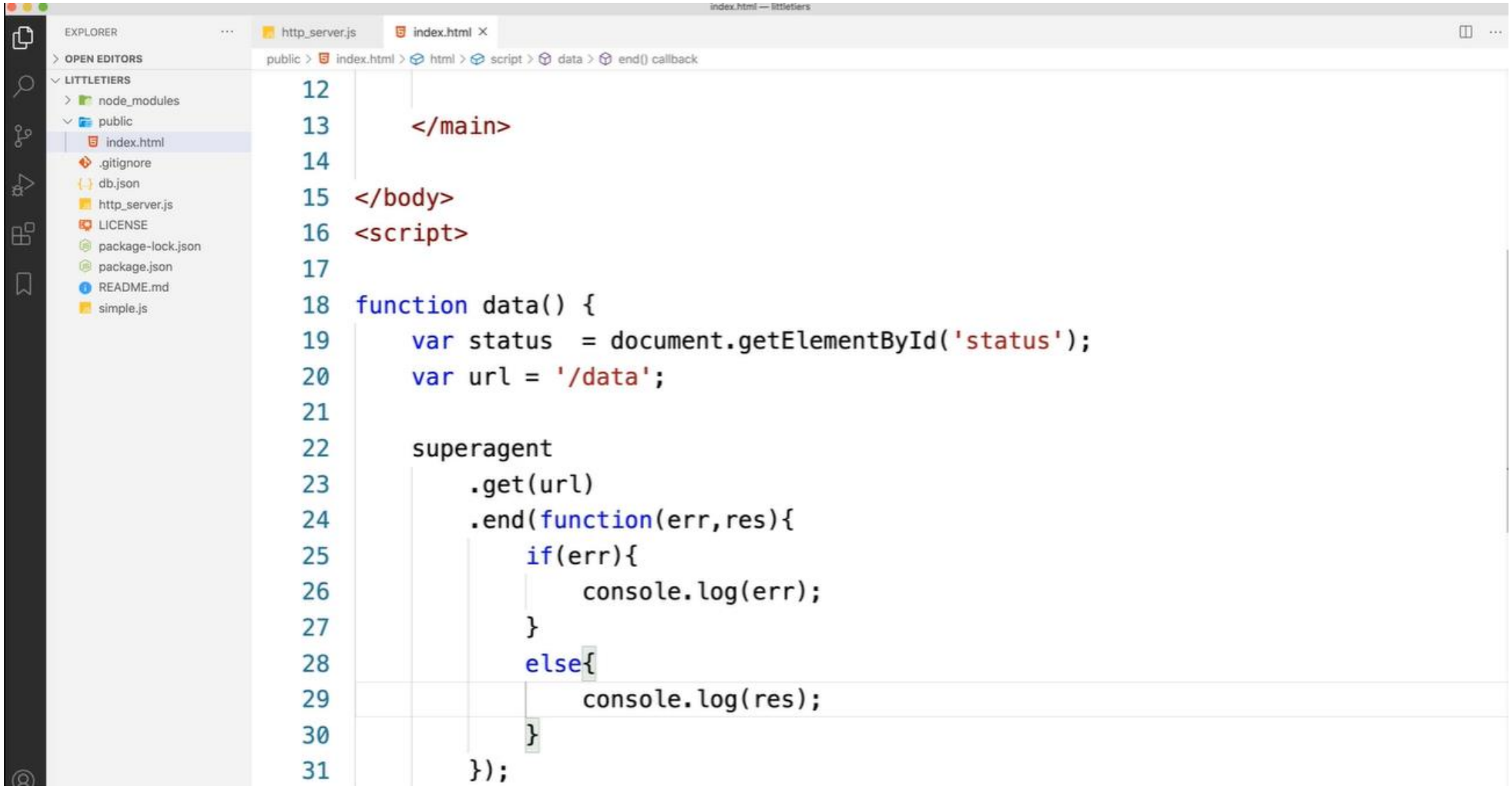
Creating Three Tier Application (6/13)



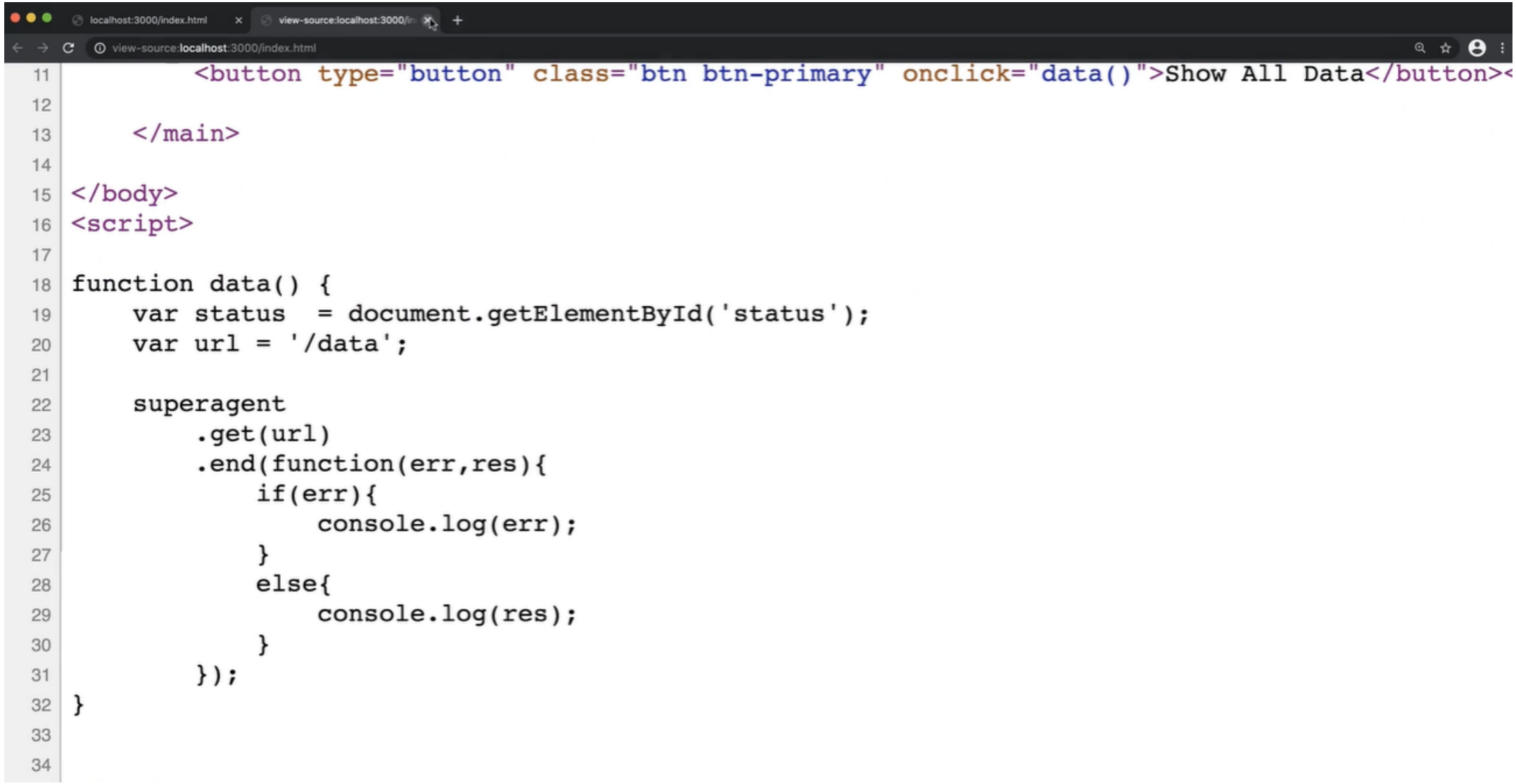
Creating Three Tier Application (7/13)



Creating Three Tier Application (8/13)

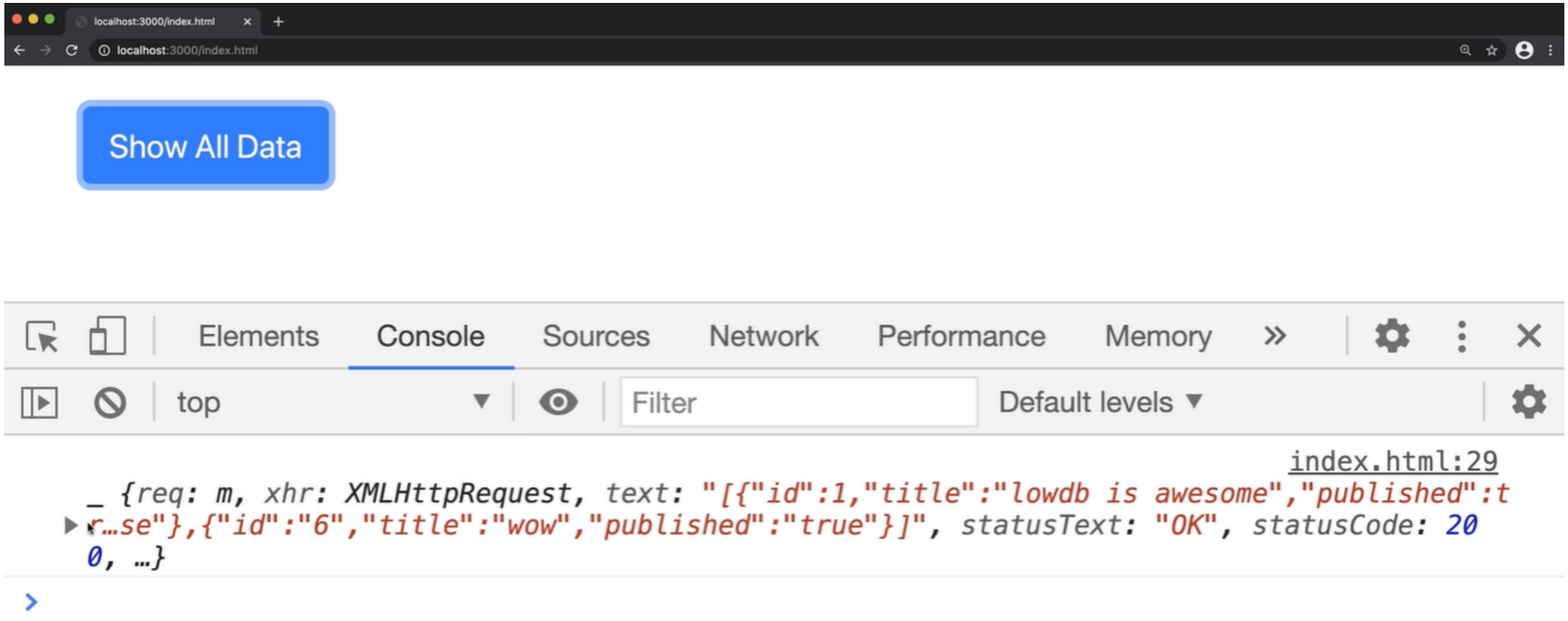


Creating Three Tier Application (9/13)

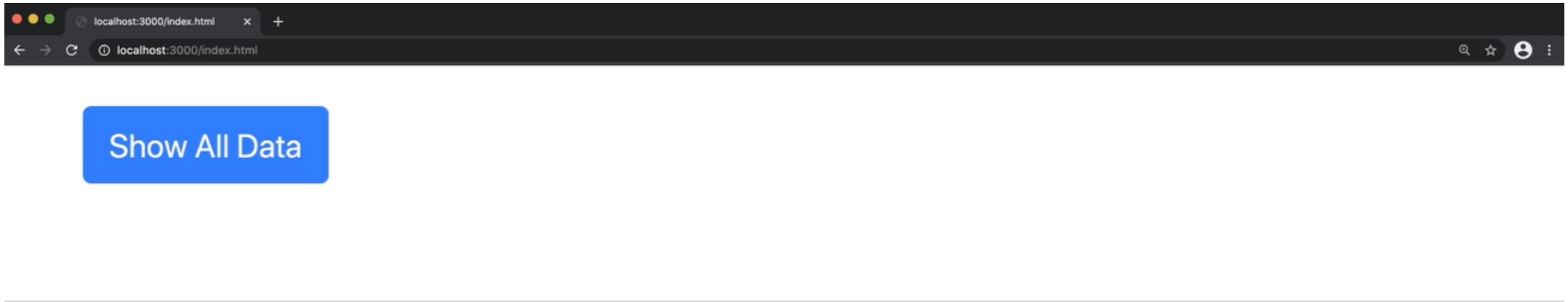



```
11          <button type="button" class="btn btn-primary" onclick="data()">Show All Data</button><
12
13      </main>
14
15  </body>
16  <script>
17
18  function data() {
19      var status  = document.getElementById('status');
20      var url = '/data';
21
22      superagent
23          .get(url)
24          .end(function(err,res){
25              if(err){
26                  console.log(err);
27              }
28              else{
29                  console.log(res);
30              }
31          });
32  }
33
34
```

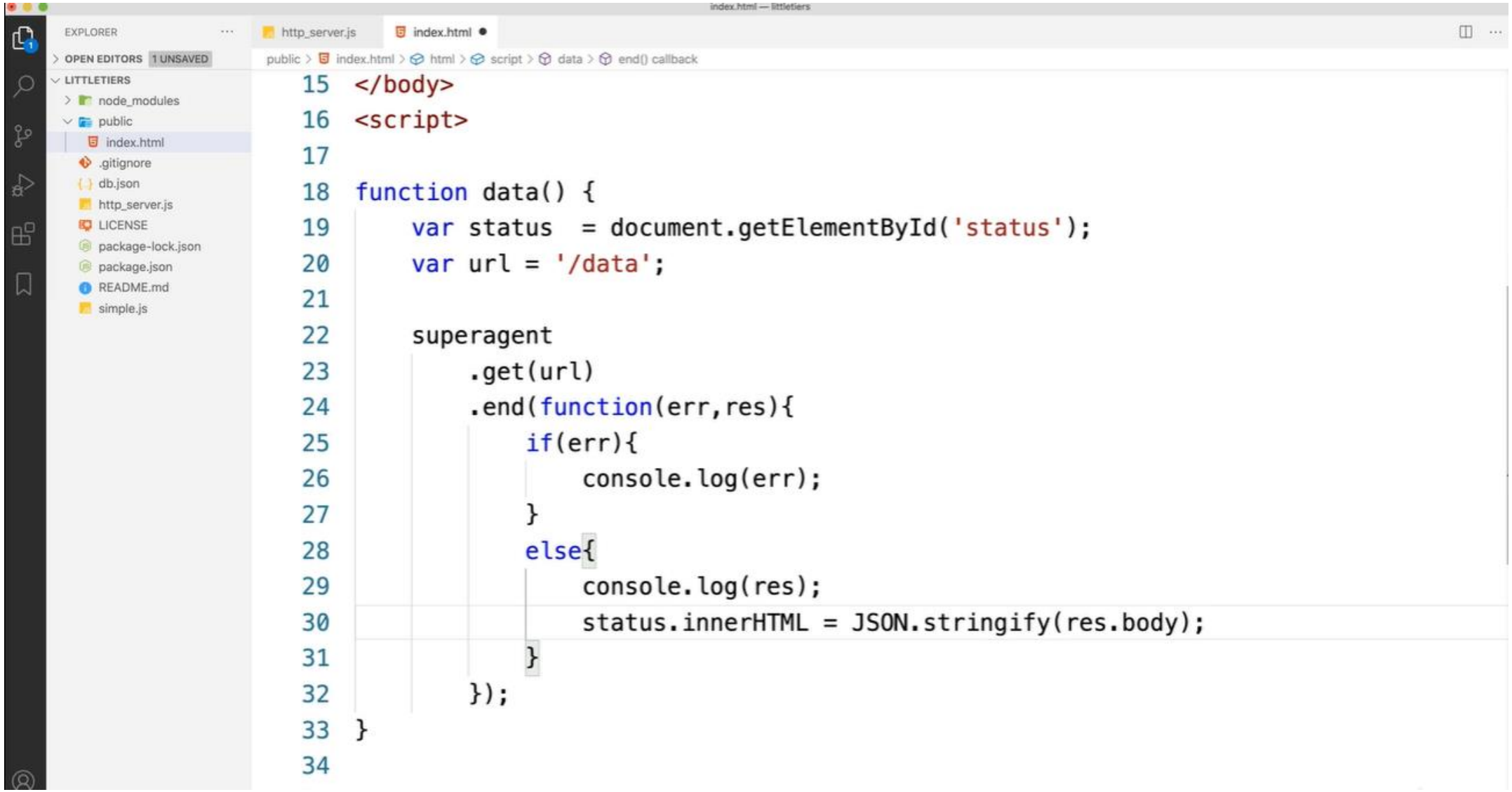
Creating Three Tier Application (10/13)



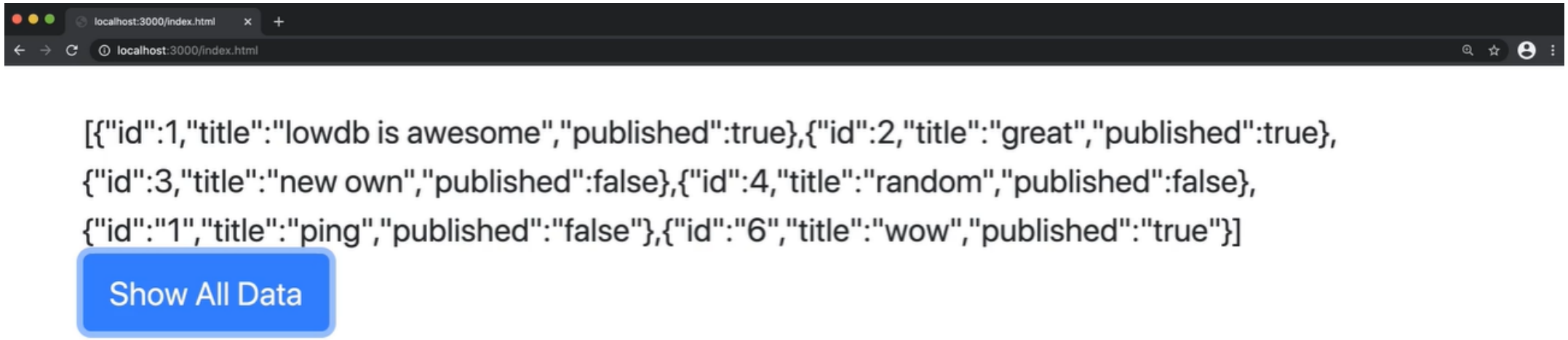
Creating Three Tier Application (11/13)



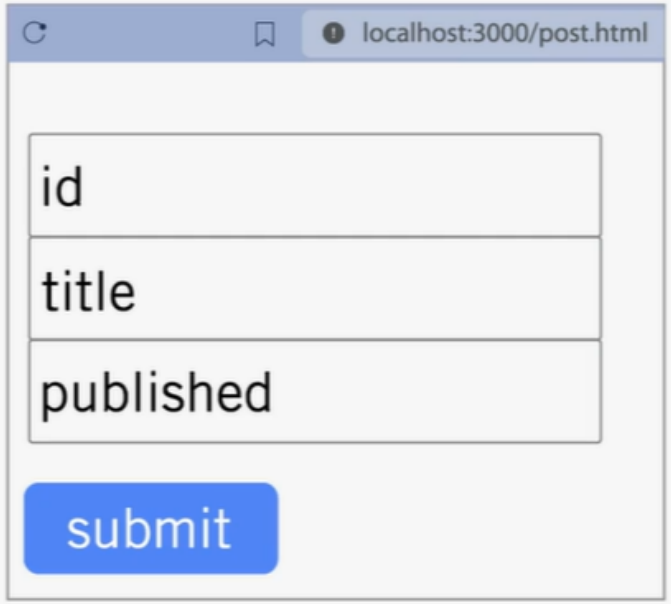
Creating Three Tier Application (12/13)



Creating Three Tier Application (13/13)



Receiving Data From The User Interface (1/)



Receiving Data From The User Interface (2/)