

Consuming a Web API with JavaScript

SUPINFO Hands-On 2



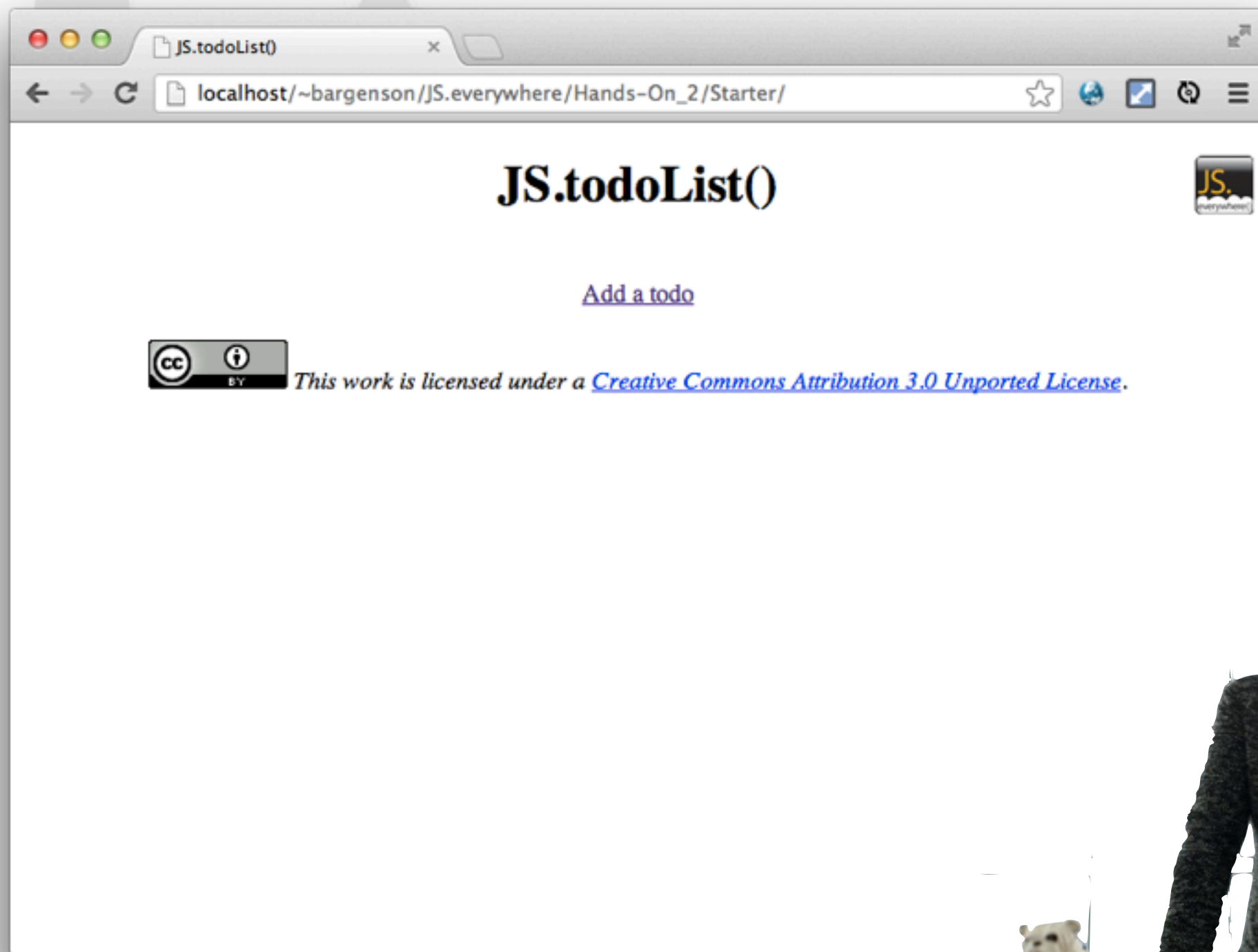
JS.everywhere Europe (Paris, 16-17, Nov)

{JavaScript}

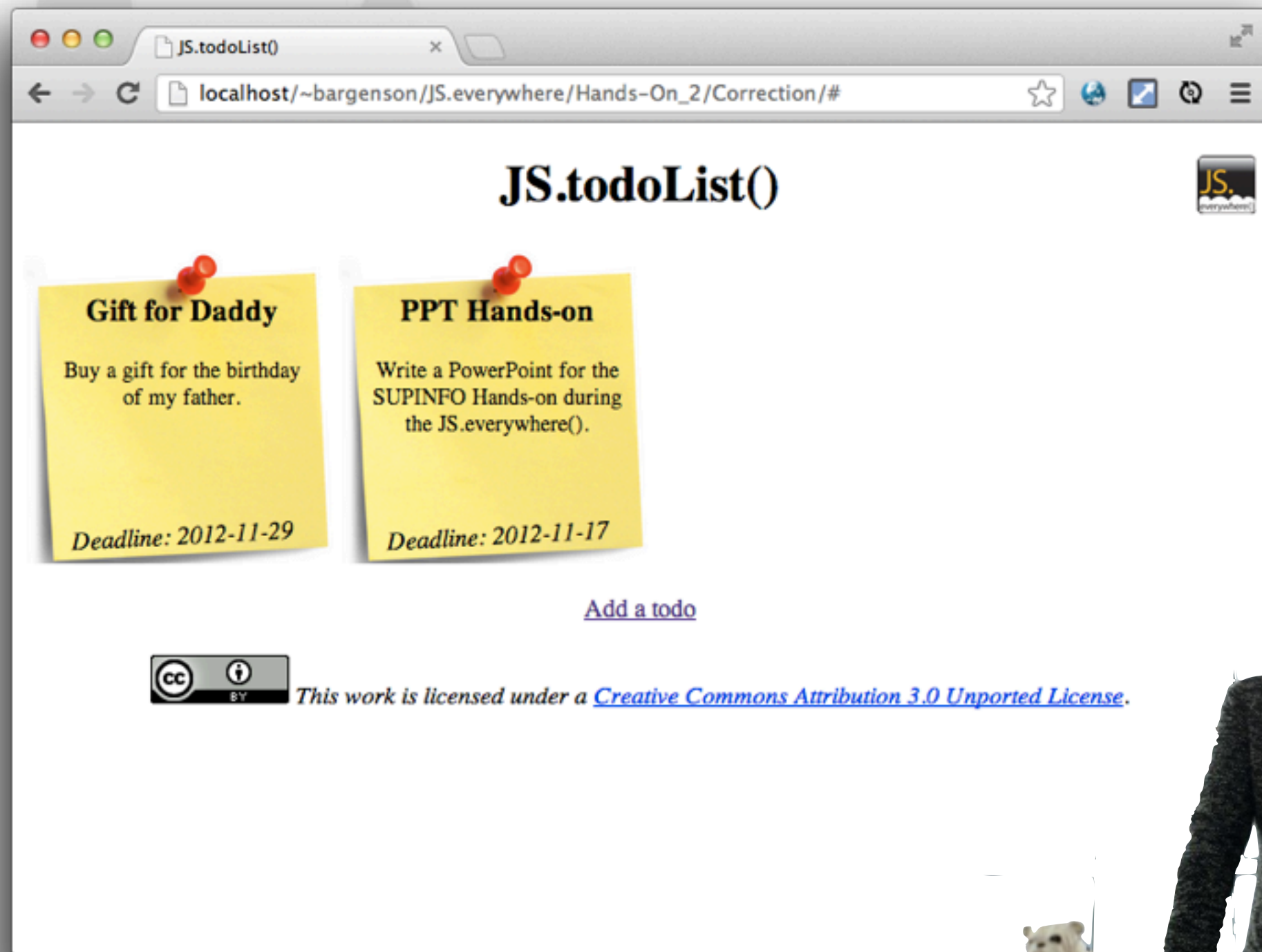
REST



Your mission



Your mission



Your tools



Your tools



...



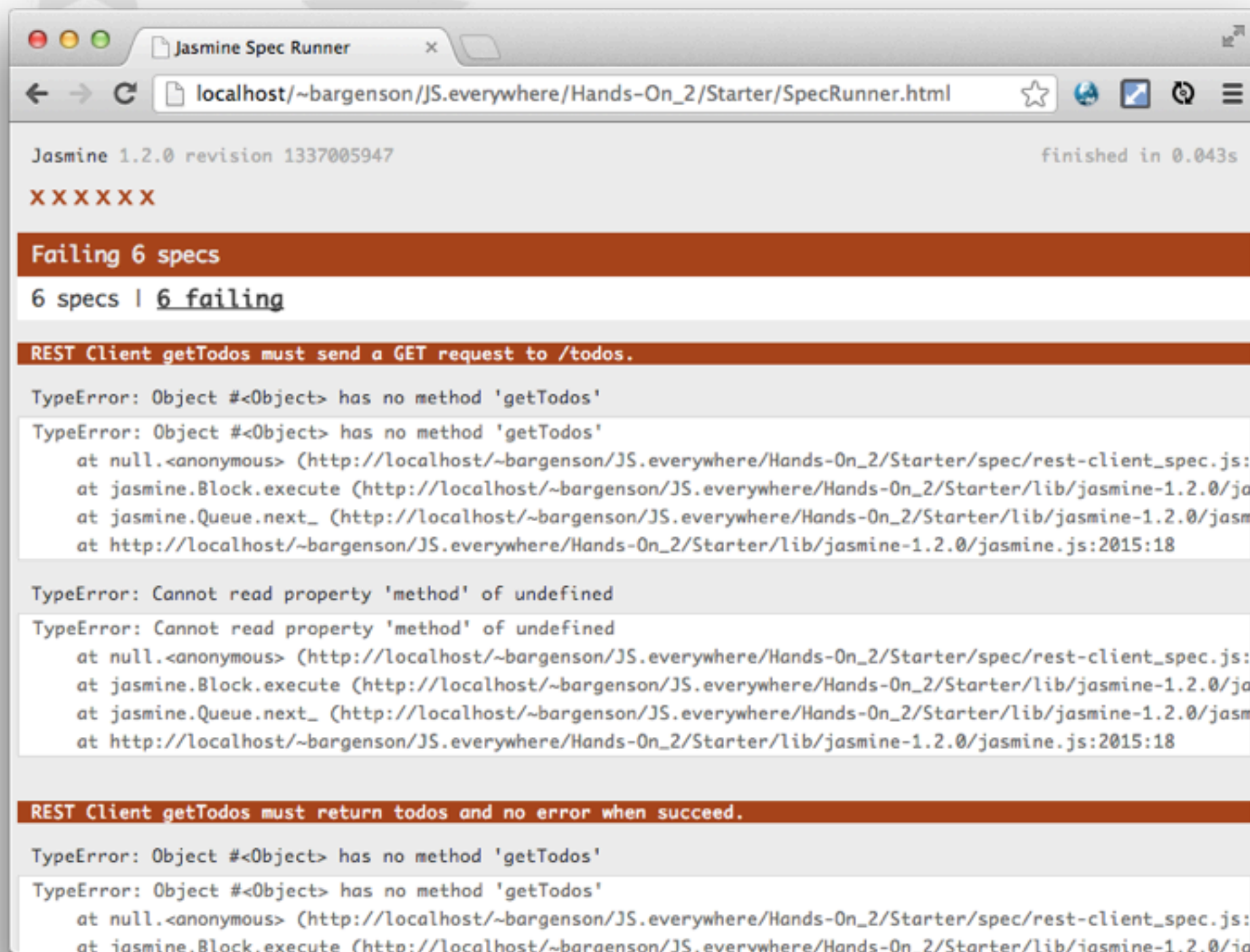
Your tools



...



To guide you

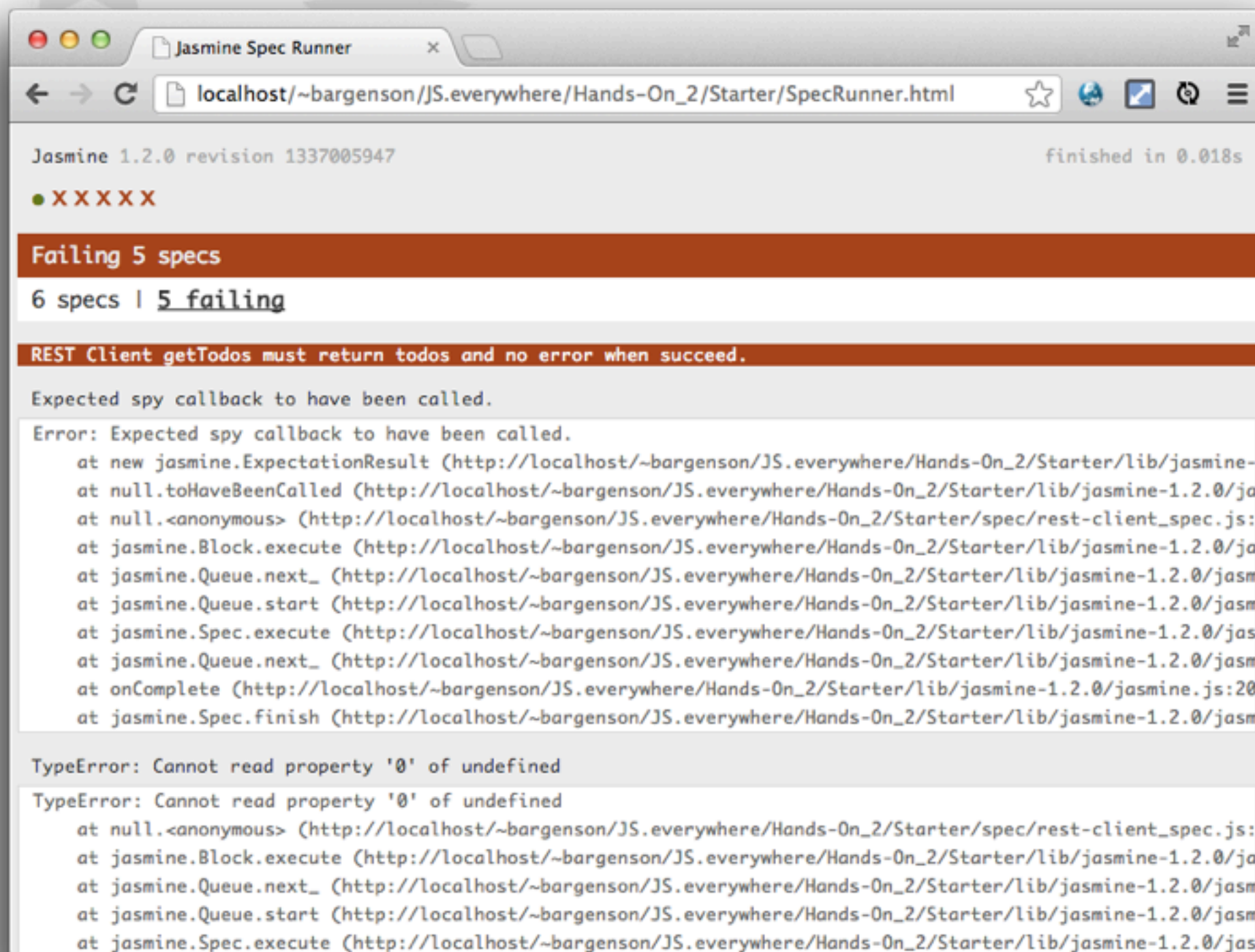


A screenshot of a web browser window titled "Jasmine Spec Runner". The address bar shows the URL "localhost/~bargenson/JS.everywhere/Hands-On_2/Starter/SpecRunner.html". The page content displays the results of a Jasmine test suite. At the top, it says "Jasmine 1.2.0 revision 1337005947" and "finished in 0.043s". Below this, there are six red "X" characters indicating failed tests. A summary line shows "Failing 6 specs" and "6 specs | 6 failing". The first failing spec is titled "REST Client getTodos must send a GET request to /todos." and shows two "TypeError" messages: "Object #<Object> has no method 'getTodos'" and "Cannot read property 'method' of undefined". The second failing spec is titled "REST Client getTodos must return todos and no error when succeed." and also shows two "TypeError" messages: "Object #<Object> has no method 'getTodos'" and "Cannot read property 'method' of undefined". The browser window has standard macOS window controls (red, yellow, green buttons) and a close button (X).

```
Jasmine 1.2.0 revision 1337005947 finished in 0.043s
XXXXXX
Failing 6 specs
6 specs | 6 failing
REST Client getTodos must send a GET request to /todos.
TypeError: Object #<Object> has no method 'getTodos'
TypeError: Object #<Object> has no method 'getTodos'
  at null.<anonymous> (http://localhost/~bargenson/JS.everywhere/Hands-On_2/Starter/spec/rest-client_spec.js:
  at jasmine.Block.execute (http://localhost/~bargenson/JS.everywhere/Hands-On_2/Starter/lib/jasmine-1.2.0/ja
  at jasmine.Queue.next_ (http://localhost/~bargenson/JS.everywhere/Hands-On_2/Starter/lib/jasmine-1.2.0/jasm
  at http://localhost/~bargenson/JS.everywhere/Hands-On_2/Starter/lib/jasmine-1.2.0/jasmine.js:2015:18
TypeError: Cannot read property 'method' of undefined
TypeError: Cannot read property 'method' of undefined
  at null.<anonymous> (http://localhost/~bargenson/JS.everywhere/Hands-On_2/Starter/spec/rest-client_spec.js:
  at jasmine.Block.execute (http://localhost/~bargenson/JS.everywhere/Hands-On_2/Starter/lib/jasmine-1.2.0/ja
  at jasmine.Queue.next_ (http://localhost/~bargenson/JS.everywhere/Hands-On_2/Starter/lib/jasmine-1.2.0/jasm
  at http://localhost/~bargenson/JS.everywhere/Hands-On_2/Starter/lib/jasmine-1.2.0/jasmine.js:2015:18
REST Client getTodos must return todos and no error when succeed.
TypeError: Object #<Object> has no method 'getTodos'
TypeError: Object #<Object> has no method 'getTodos'
  at null.<anonymous> (http://localhost/~bargenson/JS.everywhere/Hands-On_2/Starter/spec/rest-client_spec.js:
  at jasmine.Block.execute (http://localhost/~bargenson/JS.everywhere/Hands-On_2/Starter/lib/jasmine-1.2.0/ja
```



To guide you



```
Jasmine 1.2.0 revision 1337005947 finished in 0.018s
●XXXXX

Failing 5 specs
6 specs | 5 failing

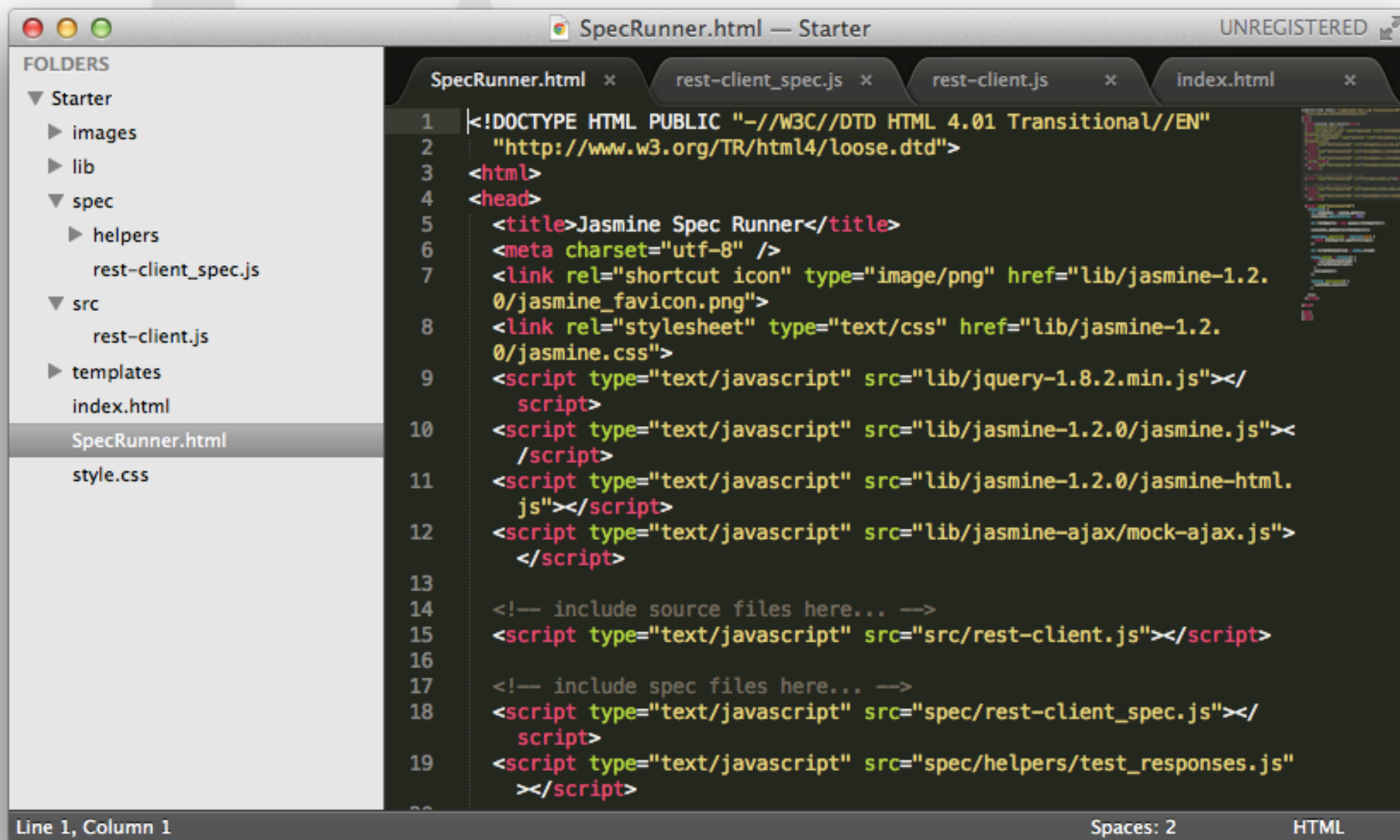
REST Client getTodos must return todos and no error when succeed.

Expected spy callback to have been called.
Error: Expected spy callback to have been called.
  at new jasmine.ExpectationResult (http://localhost/~bargenson/JS.everywhere/Hands-On_2/Starter/lib/jasmine-
  at null.toHaveBeenCalled (http://localhost/~bargenson/JS.everywhere/Hands-On_2/Starter/lib/jasmine-1.2.0/ja
  at null.<anonymous> (http://localhost/~bargenson/JS.everywhere/Hands-On_2/Starter/spec/rest-client_spec.js:
  at jasmine.Block.execute (http://localhost/~bargenson/JS.everywhere/Hands-On_2/Starter/lib/jasmine-1.2.0/ja
  at jasmine.Queue.next_ (http://localhost/~bargenson/JS.everywhere/Hands-On_2/Starter/lib/jasmine-1.2.0/jasm
  at jasmine.Queue.start (http://localhost/~bargenson/JS.everywhere/Hands-On_2/Starter/lib/jasmine-1.2.0/jasm
  at jasmine.Spec.execute (http://localhost/~bargenson/JS.everywhere/Hands-On_2/Starter/lib/jasmine-1.2.0/jas
  at jasmine.Queue.next_ (http://localhost/~bargenson/JS.everywhere/Hands-On_2/Starter/lib/jasmine-1.2.0/jasm
  at onComplete (http://localhost/~bargenson/JS.everywhere/Hands-On_2/Starter/lib/jasmine-1.2.0/jasmine.js:20
  at jasmine.Spec.finish (http://localhost/~bargenson/JS.everywhere/Hands-On_2/Starter/lib/jasmine-1.2.0/jasm

TypeError: Cannot read property '0' of undefined
TypeError: Cannot read property '0' of undefined
  at null.<anonymous> (http://localhost/~bargenson/JS.everywhere/Hands-On_2/Starter/spec/rest-client_spec.js:
  at jasmine.Block.execute (http://localhost/~bargenson/JS.everywhere/Hands-On_2/Starter/lib/jasmine-1.2.0/ja
  at jasmine.Queue.next_ (http://localhost/~bargenson/JS.everywhere/Hands-On_2/Starter/lib/jasmine-1.2.0/jasm
  at jasmine.Queue.start (http://localhost/~bargenson/JS.everywhere/Hands-On_2/Starter/lib/jasmine-1.2.0/jasm
  at jasmine.Spec.execute (http://localhost/~bargenson/JS.everywhere/Hands-On_2/Starter/lib/jasmine-1.2.0/jas
```

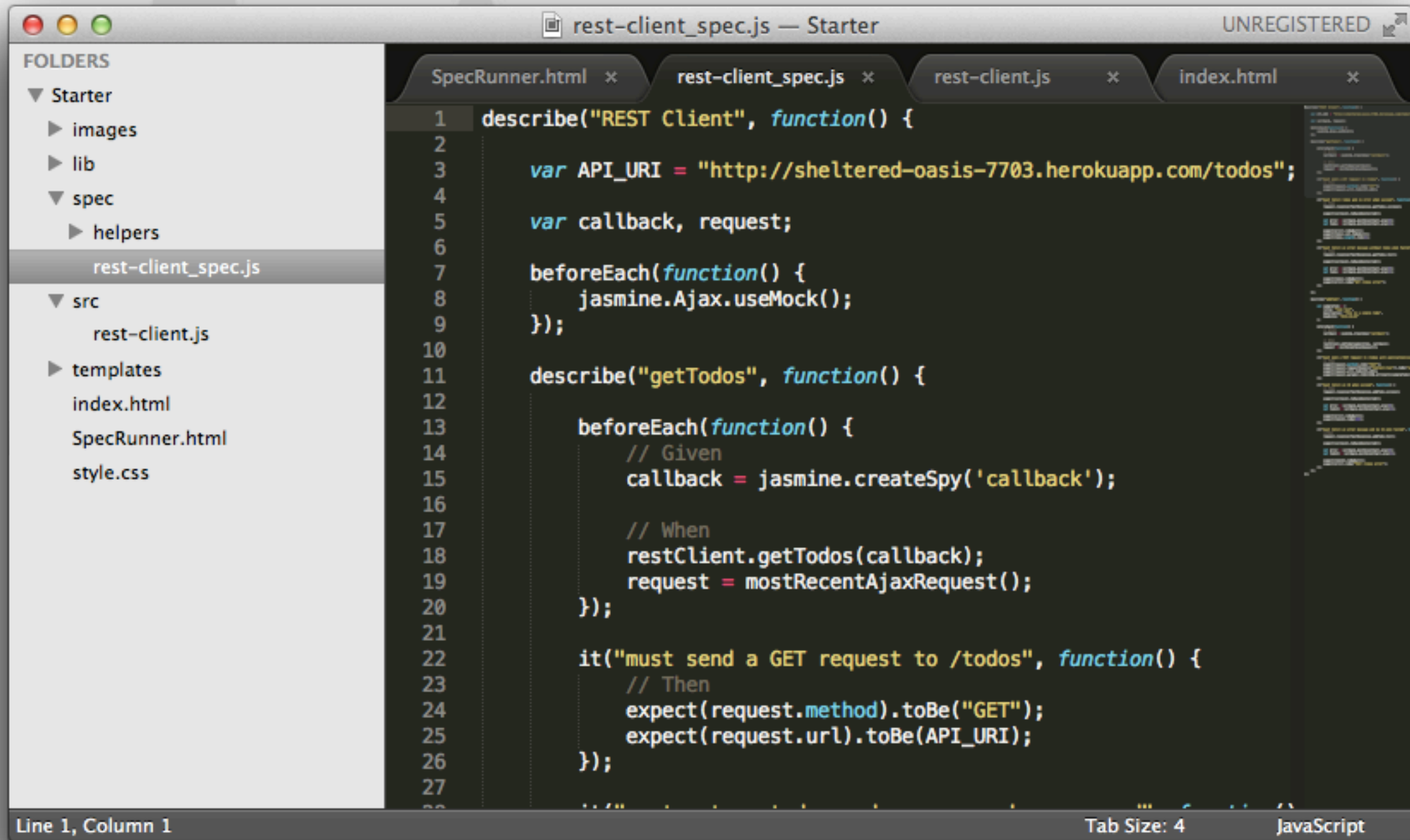


Project Skeleton



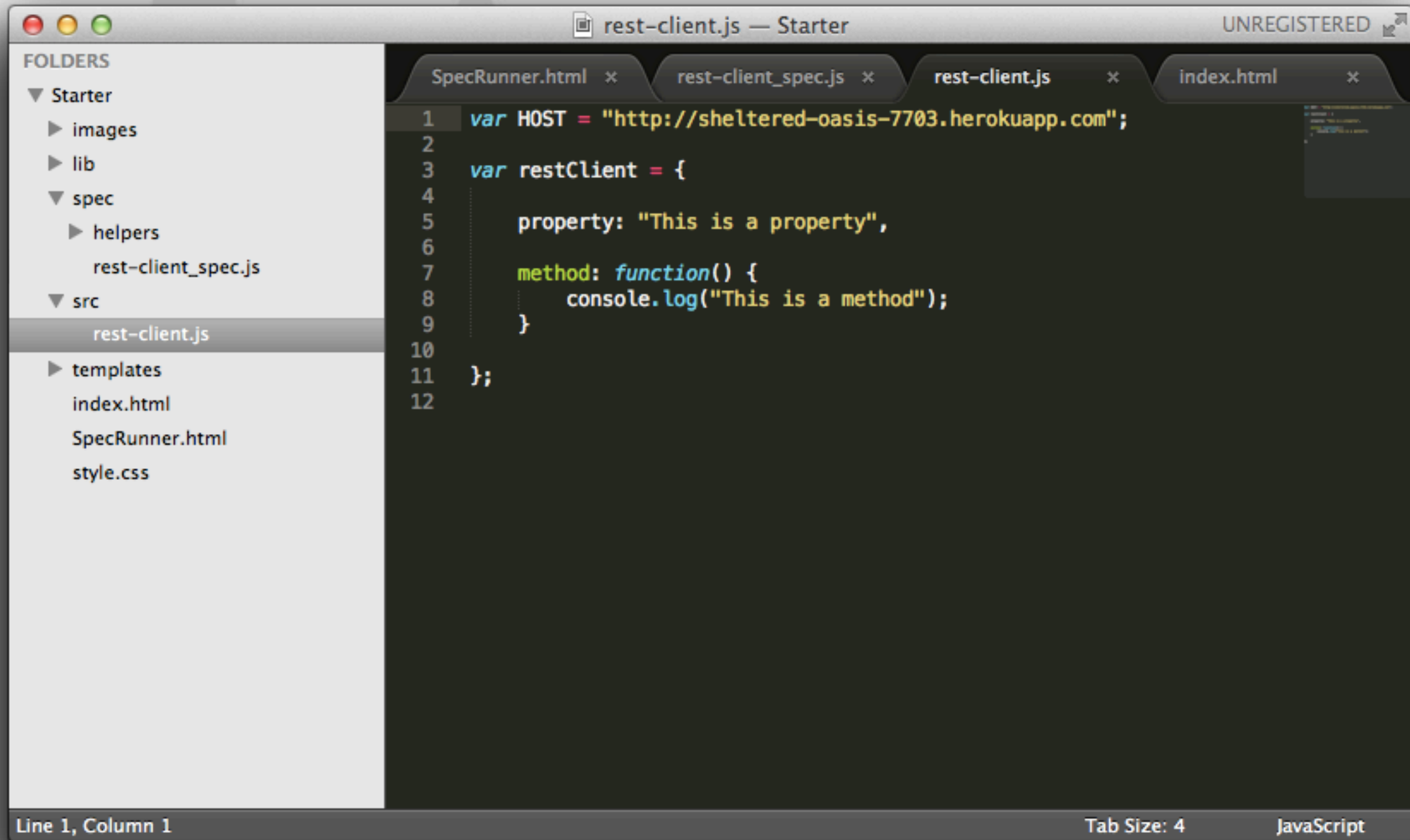
```
1 <!DOCTYPE HTML PUBLIC "-//W3C//DTD HTML 4.01 Transitional//EN"
2 "http://www.w3.org/TR/html4/loose.dtd">
3 <html>
4 <head>
5   <title>Jasmine Spec Runner</title>
6   <meta charset="utf-8" />
7   <link rel="shortcut icon" type="image/png" href="lib/jasmine-1.2.
8   0/jasmine_favicon.png">
9   <link rel="stylesheet" type="text/css" href="lib/jasmine-1.2.
10  0/jasmine.css">
11  <script type="text/javascript" src="lib/jquery-1.8.2.min.js"></
12  script>
13  <script type="text/javascript" src="lib/jasmine-1.2.0/jasmine.js"><
14  /script>
15  <script type="text/javascript" src="lib/jasmine-1.2.0/jasmine-html.
16  js"></script>
17  <script type="text/javascript" src="lib/jasmine-ajax/mock-ajax.js">
18  </script>
19  <!-- include source files here... -->
20  <script type="text/javascript" src="src/rest-client.js"></script>
21  <!-- include spec files here... -->
22  <script type="text/javascript" src="spec/rest-client_spec.js"></
23  script>
24  <script type="text/javascript" src="spec/helpers/test_responses.js"
25  ></script>
```

Project Skeleton

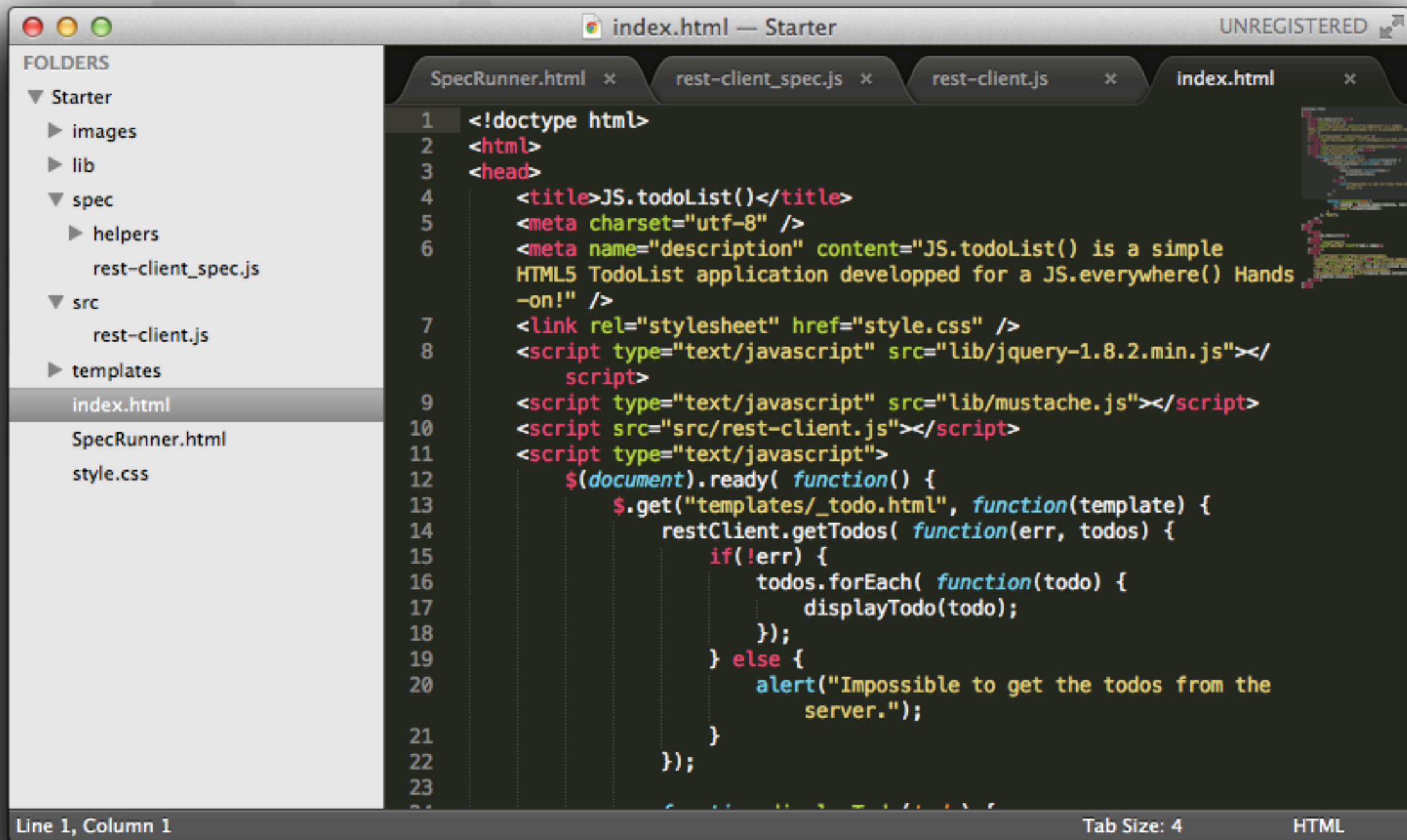


```
1 describe("REST Client", function() {
2
3     var API_URI = "http://sheltered-oasis-7703.herokuapp.com/todos";
4
5     var callback, request;
6
7     beforeEach(function() {
8         jasmine.Ajax.useMock();
9     });
10
11     describe("getTodos", function() {
12
13         beforeEach(function() {
14             // Given
15             callback = jasmine.createSpy('callback');
16
17             // When
18             restClient.getTodos(callback);
19             request = mostRecentAjaxRequest();
20         });
21
22         it("must send a GET request to /todos", function() {
23             // Then
24             expect(request.method).toBe("GET");
25             expect(request.url).toBe(API_URI);
26         });
27
28     });
29
30 });
```


Project Skeleton



Project Skeleton



```
1 <!doctype html>
2 <html>
3 <head>
4   <title>JS.todoList()</title>
5   <meta charset="utf-8" />
6   <meta name="description" content="JS.todoList() is a simple
7     HTML5 TodoList application developped for a JS.everywhere() Hands
8     -on!" />
9   <link rel="stylesheet" href="style.css" />
10  <script type="text/javascript" src="lib/jquery-1.8.2.min.js"></
11    script>
12  <script type="text/javascript" src="lib/mustache.js"></script>
13  <script src="src/rest-client.js"></script>
14  <script type="text/javascript">
15    $(document).ready( function() {
16      $.get("templates/_todo.html", function(template) {
17        restClient.getTodos( function(err, todos) {
18          if(!err) {
19            todos.forEach( function(todo) {
20              displayTodo(todo);
21            });
22          } else {
23            alert("Impossible to get the todos from the
24              server.");
25          }
26        });
27      });
28    });
29  }
30  </script>
```



The Web API

<http://sheltered-oasis-7703.herokuapp.com/todos>

- GET /todos
 - Return all todos
- POST /todos
 - Create a new todo

Resources

- The Ajax jQuery documentation:

<http://api.jquery.com/jquery.ajax/>

For the fastest ones

- Add the Meta Viewport and test it with a Mobile Browser (Opera Mobile Emulator)

<http://dev.opera.com/articles/view/an-introduction-to-meta-viewport-and-viewport/>

- Use PhoneGap !

<http://phonegap.com/>



Need help ?

- If you are stuck or have any questions:
 - Renaud
 - Marc
 - Adrien
 - And me (Brice)

Questions ?



Download the project !

JS.everywhere



JS.everywhere Europe (Paris, 16-17, Nov)

Saturday, November 17, 12