

# Offline Webapp with HTML5

SUPINFO Hands-On 3



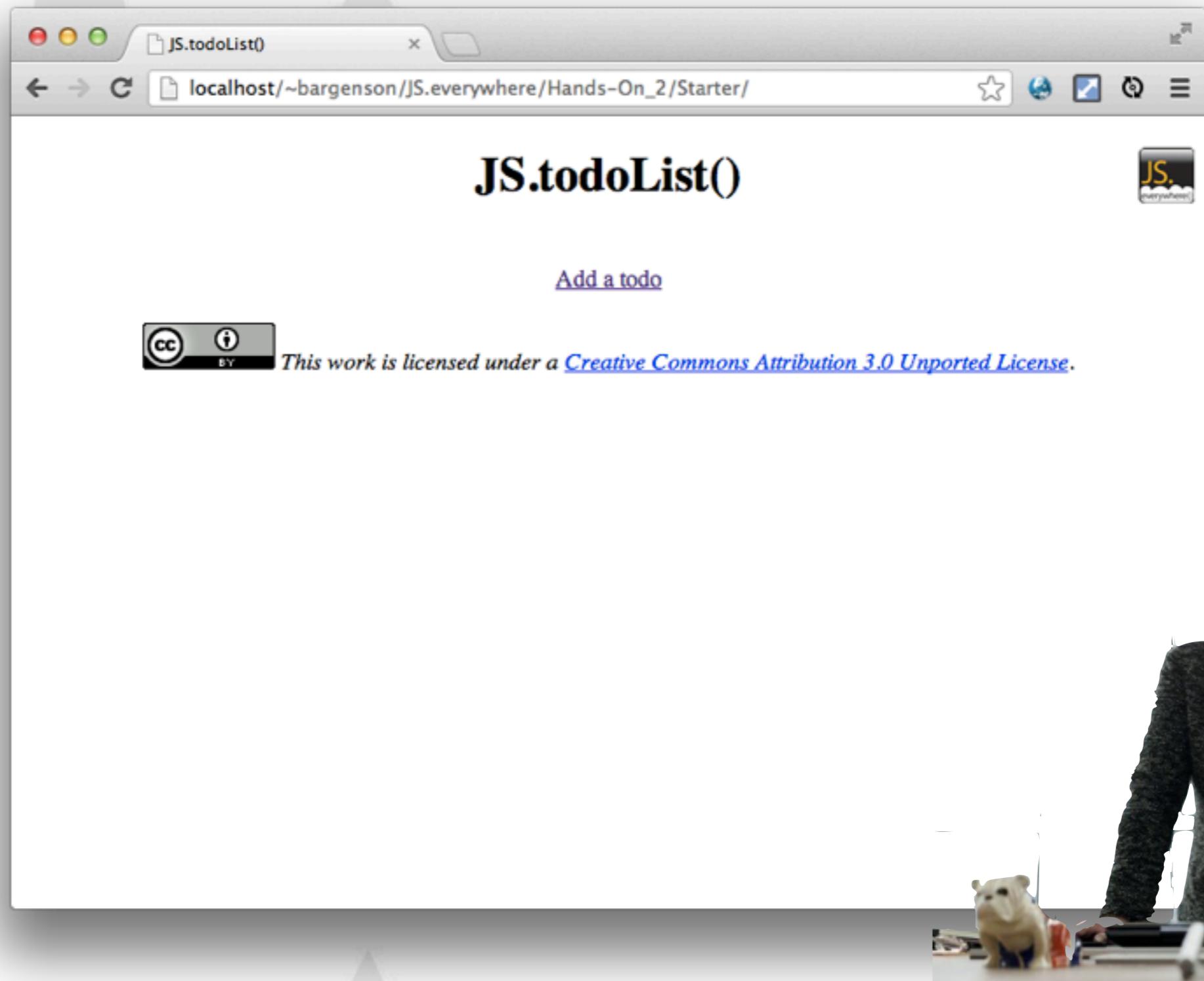
JS.everywhere Europe (Paris, 16-17, Nov)

# {JavaScript}

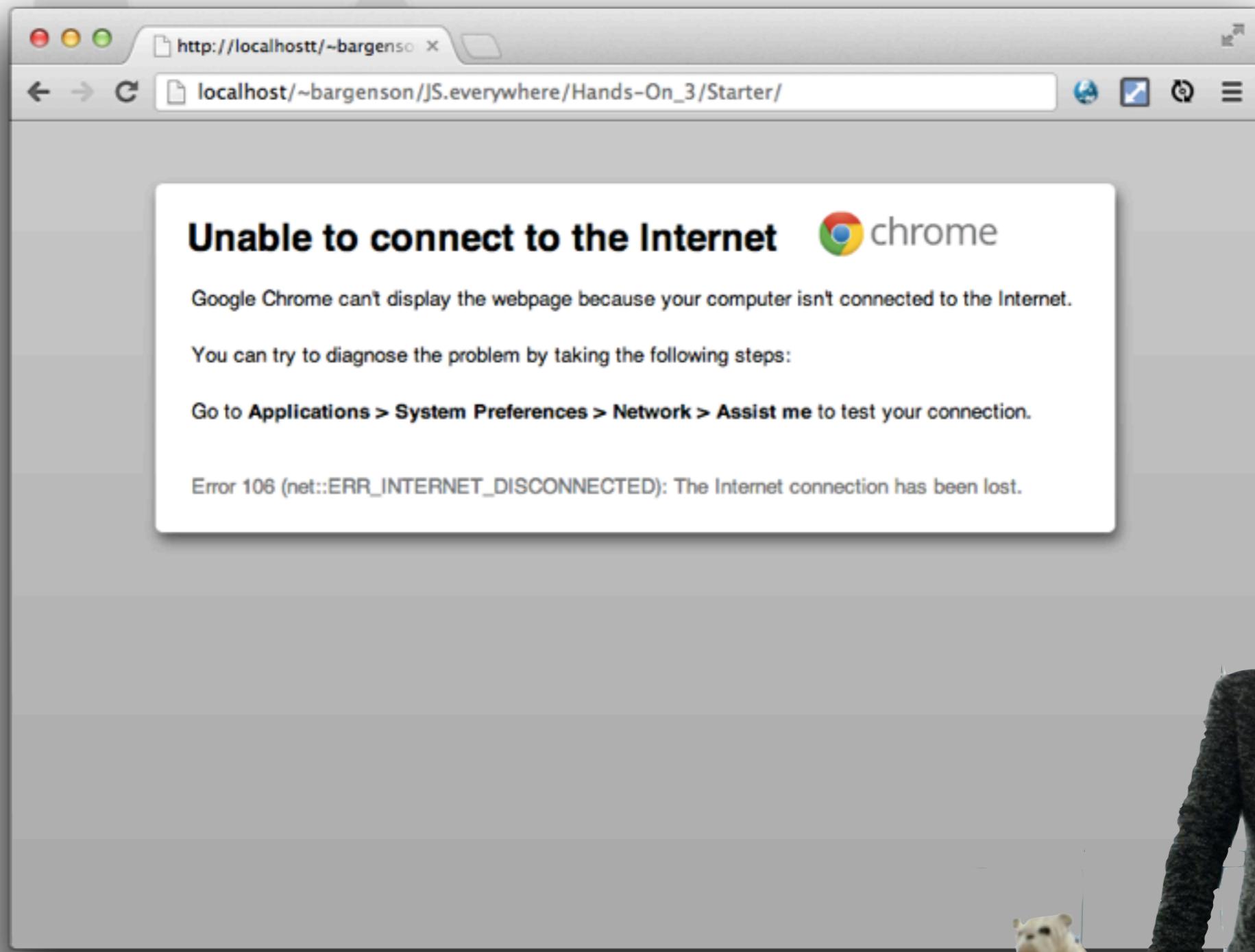
## HTML5



# Your mission



# Your mission



# Your mission

JS.todoList()

You are offline. Displayed Todos are from local storage.

**Gift for Daddy**  
Buy a gift for the birthday of my father.  
*Deadline: 2012-11-29*

**PPT Hands-on**  
Write a PowerPoint for the SUPINFO Hands-on during the JS.everywhere().  
*Deadline: 2012-11-17*

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# Your tools



chrome



mozilla  
**Firefox®**



# Your tools



...



# Your tools



**APACHE**  
HTTP SERVER



# To guide you

Jasmine Spec Runner

localhost/~bargenson/JS.everywhere/Hands-On\_2/Starter/SpecRunner.html

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
```

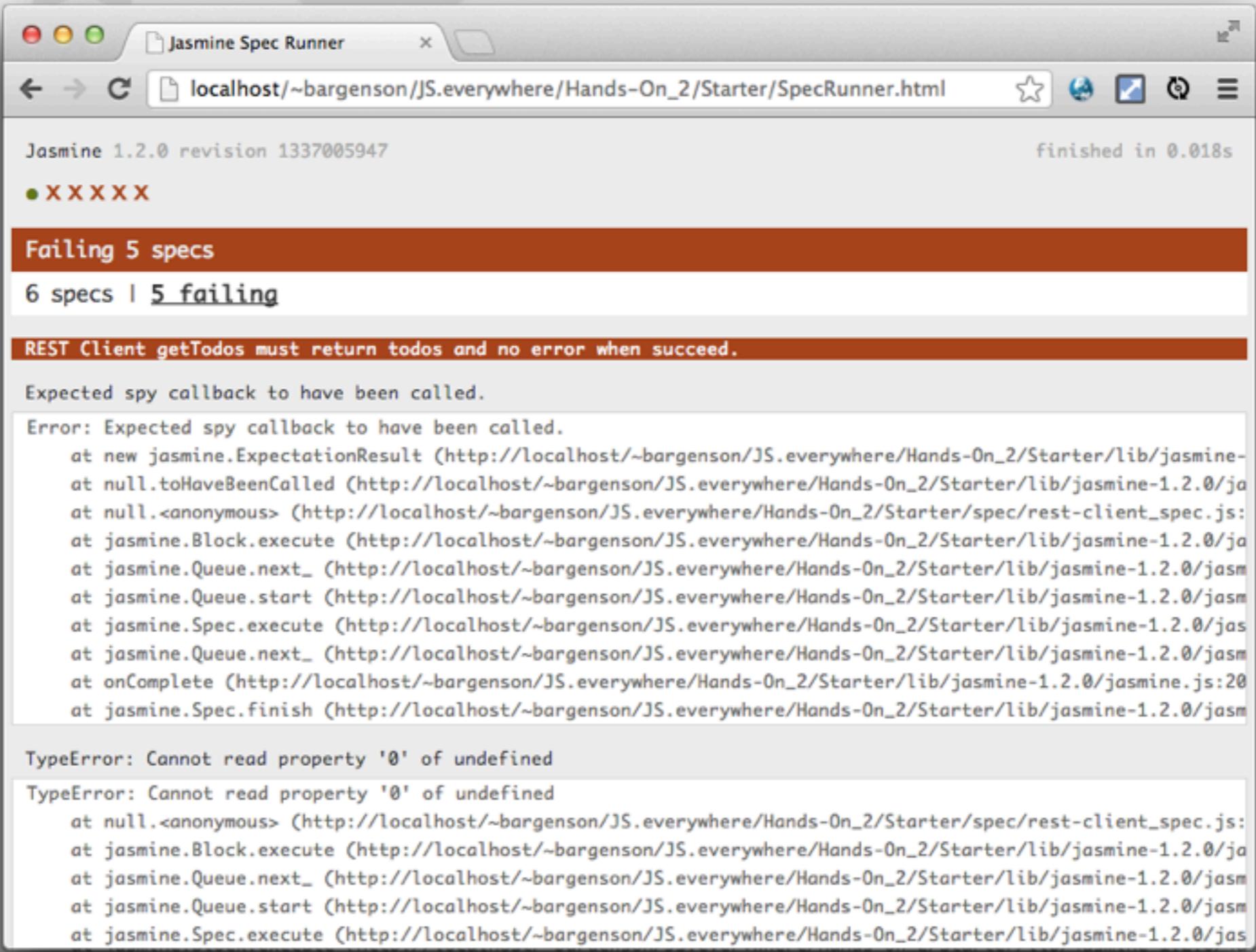
**TypeError: Cannot read property 'method' of undefined**

```
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



The screenshot shows a web browser window titled "Jasmine Spec Runner" displaying a test report. The URL in the address bar is "localhost/~bargenson/JS.everywhere/Hands-On\_2/Starter/SpecRunner.html". The report indicates "Jasmine 1.2.0 revision 1337005947" and "finished in 0.018s". A red banner at the top states "Failing 5 specs" and "6 specs | 5 failing". Below this, a red box highlights a failing spec: "REST Client getTodos must return todos and no error when succeed.". The error message is: "Expected spy callback to have been called." followed by a long stack trace. Another error message is shown below: "TypeError: Cannot read property '0' of undefined" followed by another stack trace.

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

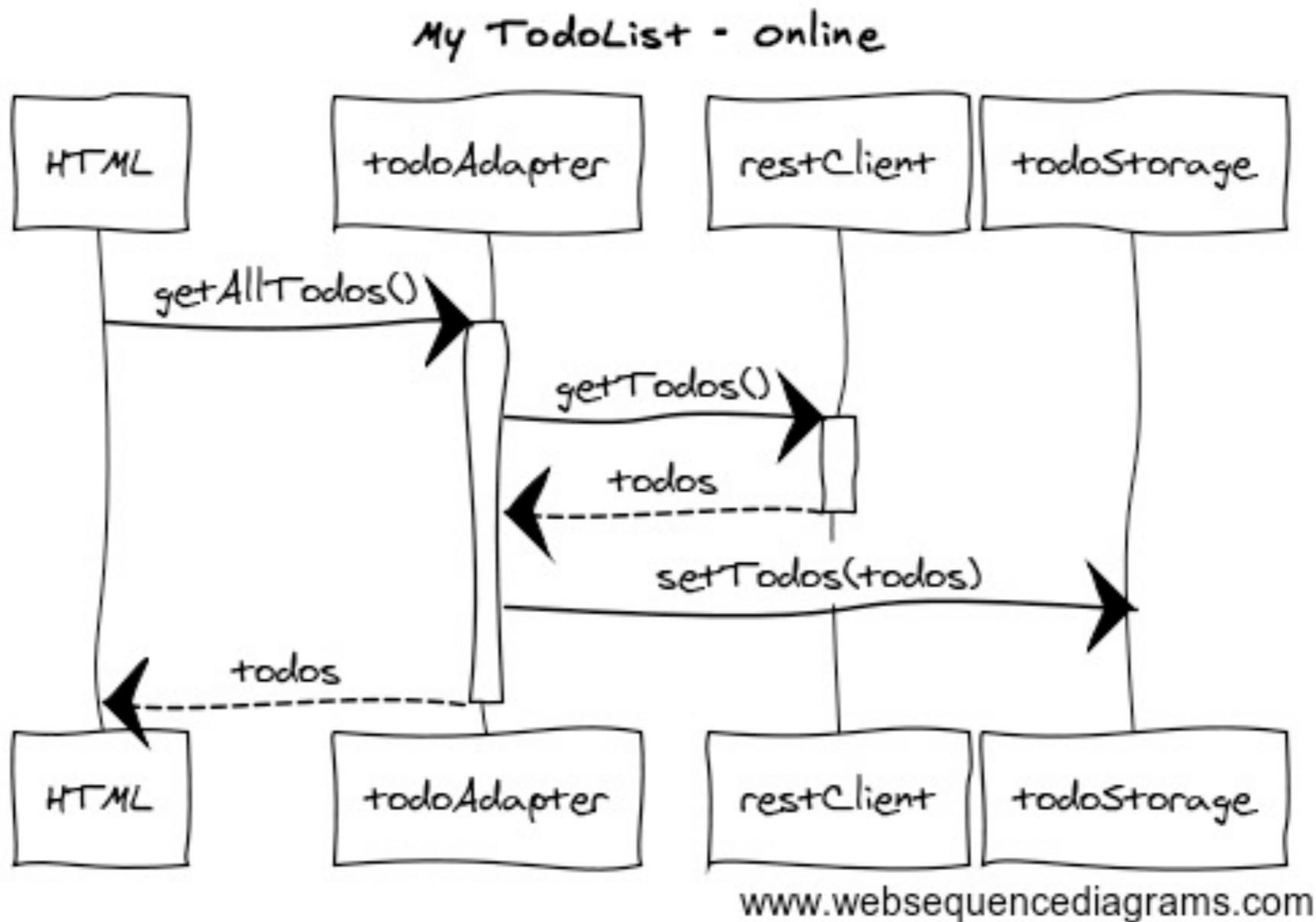
Failing 5 specs
6 specs | 5 failing

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

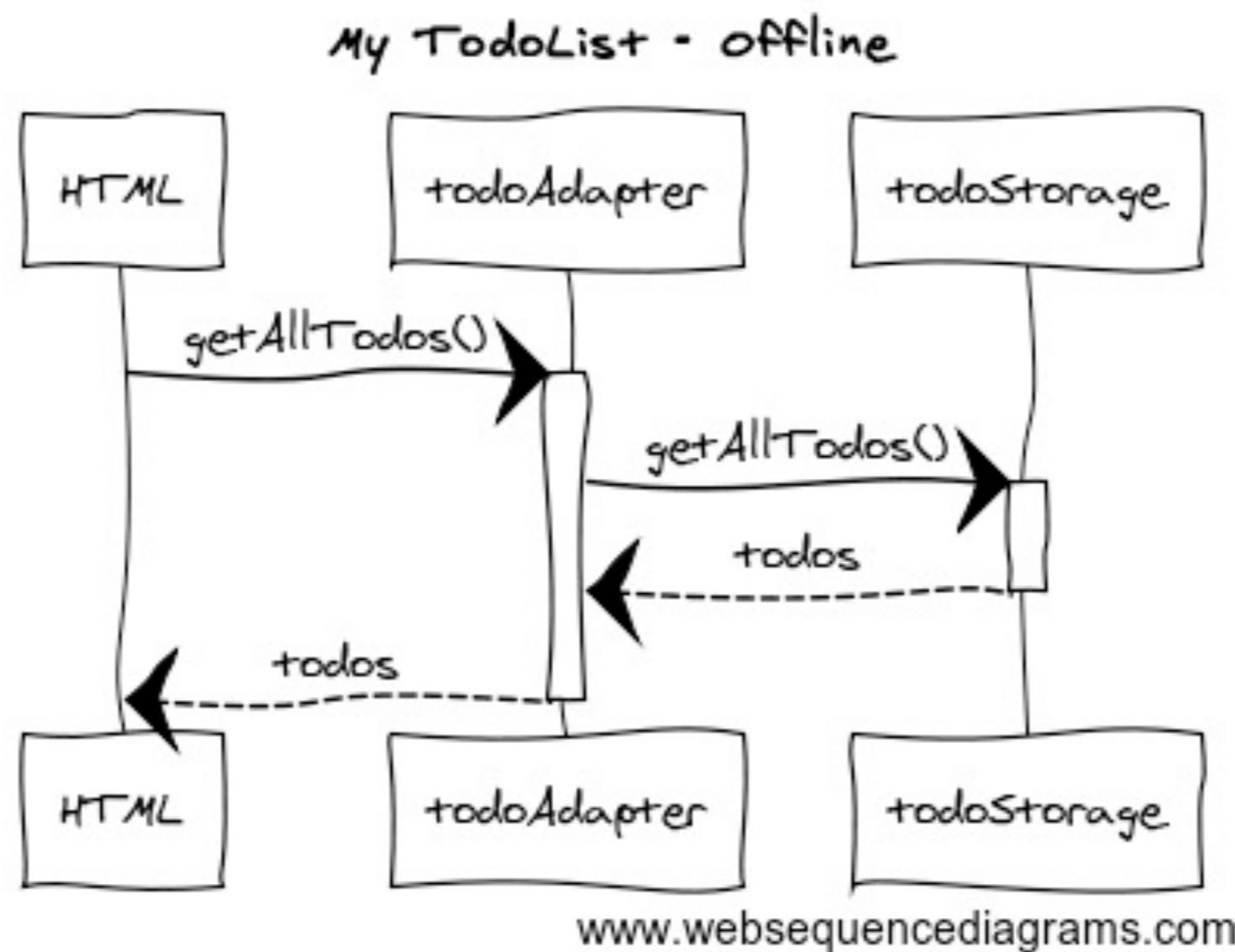
Expected spy callback to have been called.
Error: Expected spy callback to have been called.
    at new jasmine.ExpectationResult (http://localhost/~bargenson/JS.everywhere/Hands-On_2/Starter/lib/jasmine-
    at null.toHaveBeenCalled (http://localhost/~bargenson/JS.everywhere/Hands-On_2/Starter/lib/jasmine-1.2.0/ja
    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
```

# Design



# Design



# Project Skeleton

The screenshot shows a code editor window titled "SpecRunner.html — Starter". The left sidebar displays a project structure with folders "Starter", "images", "lib", "spec", "src", "templates", and files "index.html", "SpecRunner.html", and "style.css". The main editor area shows the content of "SpecRunner.html".

```
<!DOCTYPE HTML PUBLIC "-//W3C//DTD HTML 4.01 Transitional//EN"
 "http://www.w3.org/TR/html4/loose.dtd">
<html>
<head>
<title>Jasmine Spec Runner</title>
<meta charset="utf-8" />
<link rel="shortcut icon" type="image/png" href="lib/jasmine-1.2.0/jasmine_favicon.png">
<link rel="stylesheet" type="text/css" href="lib/jasmine-1.2.0/jasmine.css">
<script type="text/javascript" src="lib/jquery-1.8.2.min.js"></script>
<script type="text/javascript" src="lib/jasmine-1.2.0/jasmine.js"></script>
<script type="text/javascript" src="lib/jasmine-1.2.0/jasmine-html.js"></script>
<script type="text/javascript" src="lib/jasmine-ajax/mock-ajax.js"></script>

<!-- include source files here... -->
<script type="text/javascript" src="src/rest-client.js"></script>
<script type="text/javascript" src="src/todo-storage.js"></script>
<script type="text/javascript" src="src/todo-adapter.js"></script>

<!-- include spec files here... -->
<script type="text/javascript" src="spec/rest-client_spec.js"></script>
```

Line 1, Column 1      Spaces: 2      HTML

# Project Skeleton

The screenshot shows a code editor window with a dark theme. On the left is a sidebar titled "FOLDERS" showing the project structure:

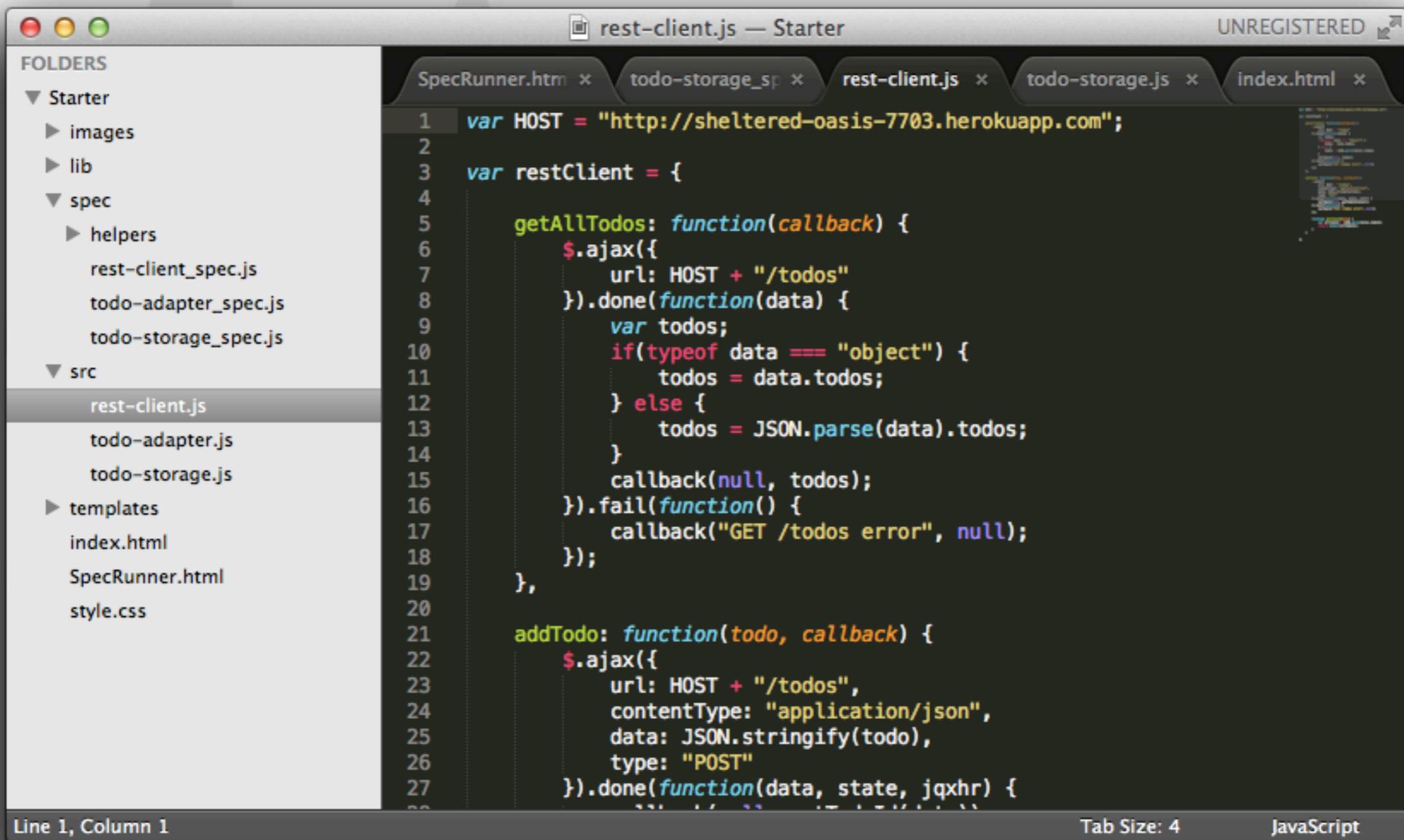
- Starter
  - images
  - lib
  - spec
    - helpers
    - rest-client\_spec.js
    - todo-adapter\_spec.js
    - todo-storage\_spec.js**
  - src
    - rest-client.js
    - todo-adapter.js
    - todo-storage.js
  - templates
  - index.html
  - SpecRunner.html
  - style.css

The main editor area has tabs at the top: SpecRunner.htm, todo-storage\_sp, rest-client.js, todo-storage.js, and index.html. The "todo-storage\_sp" tab is active, displaying the following JavaScript code:

```
1 describe("Local Todo Storage", function() {  
2  
3     var simpleTodo1 = {  
4         title: "Test1",  
5         description: "This is a first simple todo",  
6         deadLine: "2012-12-12"  
7     }, simpleTodo2 = {  
8         title: "Test2",  
9         description: "This is a second simple todo",  
10        deadLine: "2012-12-14"  
11    };  
12  
13    describe("setTodos", function() {  
14  
15        beforeEach(function() {  
16            localStorage.clear();  
17        });  
18  
19        it("should add the Todos inside the local storage", function()  
20            // Given  
21            var newTodos = [simpleTodo1, simpleTodo2];  
22  
23            // When  
24            todoStorage.setTodos(newTodos);  
25  
26            // Then  
27            expect(localStorage.length).toBe(1);  
28        });  
29    });  
30});
```

At the bottom of the editor, it says "Line 1, Column 1" and "Tab Size: 4". The file type is identified as "JavaScript".

# Project Skeleton



The screenshot shows a code editor window titled "rest-client.js — Starter". The file contains JavaScript code for a REST client. The code defines a variable `HOST` and a class-like object `restClient` with methods `getAllTodos` and `addTodo`. The `getAllTodos` method uses jQuery's `ajax` function to make a GET request to the `/todos` endpoint. It handles the response by checking if it's an object or a string (JSON). The `addTodo` method makes a POST request to the `/todos` endpoint with the provided todo data.

```
var HOST = "http://sheltered-oasis-7703.herokuapp.com";

var restClient = {

  getAllTodos: function(callback) {
    $.ajax({
      url: HOST + "/todos"
    }).done(function(data) {
      var todos;
      if(typeof data === "object") {
        todos = data.todos;
      } else {
        todos = JSON.parse(data).todos;
      }
      callback(null, todos);
    }).fail(function() {
      callback("GET /todos error", null);
    });
  },

  addTodo: function(todo, callback) {
    $.ajax({
      url: HOST + "/todos",
      contentType: "application/json",
      data: JSON.stringify(todo),
      type: "POST"
    }).done(function(data, state, jqxhr) {
      ...
    });
  }
};
```

# Project Skeleton

The screenshot shows a code editor window titled "todo-storage.js — Starter". The left sidebar displays a file tree for a "Starter" project:

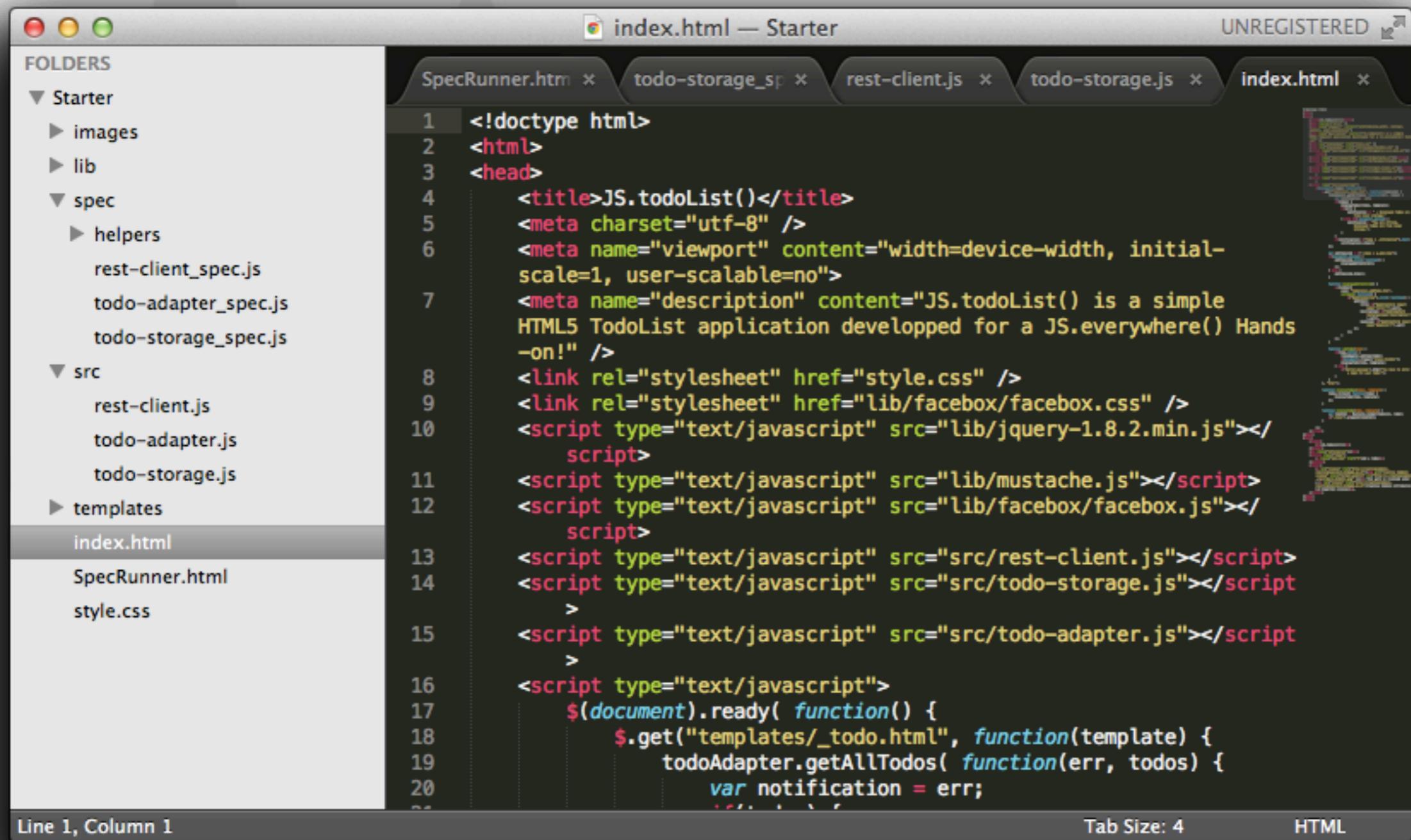
- FOLDERS
  - Starter
    - images
    - lib
    - spec
      - helpers
        - rest-client\_spec.js
        - todo-adapter\_spec.js
        - todo-storage\_spec.js
    - src
      - rest-client.js
      - todo-adapter.js
      - todo-storage.js
    - templates
      - index.html
      - SpecRunner.html
      - style.css

```
1 var todoStorage = {  
2  
3 };
```

Tab Size: 4      JavaScript

Line 1, Column 1

# Project Skeleton



The screenshot shows a code editor window titled "index.html — Starter". The left sidebar displays a project structure with folders "Starter", "images", "lib", "spec", "helpers", "rest-client\_spec.js", "todo-adapter\_spec.js", "todo-storage\_spec.js", "src", "rest-client.js", "todo-adapter.js", "todo-storage.js", "templates", "index.html", "SpecRunner.html", and "style.css". The main editor area shows the content of "index.html". The code includes doctype, html, head, title, meta charset="utf-8", meta name="viewport", meta name="description", link rel="stylesheet" href="style.css", link rel="stylesheet" href="lib/facebook/facebook.css", script type="text/javascript" src="lib/jquery-1.8.2.min.js", script type="text/javascript" src="lib/mustache.js", script type="text/javascript" src="lib/facebook/facebook.js", script type="text/javascript" src="src/rest-client.js", script type="text/javascript" src="src/todo-storage.js", script type="text/javascript" src="src/todo-adapter.js", and a ready function that gets a template from "templates/\_todo.html" and calls todoAdapter.getAllTodos with an error handler.

```
<!doctype html>
<html>
<head>
    <title>JS.todoList()</title>
    <meta charset="utf-8" />
    <meta name="viewport" content="width=device-width, initial-scale=1, user-scalable=no">
    <meta name="description" content="JS.todoList() is a simple HTML5 TodoList application developed for a JS.everywhere() Hands-on!" />
    <link rel="stylesheet" href="style.css" />
    <link rel="stylesheet" href="lib/facebook/facebook.css" />
    <script type="text/javascript" src="lib/jquery-1.8.2.min.js"></script>
    <script type="text/javascript" src="lib/mustache.js"></script>
    <script type="text/javascript" src="lib/facebook/facebook.js"></script>
    <script type="text/javascript" src="src/rest-client.js"></script>
    <script type="text/javascript" src="src/todo-storage.js"></script>
    >
    <script type="text/javascript" src="src/todo-adapter.js"></script>
    >
    <script type="text/javascript">
        $(document).ready( function() {
            $.get("templates/_todo.html", function(template) {
                todoAdapter.getAllTodos( function(err, todos) {
                    var notification = err;
                    ...
                });
            });
        });
    </script>

```

Line 1, Column 1      Tab Size: 4      HTML

# The Web API

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

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



# Application Cache

```
1 |CACHE MANIFEST
2
3 # v0.1
4
5 CACHE:
6 index.html
7 style.css
8 images/jseverywhere.png
9 images/post-it.png
10 src/todo-adapter.js
11 src/todo-storage.js
12 src/rest-client.js
13 http://i.creativecommons.org/l/by/3.0/88x31.png
14
15 NETWORK:
16 *
```

# Resources

- About localStorage:

[https://developer.mozilla.org/en-US/  
docs/DOM/Storage](https://developer.mozilla.org/en-US/docs/DOM/Storage)

- About Application Cache:

[https://developer.mozilla.org/en-US/docs/  
HTML/Using the application cache](https://developer.mozilla.org/en-US/docs/HTML/Using_the_application_cache)

# 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 !

