

# Test Driven AngularJS

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# Problems

# jQuery

- Low-level DOM modification
- Inserting data into DOM
- Extracting data from DOM
- Code duplication

# Boilerplate code

- Copy and paste
- jQuery DOM manipulation
- Backbone.js views
- Event handlers

# Lack of Structure

- Rails folder structure
- Django folder structure
- Running tests

# Imperative code

- GUIs are declarative
- HTML, CSS are declarative
- Front end code is mostly imperative
- Difficult to understand
- Maintenance nightmares

# Lack of modularity

- Monolithic applications
- Rigid and interconnected code
- Difficult to test
- Forced to use hight level integration tests
- Large team issues

# Testability

- Front end code is poorly tested
- Poor support from libraries
  - jQuery
  - Backbone.js
- In browser testing
- Lack of command line tools

# Problem Summary

# Toolset



# node.js

- Platform

```
var http = require('http');

http.createServer(
  function (request, response) {
    response.writeHead(200, {'Content-Type': 'text/plain'});
    response.end('Hello World\n');
  }
).listen(8000);

console.log('Server running at http://localhost:8000/');
```

- JavaScript

- Google's V8 JavaScript engine

- Created by Ryan Dahl



# npm

- Official package manager for Node.js
- npm search
- npm install



# package.json

```
{  
  "name": "AngularDo",  
  "version": "1.0.0",  
  "dependencies": {  
    "angular": "~1.0.7",  
    "json3": "~3.2.4",  
    "jquery": "~1.9.1",  
    "bootstrap-sass": "~2.3.1",  
    "es5-shim": "~2.0.8",  
    "angular-resource": "~1.0.7",  
    "angular-cookies": "~1.0.7",  
    "angular-sanitize": "~1.0.7"  
  },  
  "devDependencies": {  
    "angular-mocks": "~1.0.7",  
    "angular-scenario": "~1.0.7"  
  }  

```

# YOEMAN





# Automate

- Repetitive tasks
- Tests
- Compilation of assets



# Create

- Bootstrap the app
- Folder structure
- Generators



# Development

- Watch files
- Recompile (Sass, CoffeeScript)
- Reload browser



# Deploy

- Testing
- Linting and compilation
- Concatenation and minification
- Image optimization
- Versioning



# Installation

- brew install nodejs
- npm install -g yo
- npm install -g generator-angular



# Yo

create a new web app

- mkdir AngularApp && cd \$\_
- yo angular
- yo angular:controller



# Bower

manage dependencies

- bower search
- bower install



# bower.json

```
{  
  "name": "AngularDo",  
  "version": "1.0.0",  
  "dependencies": {  
    "angular": "~1.0.7",  
    "json3": "~3.2.4",  
    "jquery": "~1.9.1",  
    "bootstrap-sass": "~2.3.1",  
    "es5-shim": "~2.0.8",  
    "angular-resource": "~1.0.7",  
    "angular-cookies": "~1.0.7",  
    "angular-sanitize": "~1.0.7"  
  },  
  "devDependencies": {  
    "angular-mocks": "~1.0.7",  
    "angular-scenario": "~1.0.7"  
  }  

```



# Grunt

preview, test, build

- grunt server
- grunt test
- grunt build

# Jasmine

- Behavior-driven development framework
- Specs for your JavaScript code
- Write expectations
- Uses matchers



# Jasmine Suites

```
describe("A suite", function() {  
  var flag;  
  
  beforeEach(function() {  
    flag = true;  
  });  
  
  it("contains spec with an expectation", function() {  
    expect(flag).toBe(true);  
  });  
});
```



# Jasmine Expectations

```
describe("A suite", function() {  
  it("contains spec with an expectation", function() {  
    expect(true).toBe(true);  
  });  
});
```



# Jasmine Matchers

```
expect(a).toBe(b);
expect(a).not.toBe(null);
expect(a).toEqual(12);
expect(null).toBeNull();

expect(message).toMatch(/bar/);

expect(a.foo).toBeDefined();
expect(a.bar).toBeUndefined();

expect(foo).toBeTruthy();
expect(a).toBeFalsy();

expect(['foo', 'bar', 'baz']).toContain('bar');

expect(bar).toThrow();
```



# Demo

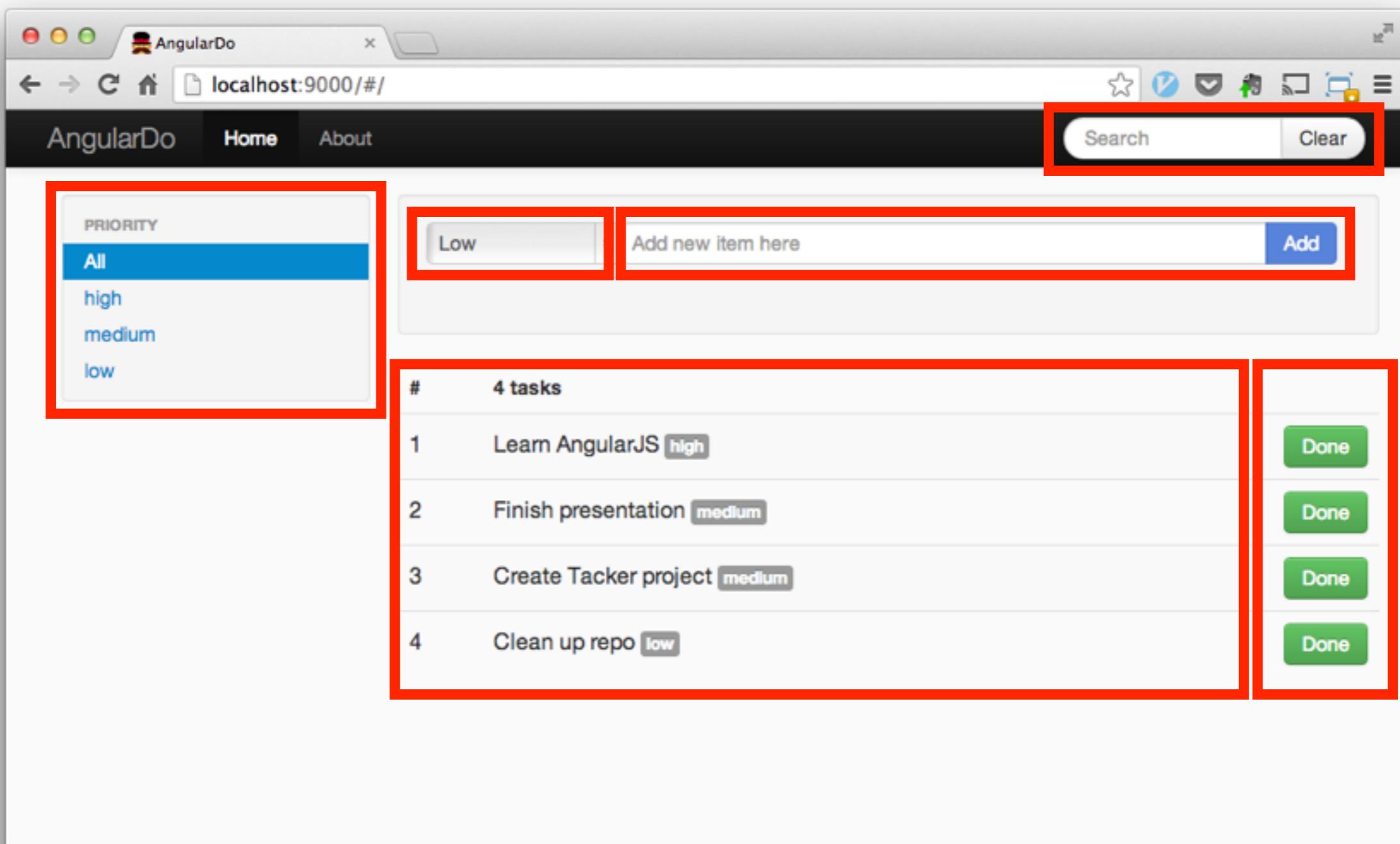
The screenshot shows a web application window titled "AngularDo" running on "localhost:9000/#/". The interface includes a navigation bar with "AngularDo", "Home", and "About" links, and a search bar with "Search" and "Clear" buttons. On the left, a sidebar titled "PRIORITY" lists "All", "high", "medium", and "low", with "All" selected. A dropdown menu shows "Low" and an input field "Add new item here" with an "Add" button. The main area displays a list of "4 tasks":

- 1 Learn AngularJS [high] Done
- 2 Finish presentation [medium] Done
- 3 Create Tacker project [medium] Done
- 4 Clean up repo [low] Done

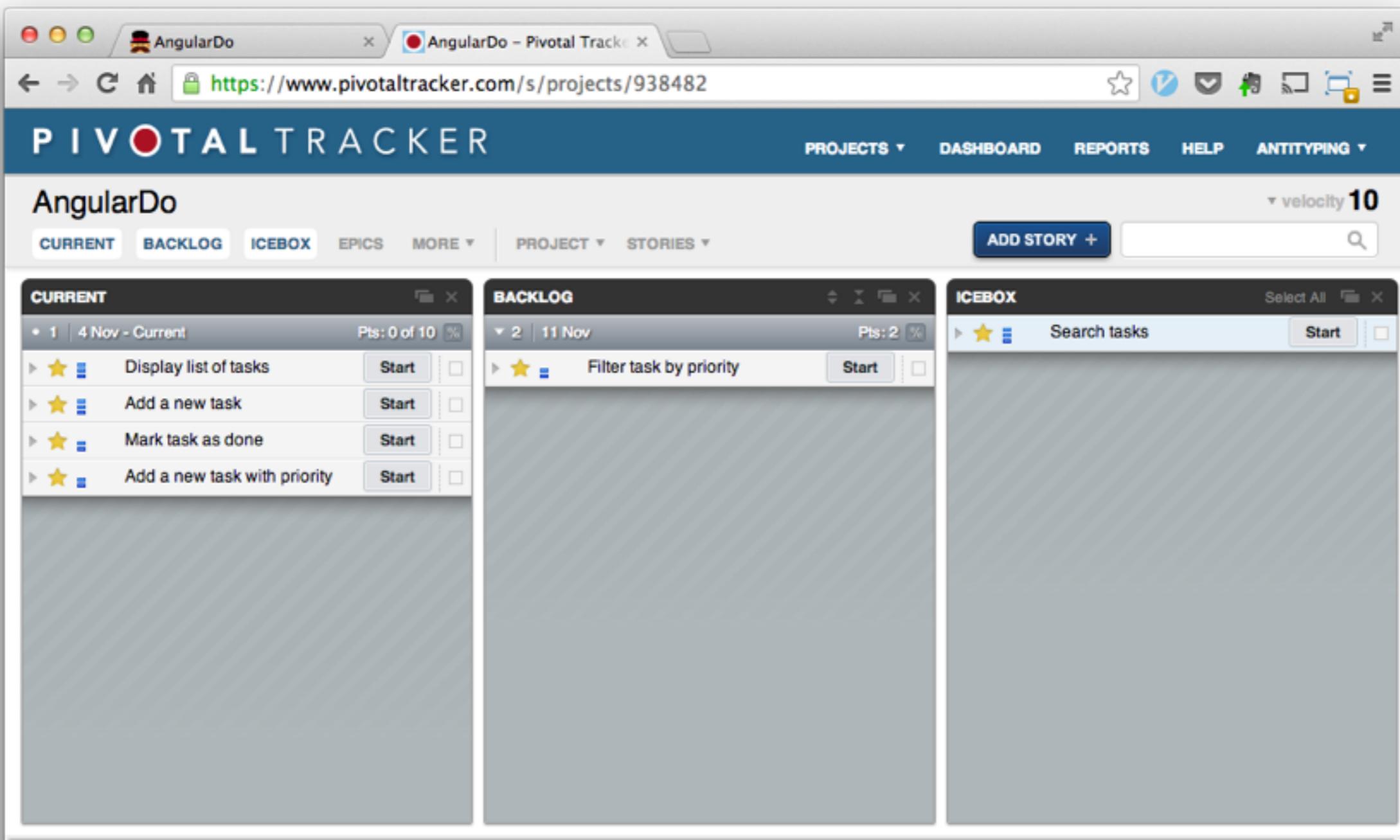
# Features

- Display list of tasks
- Add a new task
- Mark task as done
- Add a new task with a priority
- Filter tasks by priority
- Search tasks
- Task counter

# Feature UI



# Tracker



# Setup

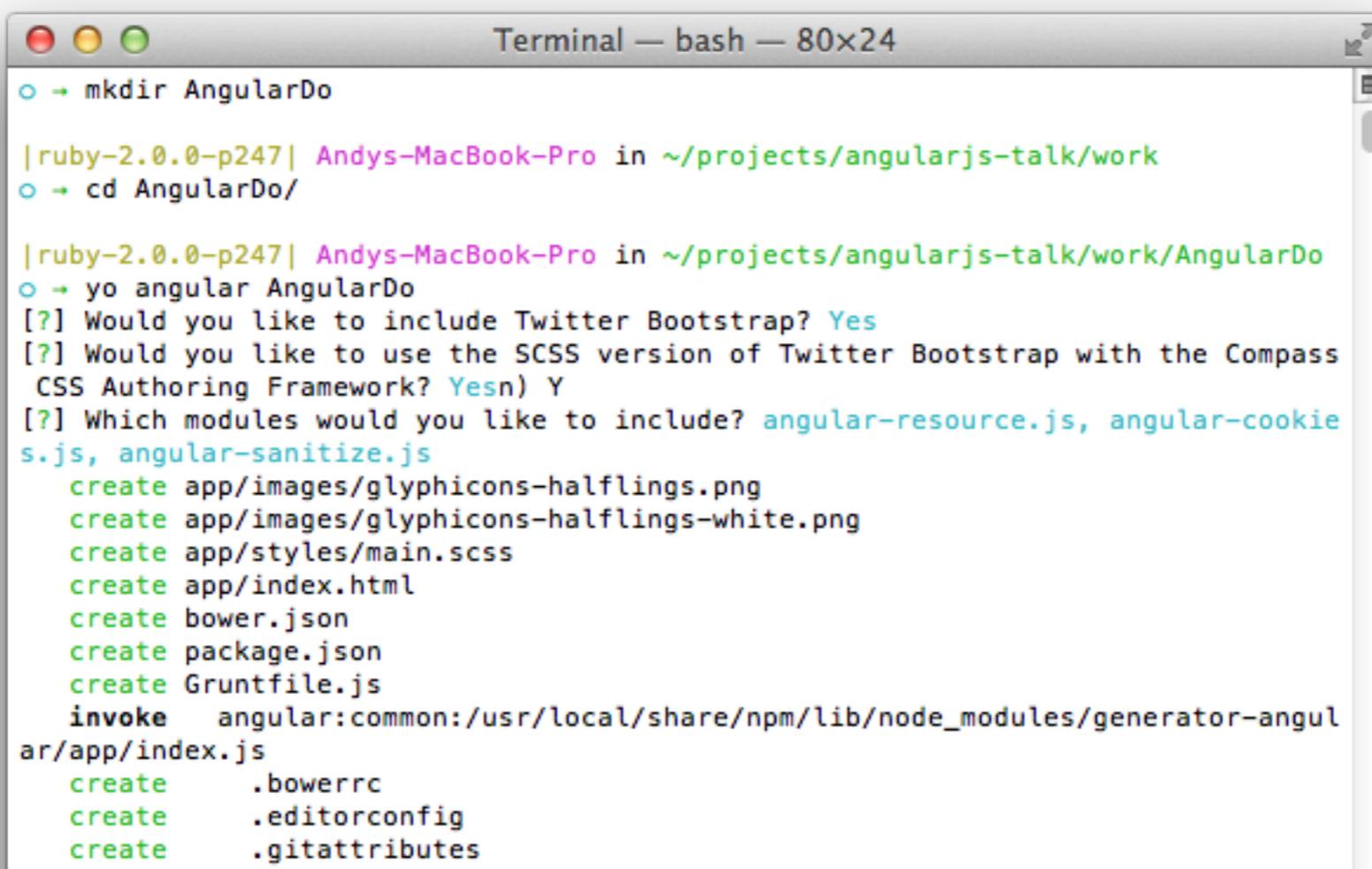
# Install dependencies

- rvm install 2.0
- gem install compass
- brew install nodejs
- npm install -g bower
- npm install -g yo
- npm install -g generator-angular
- npm install -g karma

# Project setup

- mkdir AngularDo
- cd AngularDo
- yo angular AngularDo

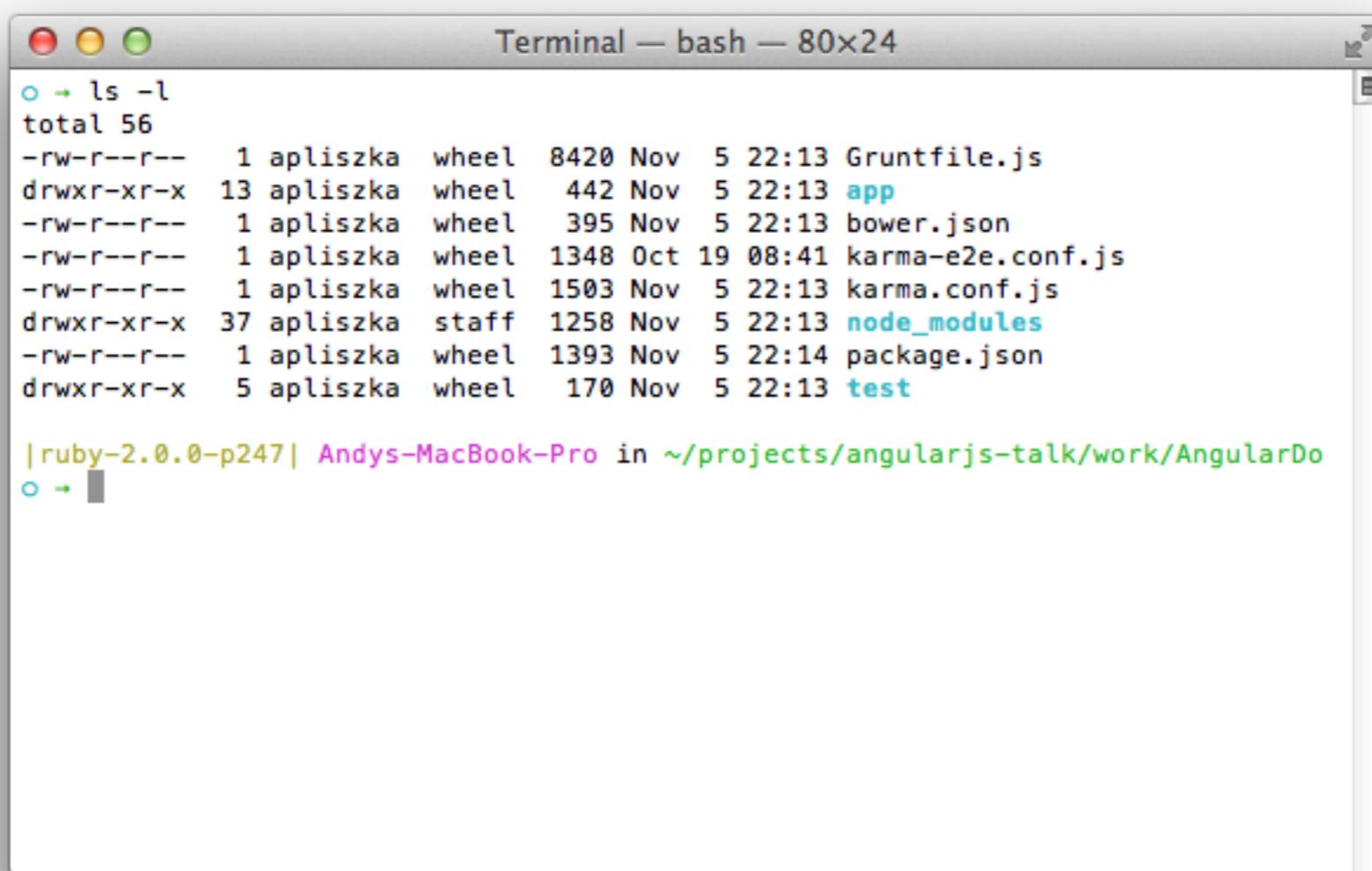
# yo angular AngularDo



A screenshot of a Mac OS X Terminal window titled "Terminal — bash — 80x24". The window shows the command-line process of generating an Angular application named "AngularDo". The terminal output is as follows:

```
o ~ mkdir AngularDo
| ruby-2.0.0-p247| Andys-MacBook-Pro in ~/projects/angularjs-talk/work
o ~ cd AngularDo/
| ruby-2.0.0-p247| Andys-MacBook-Pro in ~/projects/angularjs-talk/work/AngularDo
o ~ yo angular AngularDo
[?] Would you like to include Twitter Bootstrap? Yes
[?] Would you like to use the SCSS version of Twitter Bootstrap with the Compass CSS Authoring Framework? Yesn) Y
[?] Which modules would you like to include? angular-resource.js, angular-cookies.js, angular-sanitize.js
  create app/images/glyphicons-halflings.png
  create app/images/glyphicons-halflings-white.png
  create app/styles/main.scss
  create app/index.html
  create bower.json
  create package.json
  create Gruntfile.js
  invoke  angular:common:/usr/local/share/npm/lib/node_modules/generator-angular/app/index.js
  create   .bowerrc
  create   .editorconfig
  create   .gitattributes
```

# AngularDo app

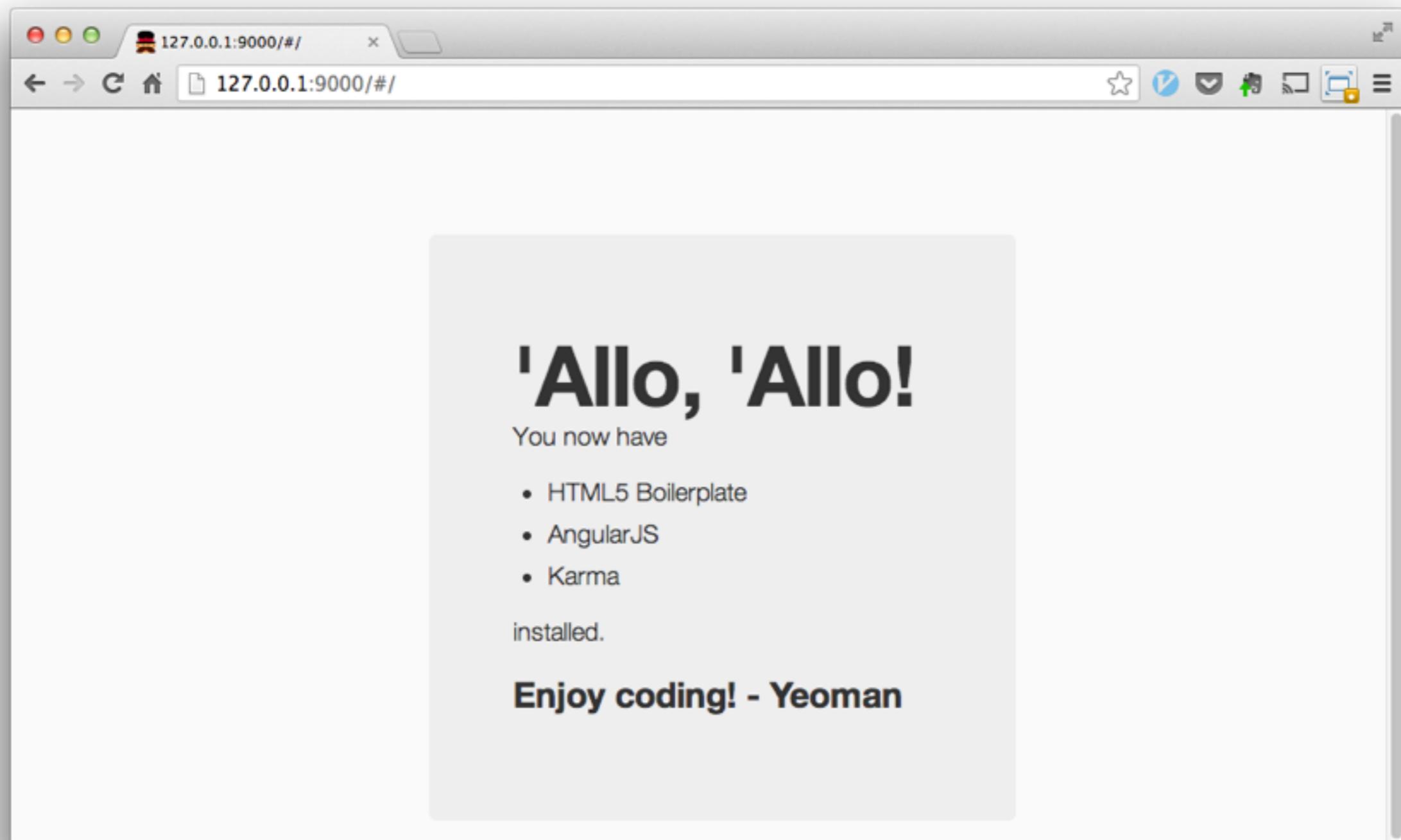


A screenshot of a Mac OS X Terminal window titled "Terminal — bash — 80x24". The window shows the output of the command "ls -l". The output lists several files and directories:

```
o ~ ls -l
total 56
-rw-r--r--  1 apliszka  wheel  8420 Nov  5 22:13 Gruntfile.js
drwxr-xr-x  13 apliszka  wheel   442 Nov  5 22:13 app
-rw-r--r--  1 apliszka  wheel   395 Nov  5 22:13 bower.json
-rw-r--r--  1 apliszka  wheel  1348 Oct 19 08:41 karma-e2e.conf.js
-rw-r--r--  1 apliszka  wheel  1503 Nov  5 22:13 karma.conf.js
drwxr-xr-x  37 apliszka  staff  1258 Nov  5 22:13 node_modules
-rw-r--r--  1 apliszka  wheel  1393 Nov  5 22:14 package.json
drwxr-xr-x  5 apliszka  wheel   170 Nov  5 22:13 test

| ruby-2.0.0-p247 | Andys-MacBook-Pro in ~/projects/angularjs-talk/work/AngularDo
o ~
```

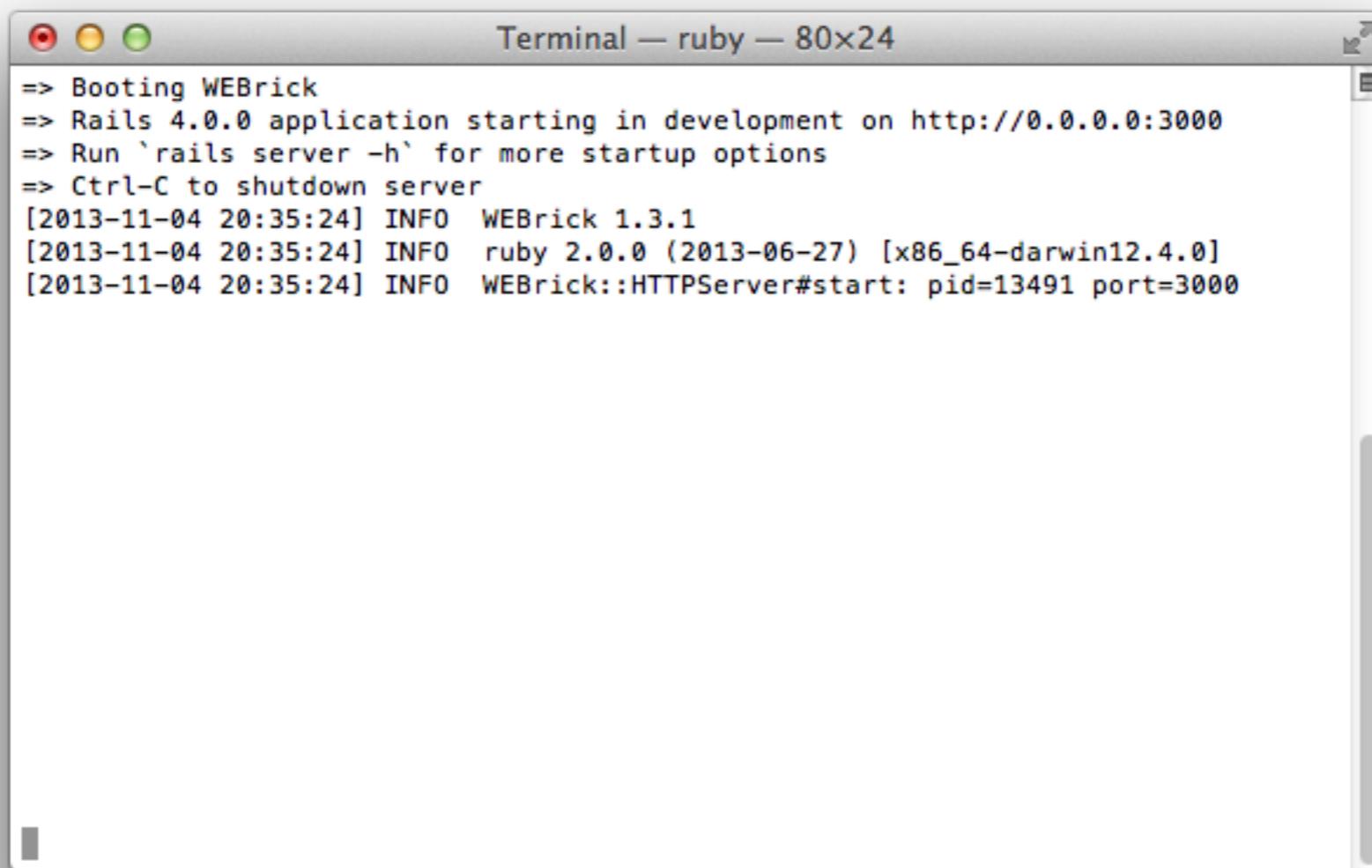
# grunt server



# Rails RESTful back-end

- curl -L <https://get.rvm.io> | bash -s stable
- rvm install 2.0
- git clone <git@github.com:dracco/AngularDoStore.git>
- cd AngularDoStore
- bundle
- rails s

# rails s



The image shows a screenshot of a Mac OS X terminal window. The window title is "Terminal — ruby — 80x24". The terminal output is as follows:

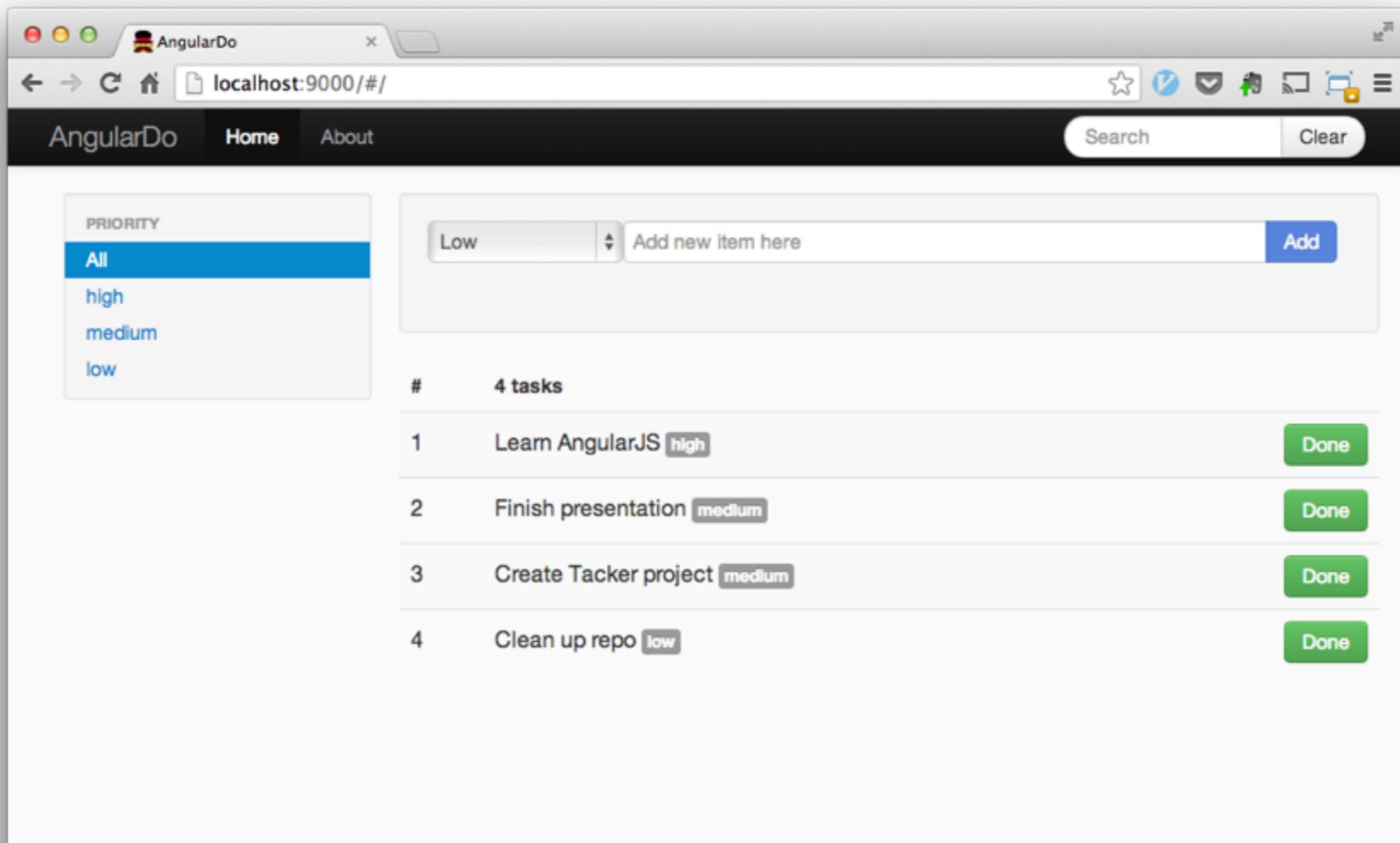
```
=> Booting WEBrick
=> Rails 4.0.0 application starting in development on http://0.0.0.0:3000
=> Run `rails server -h` for more startup options
=> Ctrl-C to shutdown server
[2013-11-04 20:35:24] INFO  WEBrick 1.3.1
[2013-11-04 20:35:24] INFO  ruby 2.0.0 (2013-06-27) [x86_64-darwin12.4.0]
[2013-11-04 20:35:24] INFO  WEBrick::HTTPServer#start: pid=13491 port=3000
```

# Angular front-end

- git clone <git@github.com:dracco/AngularDo.git>
- cd AngularDo
- npm install
- bower install
- grunt server

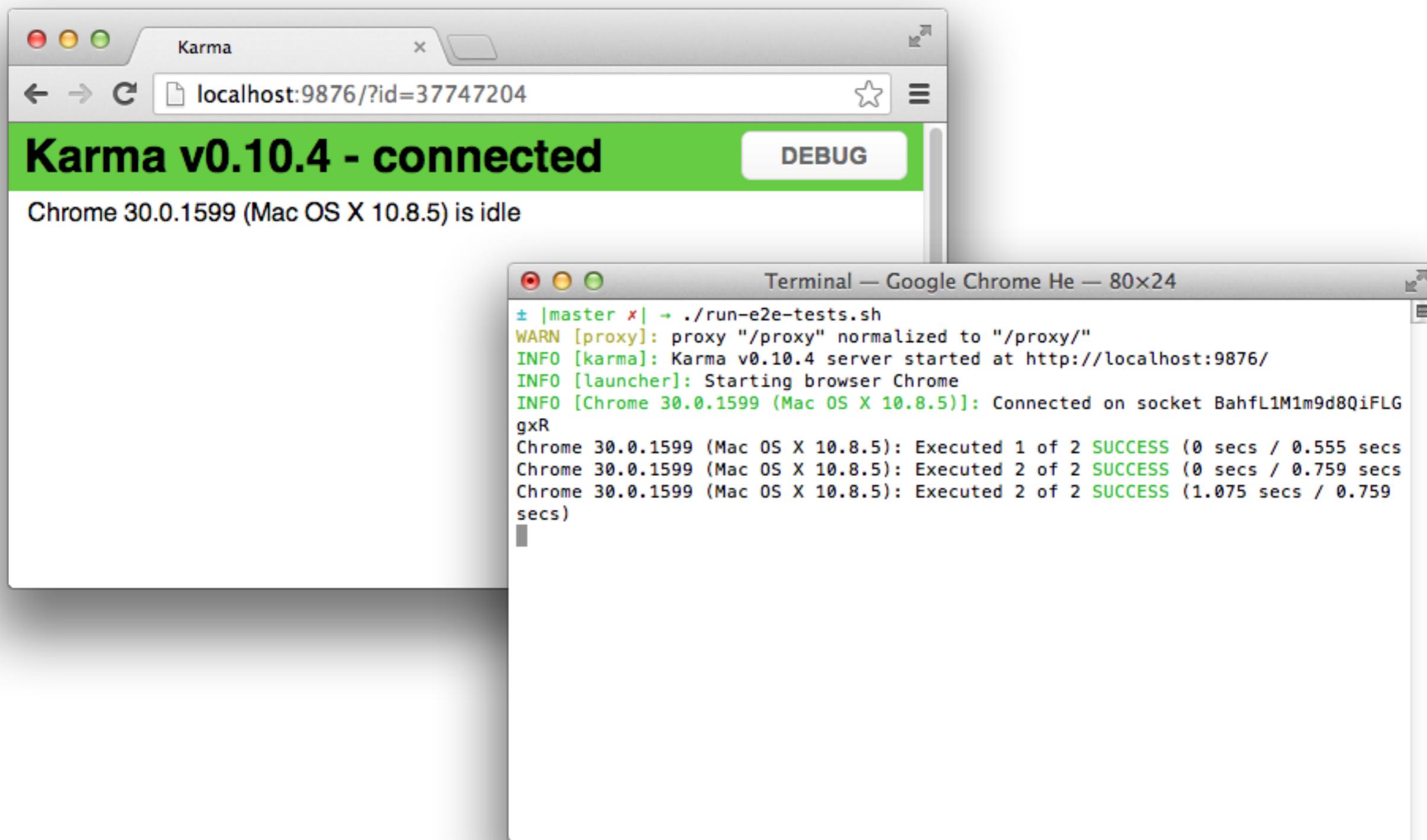
```
Terminal — node — 80x45  
o → grunt server  
Running "server" task  
  
Running "clean:server" (clean) task  
  
Running "concurrent:server" (concurrent) task  
  
  Running "copy:styles" (copy) task  
  
    Done, without errors.  
  
    Elapsed time  
      copy:styles 12ms  
      Total       12ms  
  
    Running "coffee:dist" (coffee) task  
  
    Done, without errors.  
  
    Elapsed time  
      coffee:dist 13ms  
      Total       13ms  
  
    Running "compass:server" (compass) task  
      directory .tmp/styles/  
        create .tmp/styles/main.css (1.251s)  
      Compilation took 1.253s  
  
    Done, without errors.  
  
    Elapsed time  
      compass:server 3s  
      Total         3s  
  
Running "autoprefixer:dist" (autoprefixer) task  
File ".tmp/styles/main.css" created.  
  
Running "connect:livereload" (connect) task  
Started connect web server on localhost:9000.  
  
Running "open:server" (open) task  
  
Running "watch" task  
Waiting...
```

# Angular front-end

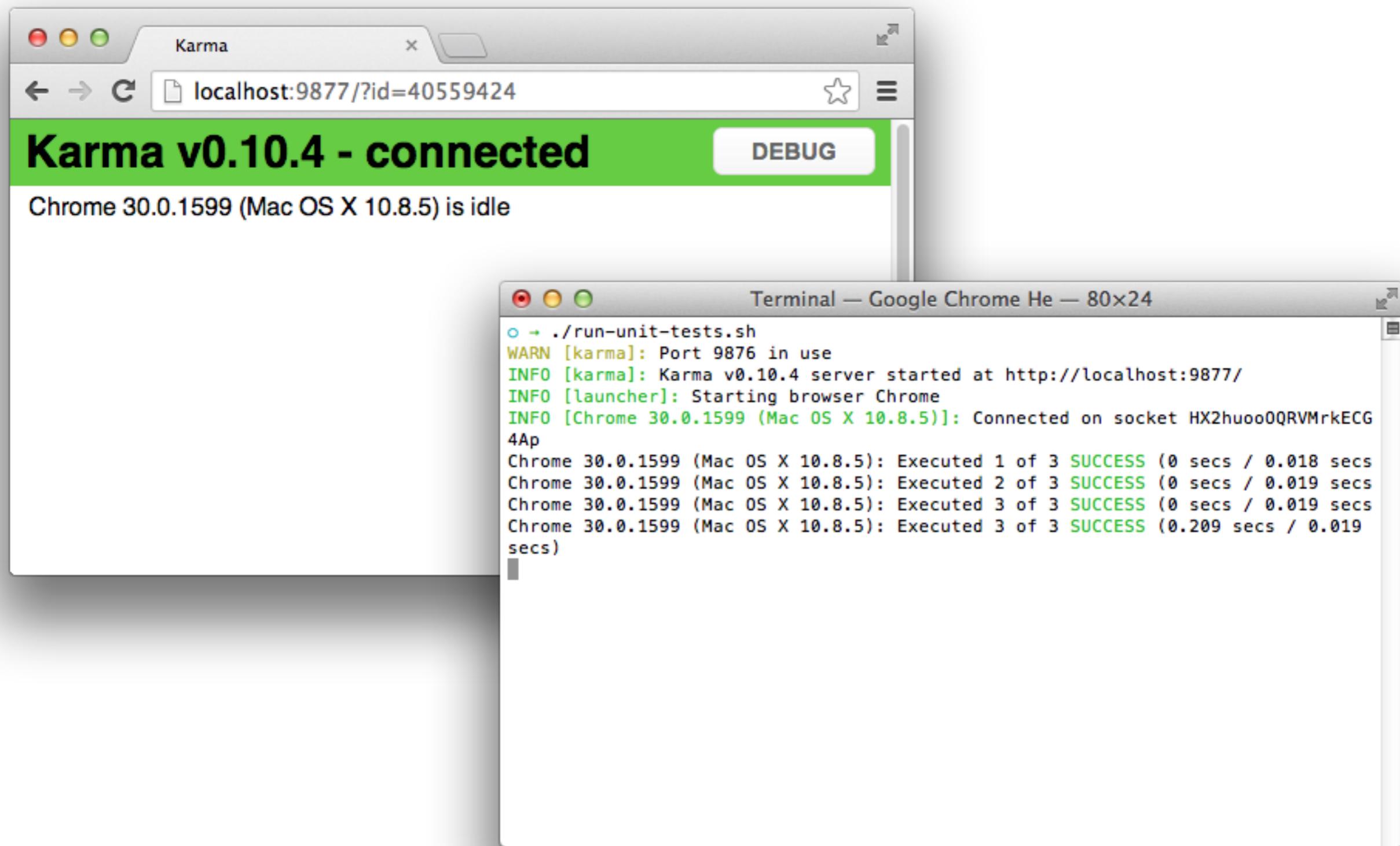


# Project structure

# ./run-e2e-tests.sh

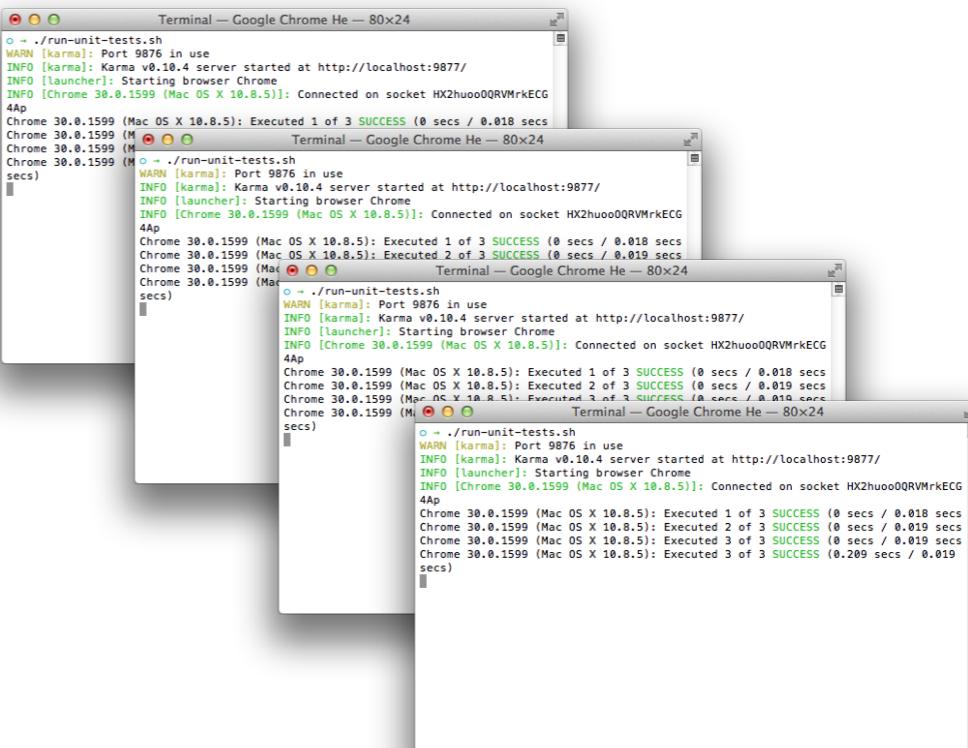


# ./run-unit-tests.sh

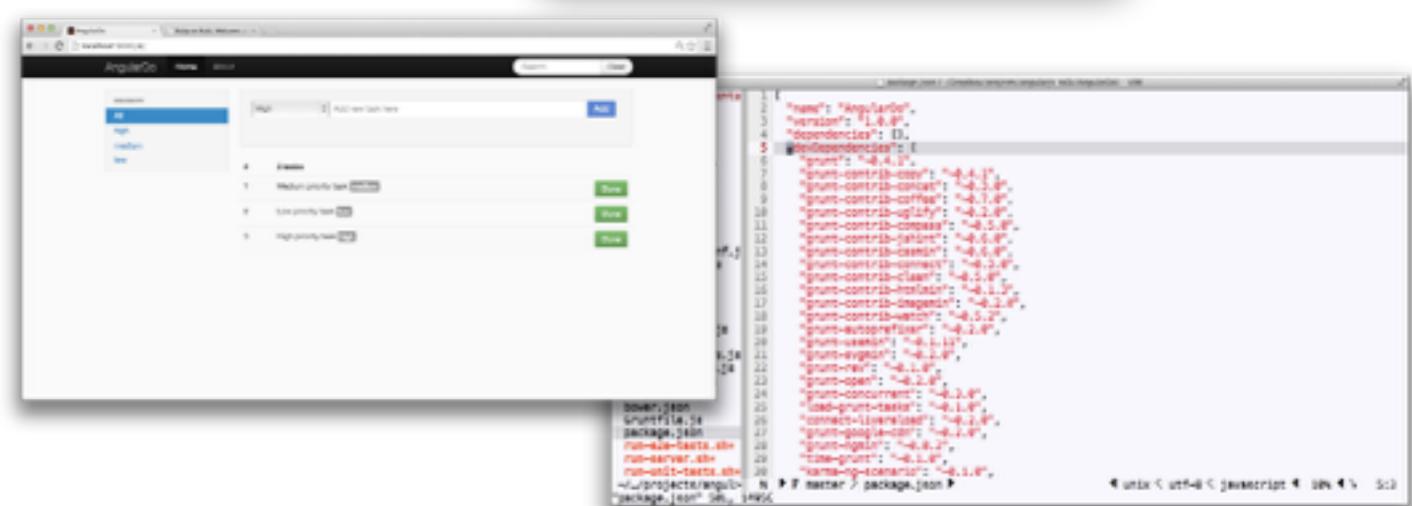


# Dev setup

- grunt server
- rails s
- ./run-unit-tests.sh
- ./run-e2e-tests.sh



```
o - ./run-unit-tests.sh
WARN [karma]: Port 9876 in use
INFO [karma]: Karma v0.10.4 server started at http://localhost:9877/
INFO [launcher]: Starting browser Chrome
INFO [Chrome 30.0.1599 (Mac OS X 10.8.5)]: Connected on socket HX2huoo0QRVMrkECG
4Ap
Chrome 30.0.1599 (Mac OS X 10.8.5): Executed 1 of 3 SUCCESS (0 secs / 0.018 secs)
Chrome 30.0.1599 (Mac OS X 10.8.5) Terminal — Google Chrome He — 80x24
WARN [karma]: Port 9876 in use
INFO [karma]: Karma v0.10.4 server started at http://localhost:9877/
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4Ap
Chrome 30.0.1599 (Mac OS X 10.8.5): Executed 1 of 3 SUCCESS (0 secs / 0.018 secs)
Chrome 30.0.1599 (Mac OS X 10.8.5): Executed 2 of 3 SUCCESS (0 secs / 0.019 secs)
Chrome 30.0.1599 (Mac OS X 10.8.5): Executed 3 of 3 SUCCESS (0 secs / 0.019 secs)
Chrome 30.0.1599 (Mac OS X 10.8.5) Terminal — Google Chrome He — 80x24
WARN [karma]: Port 9876 in use
INFO [karma]: Karma v0.10.4 server started at http://localhost:9877/
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Chrome 30.0.1599 (Mac OS X 10.8.5) Terminal — Google Chrome He — 80x24
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Chrome 30.0.1599 (Mac OS X 10.8.5): Executed 1 of 3 SUCCESS (0 secs / 0.018 secs)
Chrome 30.0.1599 (Mac OS X 10.8.5): Executed 2 of 3 SUCCESS (0 secs / 0.019 secs)
Chrome 30.0.1599 (Mac OS X 10.8.5): Executed 3 of 3 SUCCESS (0 secs / 0.019 secs)
Chrome 30.0.1599 (Mac OS X 10.8.5) Terminal — Google Chrome He — 80x24
```



# Feature #1

## List of tasks

```
git checkout -f feature_1_step_0
```

# List of tasks

A screenshot of a web browser window titled "AngularDo". The URL bar shows "localhost:9000/#/". The page has a dark header with "AngularDo", "Home", "About", "Search", and "Clear" buttons. On the left, a sidebar titled "PRIORITY" shows "All" selected, with "high", "medium", and "low" options below it. In the center, there's a search bar with dropdowns for "Low" priority and an input field "Add new item here" with a "Add" button. Below this is a table of tasks:

#	Task Description	Priority	Status
1	Learn AngularJS	high	Done
2	Finish presentation	medium	Done
3	Create Tacker project	medium	Done
4	Clean up repo	low	Done

The entire table area is highlighted with a red rectangle.

# User story

As a user,  
I should be able to see list of tasks,  
so I can choose the next task

**Scenario:** Display list of tasks  
When I navigate to the task list  
Then I should see the list of tasks

AngularDo - Pivotal Tracker X

https://www.pivotaltracker.com/s/projects/938482

PIVOTAL TRACKER

PROJECTS DASHBOARD REPORTS HELP ANTITYPING

AngularDo ▾ velocity 10

CURRENT BACKLOG ICEBOX EPICS MORE ▾ PROJECT ▾ STORIES ▾ ADD STORY +

CURRENT

1 | 4 Nov - Current Pts: 0 of 10 %

List of tasks

ID 60056802 Cancel Save

STORY TYPE	★ Feature ▾
POINTS	3 Points ▾
STATE	Start Unstarted ▾
REQUESTER	Andy Pliszka ▾
OWNER	<none> ▾
FOLLOW THIS STORY	(1 follower) <input checked="" type="checkbox"/>

Requested about 19 hours ago

DESCRIPTION

As a user,  
I should be able to see list of tasks,  
so I can see what I need to do

Scenario: Display list of tasks  
When I navigate to task list  
Then I should see list of tasks

The screenshot shows the Pivotal Tracker interface for the project 'AngularDo'. The top navigation bar includes links for 'PROJECTS', 'DASHBOARD', 'REPORTS', 'HELP', and 'ANTITYPING'. Below the header, there's a search bar and a 'CURRENT' tab selected. A story card for '4 Nov - Current' is displayed, showing details like ID (60056802), Story Type (Feature), Points (3), State (Unstarted), Requester (Andy Pliszka), and Owner (<none>). The 'Follow This Story' checkbox is checked. The 'DESCRIPTION' section contains a user story and its scenario: 'As a user, I should be able to see list of tasks, so I can see what I need to do' and 'Scenario: Display list of tasks When I navigate to task list Then I should see list of tasks'.

# e2e scenario

```
describe("Task List", function() {  
  it('should display list of tasks', function() {  
    expect(repeater('tr.item').count()).toBe(3);  
  });  
});
```

# Red scenario

```
Terminal — Google Chrome He — 95x24
INFO [watcher]: Changed file "/Volumes/MacOS/Dropbox/projects/angularjs-talk/AngularDo/test/e2e/scenarios.js".
Chrome 30.0.1599 (Mac OS X 10.8.5) Scenarios: Task List should display list of tasks FAILED
  expect repeater 'tr.item' count toBe 3
    /Volumes/MacOS/Dropbox/projects/angularjs-talk/AngularDo/test/e2e/scenarios.js:20:7: expected 3 but was 0
Chrome 30.0.1599 (Mac OS X 10.8.5): Executed 3 of 3 (1 FAILED) (1.12 secs / 0.719 secs)
```

# ng-repeat

```
<tbody>
  <tr ng-repeat="task in tasks" class="task">
    <td>{{$index + 1}}</td>
    <td>{{task.name}}</td>
  </tr>
</tbody>
```

# TaskCtrl unit test

```
describe("TaskCtrl", function() {
  it('should populate scope with list of tasks',
    inject(function ($controller, $rootScope) {
      scope = $rootScope.$new();
      $controller('TaskCtrl', { $scope: scope });
      expect(scope.tasks.length).toEqual(3);
    }));
});
```

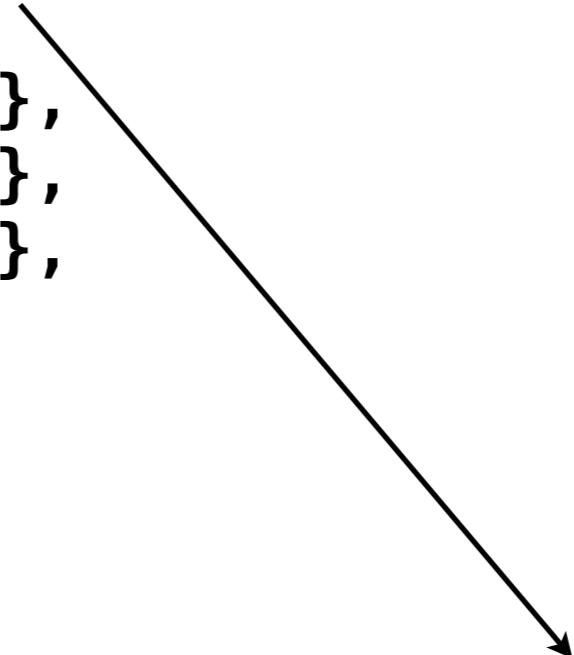
# Red unit test

```
Terminal — Google Chrome He — 80x24
 list of tasks FAILED     TypeError: Cannot read property 'length' of undefined         at null.<anonymous> (/Volumes/MacOS/Dropbox/projects/angularjs-talk/ AngularDo/test/spec/controllers.js:15:26)             at Object.invoke (/Volumes/MacOS/Dropbox/projects/angularjs-talk/Ang ularDo/app/bower_components/angular/angular.js:3000:28)                 at workFn (/Volumes/MacOS/Dropbox/projects/angularjs-talk/AngularDo/ app/bower_components/angular-mocks/angular-mocks.js:1795:20)                     Error: Declaration Location                         at window.jasmine.window.inject.angular.mock.inject (/Volumes/MacOS/ Dropbox/projects/angularjs-talk/AngularDo/app/bower_components/angular-mocks/ang ular-mocks.js:1781:25)                             at null.<anonymous> (/Volumes/MacOS/Dropbox/projects/angularjs-talk/ AngularDo/test/spec/controllers.js:12:53)                                 at null.<anonymous> (/Volumes/MacOS/Dropbox/projects/angularjs-talk/ AngularDo/test/spec/controllers.js:11:4)                                     at /Volumes/MacOS/Dropbox/projects/angularjs-talk/AngularDo/test/spe c/controllers.js:3:1 Chrome 30.0.1599 (Mac OS X 10.8.5): Executed 2 of 4 (1 FAILED) (0 secs / 0.041 s Chrome 30.0.1599 (Mac OS X 10.8.5): Executed 3 of 4 (1 FAILED) (0 secs / 0.042 s Chrome 30.0.1599 (Mac OS X 10.8.5): Executed 4 of 4 (1 FAILED) (0 secs / 0.043 s Chrome 30.0.1599 (Mac OS X 10.8.5): Executed 4 of 4 (1 FAILED) (0.398 secs / 0.0 43 secs) |
```

# TaskCtrl

```
'use strict';

angular.module('AngularDoApp')
  .controller('TaskCtrl', function ($scope) {
    $scope.tasks = [
      {name: 'Task 1'},
      {name: 'Task 2'},
      {name: 'Task 3'},
    ];
  });
<div class="row" ng-controller="TaskCtrl">
```



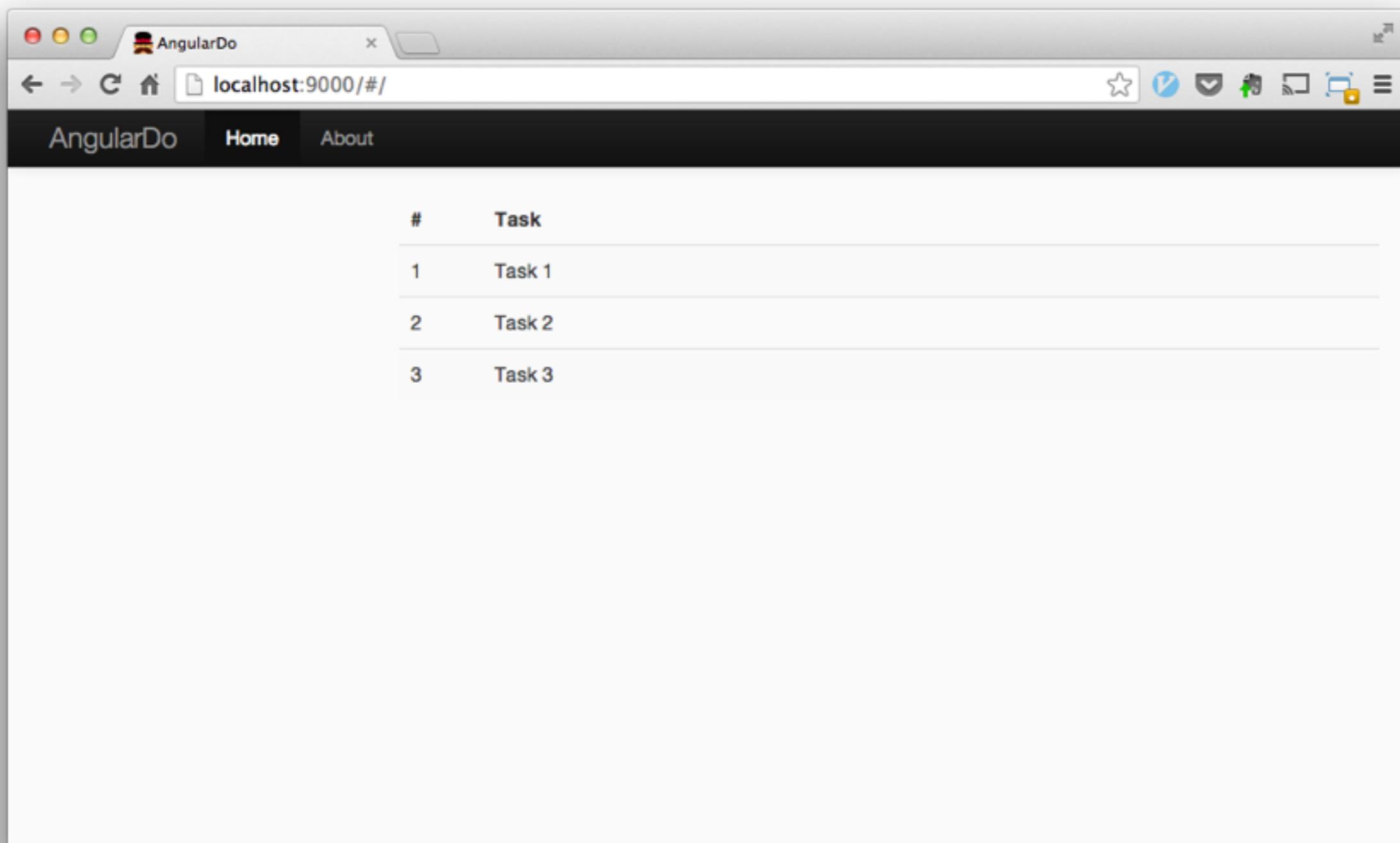
# Green TaskCtrl test

```
Terminal — Google Chrome He — 80x24
Error: Declaration Location
    at window.jasmine.window.inject.angular.mock.inject (/Volumes/MacOS/
Dropbox/projects/angularjs-talk/AngularDo/app/bower_components/angular-mocks/ang
ular-mocks.js:1781:25)
        at null.<anonymous> (/Volumes/MacOS/Dropbox/projects/angularjs-talk/
AngularDo/test/spec/controllers.js:12:53)
        at null.<anonymous> (/Volumes/MacOS/Dropbox/projects/angularjs-talk/
AngularDo/test/spec/controllers.js:11:4)
        at /Volumes/MacOS/Dropbox/projects/angularjs-talk/AngularDo/test/spe
c/controllers.js:3:1
Chrome 30.0.1599 (Mac OS X 10.8.5): Executed 2 of 4 (1 FAILED) (0 secs / 0.041 s
Chrome 30.0.1599 (Mac OS X 10.8.5): Executed 3 of 4 (1 FAILED) (0 secs / 0.042 s
Chrome 30.0.1599 (Mac OS X 10.8.5): Executed 4 of 4 (1 FAILED) (0 secs / 0.043 s
Chrome 30.0.1599 (Mac OS X 10.8.5): Executed 4 of 4 (1 FAILED) (0.398 secs / 0.0
43 secs)
INFO [watcher]: Changed file "/Volumes/MacOS/Dropbox/projects/angularjs-talk/Ang
ularDo/app/scripts/controllers.js".
Chrome 30.0.1599 (Mac OS X 10.8.5): Executed 1 of 4 SUCCESS (0 secs / 0.019 secs
Chrome 30.0.1599 (Mac OS X 10.8.5): Executed 2 of 4 SUCCESS (0 secs / 0.044 secs
Chrome 30.0.1599 (Mac OS X 10.8.5): Executed 3 of 4 SUCCESS (0 secs / 0.045 secs
Chrome 30.0.1599 (Mac OS X 10.8.5): Executed 4 of 4 SUCCESS (0 secs / 0.045 secs
Chrome 30.0.1599 (Mac OS X 10.8.5): Executed 4 of 4 SUCCESS (0.415 secs / 0.045
secs)
```

# Green e2e scenario

```
Terminal — Google Chrome He — 95x24
/scenarios.js".
Chrome 30.0.1599 (Mac OS X 10.8.5) Scenarios: Task List should display list of tasks FAILED
    expect repeater 'tr.item' count toBe 3
        /Volumes/MacOS/Dropbox/projects/angularjs-talk/AngularDo/test/e2e/scenarios.js:20:7: ex
pected 3 but was 0
Chrome 30.0.1599 (Mac OS X 10.8.5): Executed 3 of 3 (1 FAILED) (1.2 secs / 0.803 secs)
INFO [watcher]: Changed file "/Volumes/MacOS/Dropbox/projects/angularjs-talk/AngularDo/test/e2e
/scenarios.js".
Chrome 30.0.1599 (Mac OS X 10.8.5) Scenarios: Task List should display list of tasks FAILED
    expect repeater 'tr.item' count toBe 3
        /Volumes/MacOS/Dropbox/projects/angularjs-talk/AngularDo/test/e2e/scenarios.js:20:7: ex
pected 3 but was 0
Chrome 30.0.1599 (Mac OS X 10.8.5): Executed 3 of 3 (1 FAILED) (2.54 secs / 2.07 secs)
INFO [watcher]: Changed file "/Volumes/MacOS/Dropbox/projects/angularjs-talk/AngularDo/test/e2e
/scenarios.js".
Chrome 30.0.1599 (Mac OS X 10.8.5) Scenarios: Task List should display list of tasks FAILED
    expect repeater 'tr.item' count toBe 3
        /Volumes/MacOS/Dropbox/projects/angularjs-talk/AngularDo/test/e2e/scenarios.js:20:7: ex
pected 3 but was 0
Chrome 30.0.1599 (Mac OS X 10.8.5): Executed 3 of 3 (1 FAILED) (1.311 secs / 0.875 secs)
INFO [watcher]: Changed file "/Volumes/MacOS/Dropbox/projects/angularjs-talk/AngularDo/test/e2e
/scenarios.js".
Chrome 30.0.1599 (Mac OS X 10.8.5): Executed 3 of 3 SUCCESS (1.36 secs / 0.973 secs)
```

# List of tasks



All test are green

# Feature #1 Summary

- List of tasks (ng-repeat)
- Task list (TaskCtrl)
- e2e scenario
- TaskCtrl unit test
- No low level DOM manipulation (ng-repeat)

# Feature #1 Summary

- LiveReload of the browser
- App code watcher
- Unit test watcher
- e2e scenario watcher

# Feature #2

## Add a new task

```
git checkout -f feature_2_step_0
```

# Feature UI

The screenshot shows a web application titled "AngularDo" running on "localhost:9000/#/". The interface includes a navigation bar with "AngularDo", "Home", and "About" links, and a search bar with "Search" and "Clear" buttons. A sidebar on the left lists "PRIORITY" levels: "All" (selected), "high", "medium", and "low". The main content area displays a list of "4 tasks" with the following details:

#	Task Description	Priority	Status
1	Learn AngularJS	high	Done
2	Finish presentation	medium	Done
3	Create Tacker project	medium	Done
4	Clean up repo	low	Done

An "Add new item here" input field is highlighted with a red box, and an "Add" button is located to its right. The application has a clean, modern design with a light gray background and blue/gray UI elements.

# User Story

As a user,  
I should be able to add a new task,  
so I can update my list of tasks

**Scenario:** Add a valid new task

When I add a valid new task

Then I should see the task in the list

**Scenario:** Add an invalid new task

When I add an invalid new task

Then I should see an error message

# e2e scenario

```
describe("Add a new task", function() {
  describe("when the new task is valid", function() {
    beforeEach(function() {
      input('item.name').enter("New item");
      element('button.js-add').click();
    });

    it("should add it to the list", function() {
      expect(element('tr.task:last').text()).toMatch(/New item/);
      expect(repeater('tr.task').count()).toBe(4);
    });

    it('should clear the new item box', function() {
      expect(input('item.name').val()).toEqual('');
    });
  });
});
```

...

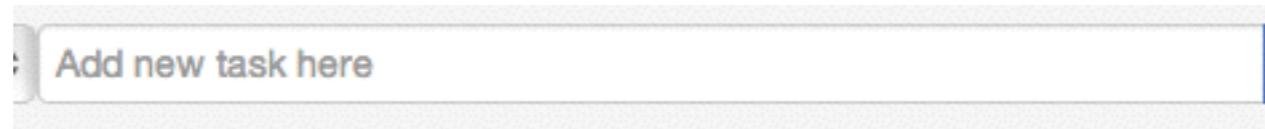
# e2e scenario

```
describe("Add a new task", function() {  
  ...  
  
  describe("when the new task is invalid", function() {  
    beforeEach(function() {  
      input('item.name').enter("");  
      element('button.js-add').click();  
    });  
  
    it("should leave the task list unchanged", function() {  
      expect(repeater('tr.item').count()).toBe(3);  
    });  
  
    it("should display an error message", function() {  
      expect(element('div.alert').count()).toBe(1);  
    });  
  });  
});
```

# Red scenario

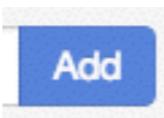
```
Terminal — Google Chrome He — 95x24
INFO [watcher]: Changed file "/Volumes/MacOS/Dropbox/projects/angularjs-talk/AngularDo/test/e2e/scenarios.js".
Chrome 30.0.1599 (Mac OS X 10.8.5) Scenarios: Add a new task when the new task is valid should add it to the list FAILED
    input 'item.name' enter 'New item'
    /Volumes/MacOS/Dropbox/projects/angularjs-talk/AngularDo/test/e2e/scenarios.js:27:9: Selector [ng\:model="item.name"] did not match any elements.
Chrome 30.0.1599 (Mac OS X 10.8.5) Scenarios: Add a new task when the new task is valid should clear the new item box FAILED
    input 'item.name' enter 'New item'
    /Volumes/MacOS/Dropbox/projects/angularjs-talk/AngularDo/test/e2e/scenarios.js:27:9: Selector [ng\:model="item.name"] did not match any elements.
Chrome 30.0.1599 (Mac OS X 10.8.5) Scenarios: Add a new task when the new task is invalid should leave the task list unchanged FAILED
    input 'item.name' enter ''
    /Volumes/MacOS/Dropbox/projects/angularjs-talk/AngularDo/test/e2e/scenarios.js:43:9: Selector [ng\:model="item.name"] did not match any elements.
Chrome 30.0.1599 (Mac OS X 10.8.5) Scenarios: Add a new task when the new task is invalid should display an error message FAILED
    input 'item.name' enter ''
    /Volumes/MacOS/Dropbox/projects/angularjs-talk/AngularDo/test/e2e/scenarios.js:43:9: Selector [ng\:model="item.name"] did not match any elements.
Chrome 30.0.1599 (Mac OS X 10.8.5): Executed 7 of 7 (4 FAILED) (2.408 secs / 1.991 secs)
```

# ng-model



```
<input name="name"  
      ng-model="task.name" required ng-minlength="3" ...>
```

# ng-click

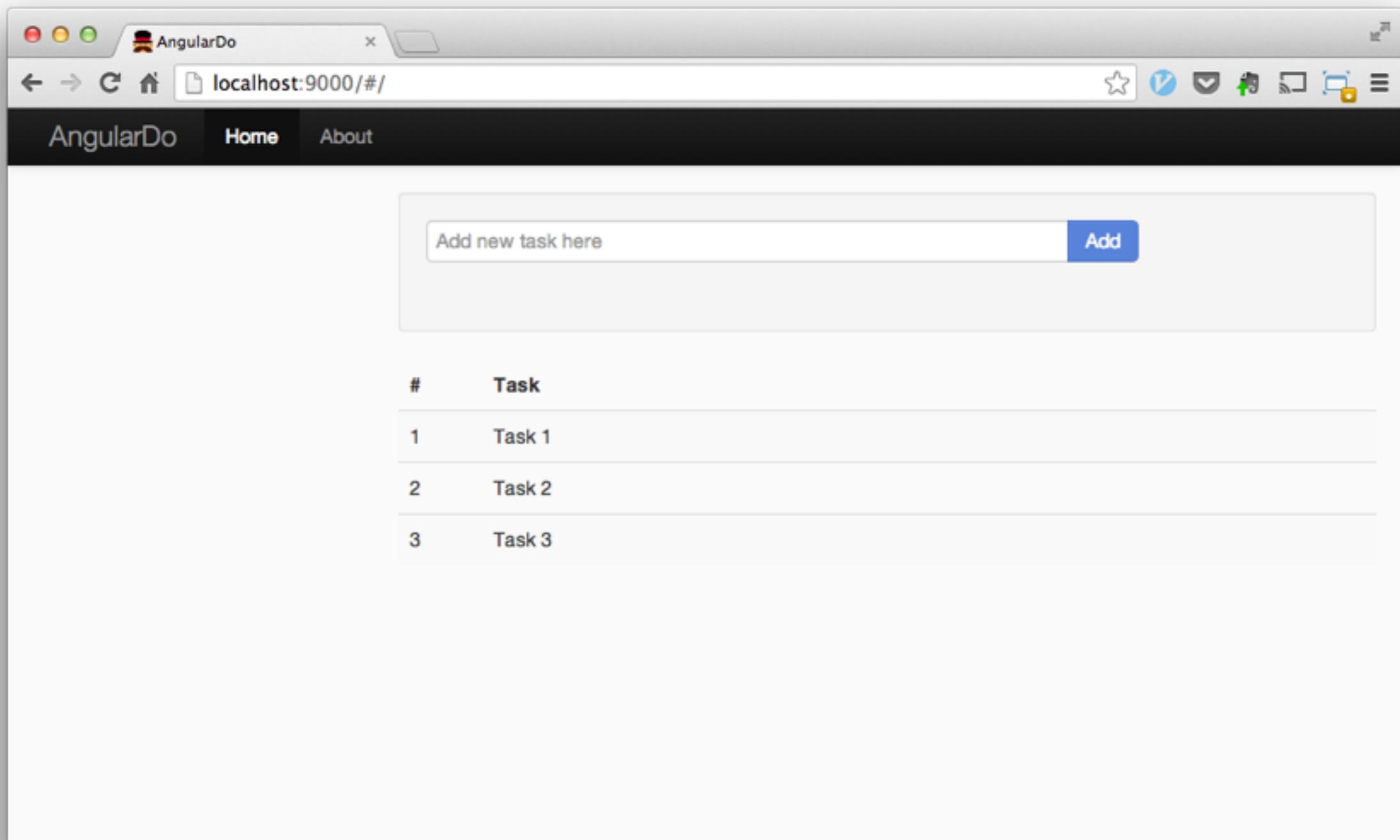


```
<button ng-click="add(task); task.name = '';"  
    ng-disabled="form.$invalid" ...>Add</button>
```

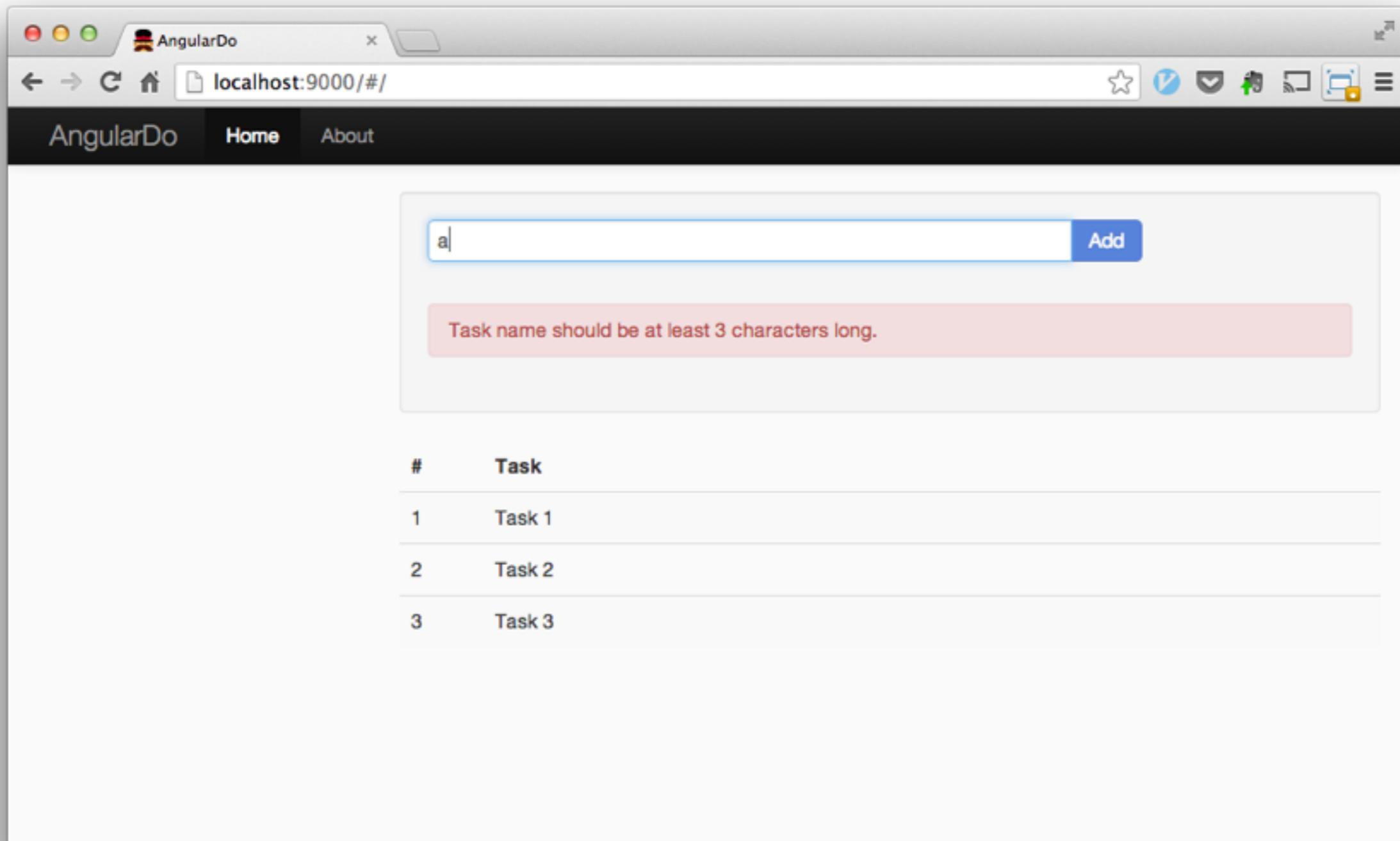
# ng-show

Task name should be at least 3 characters long.

```
<div ng-show="form.name.$dirty &&  
          form.name.$invalid &&  
          form.name.$error.minLength" ...>  
  Task name should be at least 3 characters long.  
</div>
```



# Error message



# Red scenario

```
Terminal — Google Chrome He — 95x24
pected {} but was "\n      3\n      \n      Task 3\n      \n      "
Chrome 30.0.1599 (Mac OS X 10.8.5) Scenarios: Add a new task when the new task is invalid shoul
d leave the task list unchanged FAILED
  expect repeater 'tr.task' count toBe 0
  /Volumes/MacOS/Dropbox/projects/angularjs-talk/AngularDo/test/e2e/scenarios.js:48:9: ex
pected 0 but was 3
Chrome 30.0.1599 (Mac OS X 10.8.5): Executed 7 of 7 (2 FAILED) (2.483 secs / 2.064 secs)
INFO [watcher]: Changed file "/Volumes/MacOS/Dropbox/projects/angularjs-talk/AngularDo/test/e2e
/scenarios.js".
Chrome 30.0.1599 (Mac OS X 10.8.5) Scenarios: Add a new task when the new task is valid should
add it to the list FAILED
  expect element 'tr.task:last' text toMatch {}
  /Volumes/MacOS/Dropbox/projects/angularjs-talk/AngularDo/test/e2e/scenarios.js:32:9: ex
pected {} but was "\n      3\n      \n      Task 3\n      \n      "
Chrome 30.0.1599 (Mac OS X 10.8.5): Executed 7 of 7 (1 FAILED) (2.524 secs / 2.113 secs)
INFO [watcher]: Changed file "/Volumes/MacOS/Dropbox/projects/angularjs-talk/AngularDo/test/e2e
/scenarios.js".
Chrome 30.0.1599 (Mac OS X 10.8.5) Scenarios: Add a new task when the new task is valid should
add it to the list FAILED
  expect element 'tr.task:last' text toMatch {}
  /Volumes/MacOS/Dropbox/projects/angularjs-talk/AngularDo/test/e2e/scenarios.js:32:9: ex
pected {} but was "\n      3\n      \n      Task 3\n      \n      "
Chrome 30.0.1599 (Mac OS X 10.8.5): Executed 7 of 7 (1 FAILED) (3.78 secs / 3.18 secs)
```

# TaskCtrl unit test

```
describe("add", function() {
  var task;

  it("should adds new task to task list", function() {
    task = jasmine.createSpy("task");
    scope.add(task);
    expect(scope.tasks.length).toEqual(4);
  });
});
```

# Red unit test

```
Terminal — Google Chrome He — 80x24
to task list FAILED
    TypeError: Object #<Object> has no method 'add'
        at null.<anonymous> (/Volumes/MacOS/Dropbox/projects/angularjs-talk/
AngularDo/test/spec/controllers.js:28:16)
Chrome 30.0.1599 (Mac OS X 10.8.5): Executed 3 of 5 (1 FAILED) (0 secs / 0.036 s
Chrome 30.0.1599 (Mac OS X 10.8.5): Executed 4 of 5 (1 FAILED) (0 secs / 0.036 s
Chrome 30.0.1599 (Mac OS X 10.8.5): Executed 5 of 5 (1 FAILED) (0 secs / 0.036 s
Chrome 30.0.1599 (Mac OS X 10.8.5): Executed 5 of 5 (1 FAILED) (0.355 secs / 0.0
36 secs)
INFO [watcher]: Changed file "/Volumes/MacOS/Dropbox/projects/angularjs-talk/Ang
ularDo/test/spec/controllers.js".
Chrome 30.0.1599 (Mac OS X 10.8.5): Executed 1 of 5 SUCCESS (0 secs / 0.018 secs
Chrome 30.0.1599 (Mac OS X 10.8.5): Executed 2 of 5 SUCCESS (0 secs / 0.036 secs
Chrome 30.0.1599 (Mac OS X 10.8.5) Controllers TaskCtrl add should adds new task
to task list FAILED
    TypeError: Object #<Object> has no method 'add'
        at null.<anonymous> (/Volumes/MacOS/Dropbox/projects/angularjs-talk/
AngularDo/test/spec/controllers.js:28:16)
Chrome 30.0.1599 (Mac OS X 10.8.5): Executed 3 of 5 (1 FAILED) (0 secs / 0.042 s
Chrome 30.0.1599 (Mac OS X 10.8.5): Executed 4 of 5 (1 FAILED) (0 secs / 0.043 s
Chrome 30.0.1599 (Mac OS X 10.8.5): Executed 5 of 5 (1 FAILED) (0 secs / 0.043 s
Chrome 30.0.1599 (Mac OS X 10.8.5): Executed 5 of 5 (1 FAILED) (0.368 secs / 0.0
43 secs)
```

# TaskCtrl

```
angular.module('AngularDoApp')
  .controller('TaskCtrl', function ($scope) {
    $scope.tasks = [
      {name: 'Task 1'},
      {name: 'Task 2'},
      {name: 'Task 3'},

    ];
    $scope.add = function(task) {
      var newTask = new Object();
      newTask.name = task.name;
      $scope.tasks.push(newTask);
    };
  });
});
```

# Green unit test

```
Terminal — Google Chrome He — 80x24
36 secs)
INFO [watcher]: Changed file "/Volumes/MacOS/Dropbox/projects/angularjs-talk/AngularDo/test/spec/controllers.js".
Chrome 30.0.1599 (Mac OS X 10.8.5): Executed 1 of 5 SUCCESS (0 secs / 0.018 secs
Chrome 30.0.1599 (Mac OS X 10.8.5): Executed 2 of 5 SUCCESS (0 secs / 0.036 secs
Chrome 30.0.1599 (Mac OS X 10.8.5) Controllers TaskCtrl add should adds new task
to task list FAILED
    TypeError: Object #<Object> has no method 'add'
        at null.<anonymous> (/Volumes/MacOS/Dropbox/projects/angularjs-talk/
AngularDo/test/spec/controllers.js:28:16)
Chrome 30.0.1599 (Mac OS X 10.8.5): Executed 3 of 5 (1 FAILED) (0 secs / 0.042 s
Chrome 30.0.1599 (Mac OS X 10.8.5): Executed 4 of 5 (1 FAILED) (0 secs / 0.043 s
Chrome 30.0.1599 (Mac OS X 10.8.5): Executed 5 of 5 (1 FAILED) (0 secs / 0.043 s
Chrome 30.0.1599 (Mac OS X 10.8.5): Executed 5 of 5 (1 FAILED) (0.368 secs / 0.0
43 secs)
INFO [watcher]: Changed file "/Volumes/MacOS/Dropbox/projects/angularjs-talk/AngularDo/app/scripts/controllers.js".
Chrome 30.0.1599 (Mac OS X 10.8.5): Executed 2 of 5 SUCCESS (0 secs / 0.041 secs
Chrome 30.0.1599 (Mac OS X 10.8.5): Executed 3 of 5 SUCCESS (0 secs / 0.045 secs
Chrome 30.0.1599 (Mac OS X 10.8.5): Executed 4 of 5 SUCCESS (0 secs / 0.046 secs
Chrome 30.0.1599 (Mac OS X 10.8.5): Executed 5 of 5 SUCCESS (0 secs / 0.046 secs
Chrome 30.0.1599 (Mac OS X 10.8.5): Executed 5 of 5 SUCCESS (0.409 secs / 0.046
secs)
```

# Green e2e scenario

```
Terminal — Google Chrome He — 95x24
expect repeater 'tr.task' count toBe 0
/Volumes/MacOS/Dropbox/projects/angularjs-talk/AngularDo/test/e2e/scenarios.js:48:9: ex
pected 0 but was 3
Chrome 30.0.1599 (Mac OS X 10.8.5): Executed 7 of 7 (2 FAILED) (2.483 secs / 2.064 secs)
INFO [watcher]: Changed file "/Volumes/MacOS/Dropbox/projects/angularjs-talk/AngularDo/test/e2e
/scenarios.js".
Chrome 30.0.1599 (Mac OS X 10.8.5) Scenarios: Add a new task when the new task is valid should
add it to the list FAILED
  expect element 'tr.task:last' text toMatch {}
    /Volumes/MacOS/Dropbox/projects/angularjs-talk/AngularDo/test/e2e/scenarios.js:32:9: ex
pected {} but was "\n      3\n      \n          Task 3\n      \n"
Chrome 30.0.1599 (Mac OS X 10.8.5): Executed 7 of 7 (1 FAILED) (2.524 secs / 2.113 secs)
INFO [watcher]: Changed file "/Volumes/MacOS/Dropbox/projects/angularjs-talk/AngularDo/test/e2e
/scenarios.js".
Chrome 30.0.1599 (Mac OS X 10.8.5) Scenarios: Add a new task when the new task is valid should
add it to the list FAILED
  expect element 'tr.task:last' text toMatch {}
    /Volumes/MacOS/Dropbox/projects/angularjs-talk/AngularDo/test/e2e/scenarios.js:32:9: ex
pected {} but was "\n      3\n      \n          Task 3\n      \n"
Chrome 30.0.1599 (Mac OS X 10.8.5): Executed 7 of 7 (1 FAILED) (3.78 secs / 3.18 secs)
INFO [watcher]: Changed file "/Volumes/MacOS/Dropbox/projects/angularjs-talk/AngularDo/test/e2e
/scenarios.js".
Chrome 30.0.1599 (Mac OS X 10.8.5): Executed 7 of 7 SUCCESS (2.104 secs / 1.695 secs)
```

The screenshot shows a web browser window with the following details:

- Title Bar:** The title bar displays the application name "AngularDo".
- Address Bar:** The address bar shows the URL "localhost:9000/#/".
- Toolbar:** The toolbar includes standard browser icons for back, forward, search, and refresh, along with a star icon for bookmarks and other utility icons.
- Header:** A dark header bar contains the "AngularDo" logo and navigation links for "Home" and "About".
- Content Area:** The main content area features a form for adding new tasks and a table listing existing tasks.
- Add Form:** A text input field with the placeholder "Add new task here" and a blue "Add" button.
- Task Table:** A table with columns "# Task" showing the following data:

#	Task
1	Task 1
2	Task 2
3	Task 3
4	New task

All test are green

# Feature #2 Summary

- Dynamic list (ng-repeat)
- Validations (requires, ng-minlength)
- Disabled button (ng-disabled)
- Tests

# Feature #3

## Mark task as done

```
git checkout -f feature_3_step_0
```

# Feature UI

The screenshot shows a web application titled "AngularDo" running on "localhost:9000/#/". The interface includes a navigation bar with "AngularDo", "Home", and "About" links, and a search bar with "Search" and "Clear" buttons. On the left, a sidebar titled "PRIORITY" lists "All" (selected), "high", "medium", and "low". The main area displays a list of "4 tasks":

- 1 Learn AngularJS (high)
- 2 Finish presentation (medium)
- 3 Create Tacker project (medium)
- 4 Clean up repo (low)

Each task has a green "Done" button to its right. A red box highlights the "Done" buttons for tasks 1, 2, 3, and 4.

# User Story

As a user,  
I should be able to mark tasks as done,  
so I can keep track of completed work

**Scenario:** Mark task as done

When I mark a task as done

Then the task should be remove from the list

# e2e scenario

```
describe("Mark task as done", function() {
  it("should remove the task from the task list", function() {
    element('button.js-done:last').click();
    expect(repeater('tr.task').count()).toBe(2);
  });
});
```

# Red scenario

```
Terminal — Google Chrome He — 95x24
expect element 'tr.task:last' text toMatch {}
/Volumes/MacOS/Dropbox/projects/angularjs-talk/AngularDo/test/e2e/scenarios.js:32:9: ex
pected {} but was "\n      3\n      \n          Task 3\n      \n"
Chrome 30.0.1599 (Mac OS X 10.8.5): Executed 7 of 7 (1 FAILED) (2.524 secs / 2.113 secs)
INFO [watcher]: Changed file "/Volumes/MacOS/Dropbox/projects/angularjs-talk/AngularDo/test/e2e
/scenarios.js".
Chrome 30.0.1599 (Mac OS X 10.8.5) Scenarios: Add a new task when the new task is valid should
add it to the list FAILED
expect element 'tr.task:last' text toMatch {}
/Volumes/MacOS/Dropbox/projects/angularjs-talk/AngularDo/test/e2e/scenarios.js:32:9: ex
pected {} but was "\n      3\n      \n          Task 3\n      \n"
Chrome 30.0.1599 (Mac OS X 10.8.5): Executed 7 of 7 (1 FAILED) (3.78 secs / 3.18 secs)
INFO [watcher]: Changed file "/Volumes/MacOS/Dropbox/projects/angularjs-talk/AngularDo/test/e2e
/scenarios.js".
Chrome 30.0.1599 (Mac OS X 10.8.5): Executed 7 of 7 SUCCESS (2.104 secs / 1.695 secs)
INFO [watcher]: Changed file "/Volumes/MacOS/Dropbox/projects/angularjs-talk/AngularDo/test/e2e
/scenarios.js".
Chrome 30.0.1599 (Mac OS X 10.8.5) Scenarios: Mark task as done should remove the task from the
task list FAILED
element 'button.js-done:last' click
/Volumes/MacOS/Dropbox/projects/angularjs-talk/AngularDo/test/e2e/scenarios.js:59:7: Se
lector button.js-done:last did not match any elements.
Chrome 30.0.1599 (Mac OS X 10.8.5): Executed 8 of 8 (1 FAILED) (2.615 secs / 2.192 secs)
```

# ng-click

```
<td>
  <button ng-click="remove($index, task)" class="js-done">
    Done
  </button>
</td>
```

The screenshot shows a web browser window with the title bar "AngularDo". The address bar displays "localhost:9000/#/" and the toolbar includes standard icons for back, forward, search, and refresh. A navigation bar at the top has links for "AngularDo", "Home", and "About". Below the navigation bar is a form with a text input field containing "Add new task here" and a blue "Add" button. The main content area displays a table with three rows of tasks:

#	Task	
1	Task 1	Done
2	Task 2	Done
3	Task 3	Done

# Red scenario

```
Terminal — Google Chrome He — 95x24
expect element 'tr.task:last' text toMatch {}
/Volumes/MacOS/Dropbox/projects/angularjs-talk/AngularDo/test/e2e/scenarios.js:32:9: ex
pected {} but was "\n      3\n      \n          Task 3\n      \n"
Chrome 30.0.1599 (Mac OS X 10.8.5): Executed 7 of 7 (1 FAILED) (3.78 secs / 3.18 secs)
INFO [watcher]: Changed file "/Volumes/MacOS/Dropbox/projects/angularjs-talk/AngularDo/test/e2e
/scenarios.js".
Chrome 30.0.1599 (Mac OS X 10.8.5): Executed 7 of 7 SUCCESS (2.104 secs / 1.695 secs)
INFO [watcher]: Changed file "/Volumes/MacOS/Dropbox/projects/angularjs-talk/AngularDo/test/e2e
/scenarios.js".
Chrome 30.0.1599 (Mac OS X 10.8.5) Scenarios: Mark task as done should remove the task from the
task list FAILED
  element 'button.js-done:last' click
    /Volumes/MacOS/Dropbox/projects/angularjs-talk/AngularDo/test/e2e/scenarios.js:59:7: Se
lector button.js-done:last did not match any elements.
Chrome 30.0.1599 (Mac OS X 10.8.5): Executed 8 of 8 (1 FAILED) (2.615 secs / 2.192 secs)
INFO [watcher]: Changed file "/Volumes/MacOS/Dropbox/projects/angularjs-talk/AngularDo/test/e2e
/scenarios.js".
Chrome 30.0.1599 (Mac OS X 10.8.5) Scenarios: Mark task as done should remove the task from the
task list FAILED
  expect repeater 'tr.task' count toBe 2
    /Volumes/MacOS/Dropbox/projects/angularjs-talk/AngularDo/test/e2e/scenarios.js:60:7: ex
pected 2 but was 3
Chrome 30.0.1599 (Mac OS X 10.8.5): Executed 8 of 8 (1 FAILED) (2.437 secs / 1.989 secs)
```

# remove() unit test

```
describe("remove", function() {
  it("should remove the task from task list", function() {
    var task = jasmine.createSpy("task");
    scope.remove(1, task);
    expect(scope.tasks.length).toEqual(2);
  });
});
```

# Red unit test

```
Terminal — Google Chrome He — 80x24
    TypeError: Object #<Object> has no method 'remove'
        at null.<anonymous> (/Volumes/MacOS/Dropbox/projects/angularjs-talk/
AngularDo/test/spec/controllers.js:49:16)
Chrome 30.0.1599 (Mac OS X 10.8.5): Executed 4 of 6 (1 FAILED) (0 secs / 0.041 s
Chrome 30.0.1599 (Mac OS X 10.8.5): Executed 5 of 6 (1 FAILED) (0 secs / 0.042 s
Chrome 30.0.1599 (Mac OS X 10.8.5): Executed 6 of 6 (1 FAILED) (0 secs / 0.042 s
Chrome 30.0.1599 (Mac OS X 10.8.5): Executed 6 of 6 (1 FAILED) (0.365 secs / 0.0
42 secs)
INFO [watcher]: Changed file "/Volumes/MacOS/Dropbox/projects/angularjs-talk/Ang
ularDo/test/spec/controllers.js".
Chrome 30.0.1599 (Mac OS X 10.8.5): Executed 1 of 6 SUCCESS (0 secs / 0.015 secs
Chrome 30.0.1599 (Mac OS X 10.8.5): Executed 2 of 6 SUCCESS (0 secs / 0.029 secs
Chrome 30.0.1599 (Mac OS X 10.8.5): Executed 3 of 6 SUCCESS (0 secs / 0.032 secs
Chrome 30.0.1599 (Mac OS X 10.8.5) Controllers TaskCtrl remove should remove tas
k to task list FAILED
    TypeError: Object #<Object> has no method 'remove'
        at null.<anonymous> (/Volumes/MacOS/Dropbox/projects/angularjs-talk/
AngularDo/test/spec/controllers.js:36:16)
Chrome 30.0.1599 (Mac OS X 10.8.5): Executed 4 of 6 (1 FAILED) (0 secs / 0.035 s
Chrome 30.0.1599 (Mac OS X 10.8.5): Executed 5 of 6 (1 FAILED) (0 secs / 0.035 s
Chrome 30.0.1599 (Mac OS X 10.8.5): Executed 6 of 6 (1 FAILED) (0 secs / 0.035 s
Chrome 30.0.1599 (Mac OS X 10.8.5): Executed 6 of 6 (1 FAILED) (0.346 secs / 0.0
35 secs)
```

# remove()

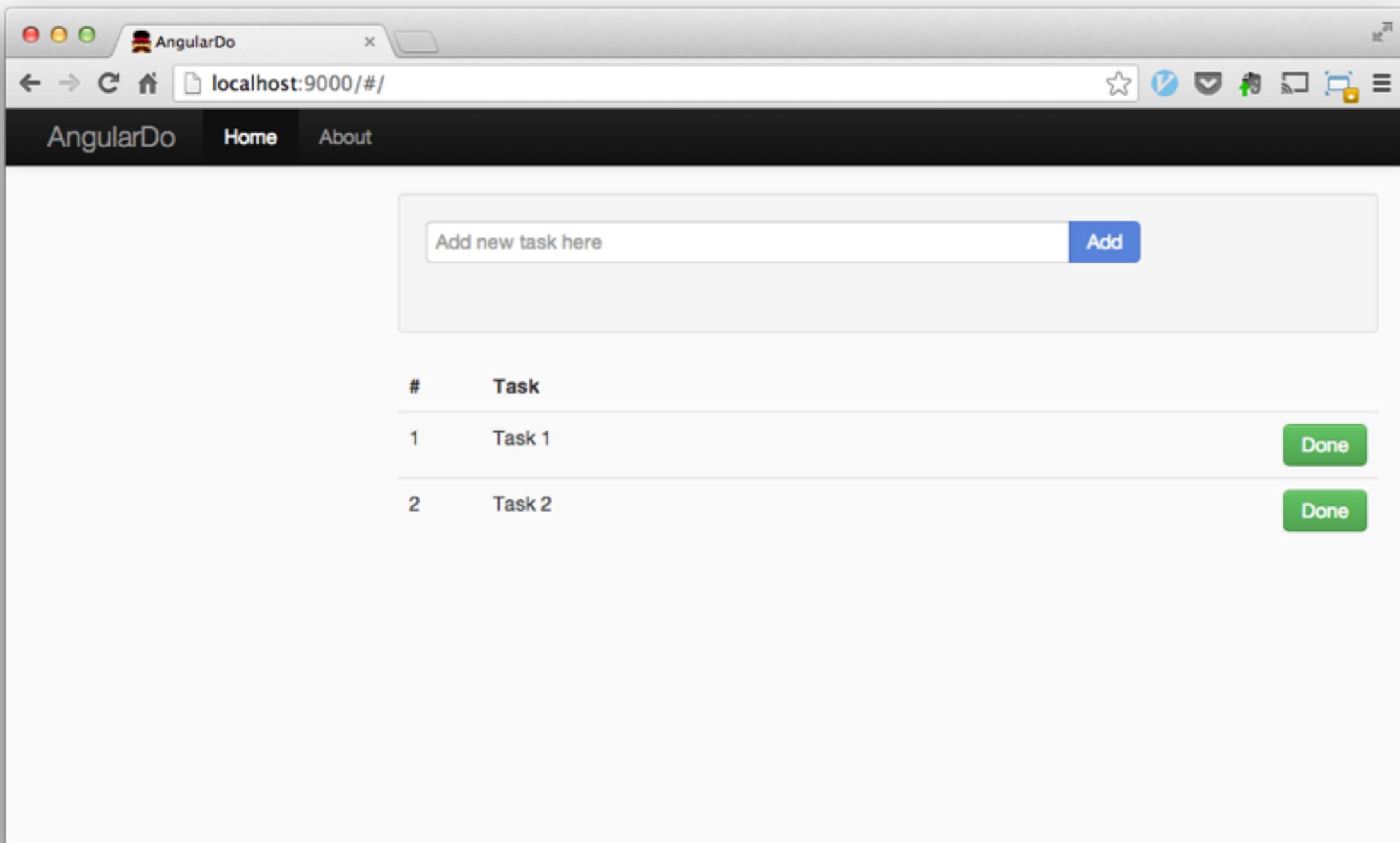
```
angular.module('AngularDoApp')
  .controller('TaskCtrl', function ($scope) {
    ...
    $scope.remove = function(index, task) {
      $scope.tasks.splice(index, 1);
    };
  });
});
```

# Green unit test

```
Terminal — Google Chrome He — 80x24
ularDo/test/spec/controllers.js".
Chrome 30.0.1599 (Mac OS X 10.8.5): Executed 1 of 6 SUCCESS (0 secs / 0.014 secs
Chrome 30.0.1599 (Mac OS X 10.8.5): Executed 3 of 6 SUCCESS (0 secs / 0.032 secs
Chrome 30.0.1599 (Mac OS X 10.8.5): Executed 4 of 6 SUCCESS (0 secs / 0.033 secs
Chrome 30.0.1599 (Mac OS X 10.8.5): Executed 5 of 6 SUCCESS (0 secs / 0.034 secs
Chrome 30.0.1599 (Mac OS X 10.8.5): Executed 6 of 6 SUCCESS (0 secs / 0.034 secs
Chrome 30.0.1599 (Mac OS X 10.8.5): Executed 6 of 6 SUCCESS (0.348 secs / 0.034
secs)
INFO [watcher]: Changed file "/Volumes/MacOS/Dropbox/projects/angularjs-talk/Ang
ularDo/app/scripts/controllers.js".
INFO [watcher]: Changed file "/Volumes/MacOS/Dropbox/projects/angularjs-talk/Ang
ularDo/test/spec/controllers.js".
INFO [watcher]: Changed file "/Volumes/MacOS/Dropbox/projects/angularjs-talk/Ang
ularDo/test/spec/controllers.js".
INFO [watcher]: Changed file "/Volumes/MacOS/Dropbox/projects/angularjs-talk/Ang
ularDo/app/scripts/controllers.js".
Chrome 30.0.1599 (Mac OS X 10.8.5): Executed 1 of 6 SUCCESS (0 secs / 0.029 secs
Chrome 30.0.1599 (Mac OS X 10.8.5): Executed 3 of 6 SUCCESS (0 secs / 0.055 secs
Chrome 30.0.1599 (Mac OS X 10.8.5): Executed 4 of 6 SUCCESS (0 secs / 0.057 secs
Chrome 30.0.1599 (Mac OS X 10.8.5): Executed 5 of 6 SUCCESS (0 secs / 0.057 secs
Chrome 30.0.1599 (Mac OS X 10.8.5): Executed 6 of 6 SUCCESS (0 secs / 0.057 secs
Chrome 30.0.1599 (Mac OS X 10.8.5): Executed 6 of 6 SUCCESS (0.738 secs / 0.057
secs)
```

# Green e2e scenario

```
Terminal — Google Chrome He — 95x24
Chrome 30.0.1599 (Mac OS X 10.8.5): Executed 7 of 7 (1 FAILED) (3.78 secs / 3.18 secs)
INFO [watcher]: Changed file "/Volumes/MacOS/Dropbox/projects/angularjs-talk/AngularDo/test/e2e/scenarios.js".
Chrome 30.0.1599 (Mac OS X 10.8.5): Executed 7 of 7 SUCCESS (2.104 secs / 1.695 secs)
INFO [watcher]: Changed file "/Volumes/MacOS/Dropbox/projects/angularjs-talk/AngularDo/test/e2e/scenarios.js".
Chrome 30.0.1599 (Mac OS X 10.8.5) Scenarios: Mark task as done should remove the task from the task list FAILED
    element 'button.js-done:last' click
        /Volumes/MacOS/Dropbox/projects/angularjs-talk/AngularDo/test/e2e/scenarios.js:59:7: Selector button.js-done:last did not match any elements.
Chrome 30.0.1599 (Mac OS X 10.8.5): Executed 8 of 8 (1 FAILED) (2.615 secs / 2.192 secs)
INFO [watcher]: Changed file "/Volumes/MacOS/Dropbox/projects/angularjs-talk/AngularDo/test/e2e/scenarios.js".
Chrome 30.0.1599 (Mac OS X 10.8.5) Scenarios: Mark task as done should remove the task from the task list FAILED
    expect repeater 'tr.task' count toBe 2
        /Volumes/MacOS/Dropbox/projects/angularjs-talk/AngularDo/test/e2e/scenarios.js:60:7: expected 2 but was 3
Chrome 30.0.1599 (Mac OS X 10.8.5): Executed 8 of 8 (1 FAILED) (2.437 secs / 1.989 secs)
kINFO [watcher]: Changed file "/Volumes/MacOS/Dropbox/projects/angularjs-talk/AngularDo/test/e2e/scenarios.js".
Chrome 30.0.1599 (Mac OS X 10.8.5): Executed 8 of 8 SUCCESS (2.622 secs / 2.201 secs)
```



All test are green

# Feature #3 Summary

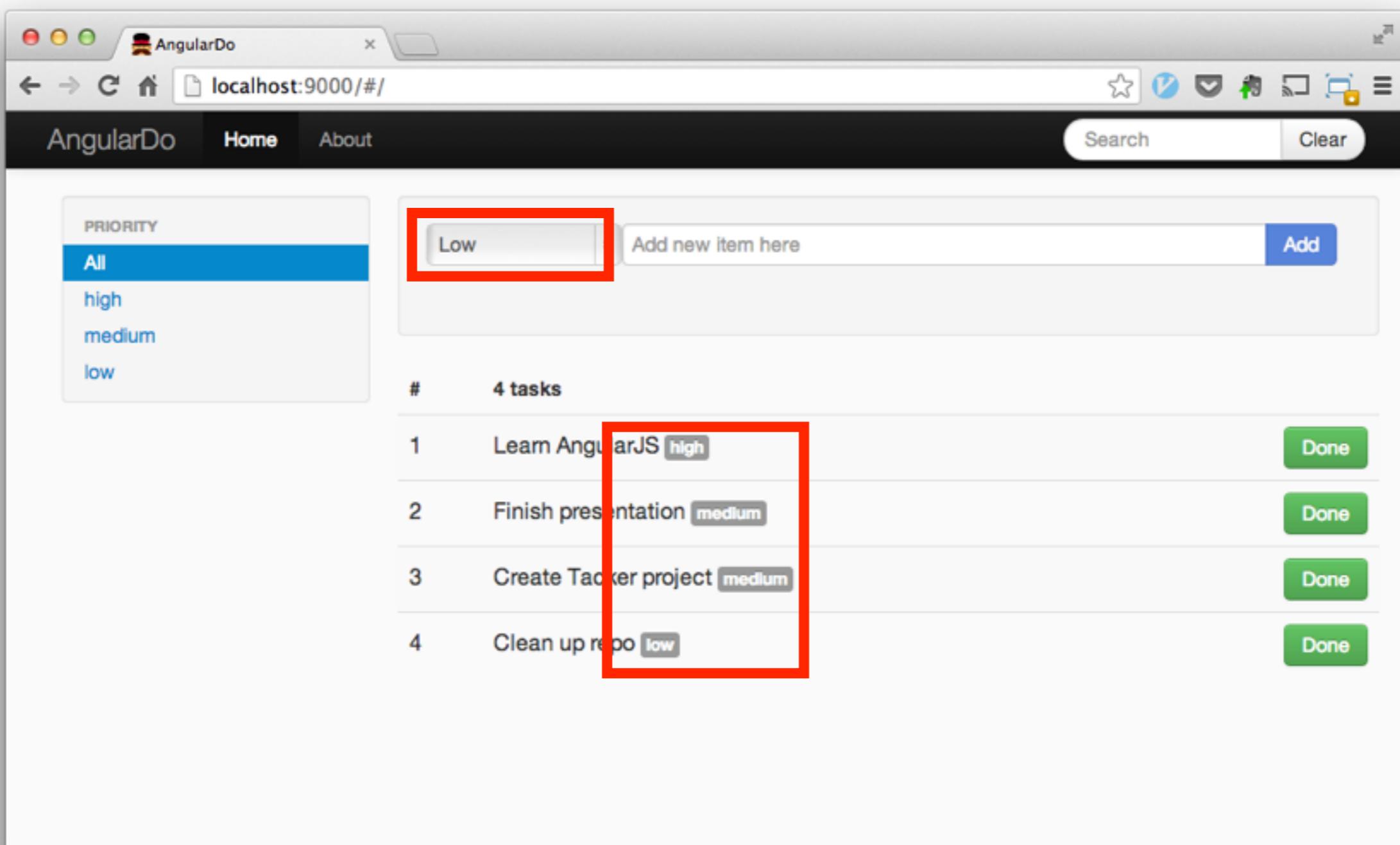
- e2e scenario
- TaskCtrl unit test
- Click handler (ng-click)

# Feature #4

## Add task with priority

```
git checkout -f feature_4_step_0
```

# Feature UI



# User Story

As a user,  
I should be able to set task priority,  
so I can keep track of urgent tasks

**Scenario:** Add a task with priority  
When I add task with priority  
Then the task list should include priorities

# e2e scenario

```
it("should set priority", function() {  
  expect(element("span.priority:last").text()).toMatch(/medium/);  
});
```

# Red scenario

```
Terminal — Google Chrome He — 95x24
have priority FAILED
    element 'span.priority:last' text
        /Volumes/MacOS/Dropbox/projects/angularjs-talk/AngularDo/test/e2e/scenarios.js:38:16: S
elector span.priority:last did not match any elements.
Chrome 30.0.1599 (Mac OS X 10.8.5): Executed 9 of 9 (1 FAILED) (2.951 secs / 2.519 secs)
INFO [watcher]: Changed file "/Volumes/MacOS/Dropbox/projects/angularjs-talk/AngularDo/test/e2e
/scenarios.js".
Chrome 30.0.1599 (Mac OS X 10.8.5) Scenarios: Add a new task when the new task is valid should
add it to the list FAILED
    select 'task.priority' option 'medium'
        /Volumes/MacOS/Dropbox/projects/angularjs-talk/AngularDo/test/e2e/scenarios.js:29:9: Se
lector select[ng\:model="task.priority"] did not match any elements.
Chrome 30.0.1599 (Mac OS X 10.8.5) Scenarios: Add a new task when the new task is valid should
set priority FAILED
    select 'task.priority' option 'medium'
        /Volumes/MacOS/Dropbox/projects/angularjs-talk/AngularDo/test/e2e/scenarios.js:29:9: Se
lector select[ng\:model="task.priority"] did not match any elements.
Chrome 30.0.1599 (Mac OS X 10.8.5) Scenarios: Add a new task when the new task is valid should
clear the new task box FAILED
    select 'task.priority' option 'medium'
        /Volumes/MacOS/Dropbox/projects/angularjs-talk/AngularDo/test/e2e/scenarios.js:29:9: Se
lector select[ng\:model="task.priority"] did not match any elements.
Chrome 30.0.1599 (Mac OS X 10.8.5): Executed 9 of 9 (3 FAILED) (3.237 secs / 2.764 secs)
```

# ng-init

```
<select ng-init="task.priority = 'high'" ng-model="task.priority">
  <option value="high">High</option>
  <option value="medium">Medium</option>
  <option value="low">Low</option>
</select>
```

The screenshot shows a web browser window with the title bar "AngularDo". The address bar displays "localhost:9000/#/" and includes standard browser icons for back, forward, search, and refresh. Below the address bar is a navigation menu with links for "AngularDo", "Home", and "About".

The main content area features a form for adding tasks. It includes a dropdown menu set to "High", a text input field with placeholder text "Add new task here", and a blue "Add" button.

Below the form is a table listing three tasks:

#	Task	
1	Task 1	Done
2	Task 2	Done
3	Task 3	Done

# Red scenario

```
Terminal — Google Chrome He — 95x24
expect element 'tr.task:last' text toMatch {}
/Volumes/MacOS/Dropbox/projects/angularjs-talk/AngularDo/test/e2e/scenarios.js:32:9: ex
pected {} but was "\n      3\n      \n          Task 3\n      \n"
Chrome 30.0.1599 (Mac OS X 10.8.5): Executed 7 of 7 (1 FAILED) (3.78 secs / 3.18 secs)
INFO [watcher]: Changed file "/Volumes/MacOS/Dropbox/projects/angularjs-talk/AngularDo/test/e2e
/scenarios.js".
Chrome 30.0.1599 (Mac OS X 10.8.5): Executed 7 of 7 SUCCESS (2.104 secs / 1.695 secs)
INFO [watcher]: Changed file "/Volumes/MacOS/Dropbox/projects/angularjs-talk/AngularDo/test/e2e
/scenarios.js".
Chrome 30.0.1599 (Mac OS X 10.8.5) Scenarios: Mark task as done should remove the task from the
task list FAILED
  element 'button.js-done:last' click
    /Volumes/MacOS/Dropbox/projects/angularjs-talk/AngularDo/test/e2e/scenarios.js:59:7: Se
lector button.js-done:last did not match any elements.
Chrome 30.0.1599 (Mac OS X 10.8.5): Executed 8 of 8 (1 FAILED) (2.615 secs / 2.192 secs)
INFO [watcher]: Changed file "/Volumes/MacOS/Dropbox/projects/angularjs-talk/AngularDo/test/e2e
/scenarios.js".
Chrome 30.0.1599 (Mac OS X 10.8.5) Scenarios: Mark task as done should remove the task from the
task list FAILED
  expect repeater 'tr.task' count toBe 2
    /Volumes/MacOS/Dropbox/projects/angularjs-talk/AngularDo/test/e2e/scenarios.js:60:7: ex
pected 2 but was 3
Chrome 30.0.1599 (Mac OS X 10.8.5): Executed 8 of 8 (1 FAILED) (2.437 secs / 1.989 secs)
```

# `{{task.priority}}`

```
<tr ng-repeat="task in tasks" class="task">
  <td>{{$index + 1}}</td>
  <td>
    {{task.name}}
    <span class="priority label">{{task.priority}}</span>
  </td>
  ...
</tr>
```

# Priority unit test

```
it("should adds new task to task list", function() {  
  task = {name: 'Task 4', priority: 'high'}  
  scope.add(task);  
  expect(scope.tasks.length).toEqual(4);  
  expect(scope.tasks[3].name).toEqual('Task 4');  
  expect(scope.tasks[3].priority).toEqual('high');  
});
```

# Red unit test

```
Terminal — Google Chrome He — 80x24
Chrome 30.0.1599 (Mac OS X 10.8.5): Executed 1 of 6 SUCCESS (0 secs / 0.016 secs)
Chrome 30.0.1599 (Mac OS X 10.8.5): Executed 2 of 6 SUCCESS (0 secs / 0.032 secs)
Chrome 30.0.1599 (Mac OS X 10.8.5): Executed 3 of 6 SUCCESS (0 secs / 0.036 secs)
Chrome 30.0.1599 (Mac OS X 10.8.5): Executed 4 of 6 SUCCESS (0 secs / 0.038 secs)
Chrome 30.0.1599 (Mac OS X 10.8.5): Executed 5 of 6 SUCCESS (0 secs / 0.038 secs)
Chrome 30.0.1599 (Mac OS X 10.8.5): Executed 6 of 6 SUCCESS (0 secs / 0.038 secs)
Chrome 30.0.1599 (Mac OS X 10.8.5): Executed 6 of 6 SUCCESS (0.349 secs / 0.038 secs)
INFO [watcher]: Changed file "/Volumes/MacOS/Dropbox/projects/angularjs-talk/AngularDo/app/scripts/controllers.js".
Chrome 30.0.1599 (Mac OS X 10.8.5): Executed 1 of 6 SUCCESS (0 secs / 0.021 secs)
Chrome 30.0.1599 (Mac OS X 10.8.5) Controllers TaskCtrl add should adds new task to task list FAILED
    Expected undefined to equal 'high'.
    Error: Expected undefined to equal 'high'.
        at null.<anonymous> (/Volumes/MacOS/Dropbox/projects/angularjs-talk/AngularDo/test/spec/controllers.js:31:42)
Chrome 30.0.1599 (Mac OS X 10.8.5): Executed 3 of 6 (1 FAILED) (0 secs / 0.045 s)
Chrome 30.0.1599 (Mac OS X 10.8.5): Executed 4 of 6 (1 FAILED) (0 secs / 0.047 s)
Chrome 30.0.1599 (Mac OS X 10.8.5): Executed 5 of 6 (1 FAILED) (0 secs / 0.047 s)
Chrome 30.0.1599 (Mac OS X 10.8.5): Executed 6 of 6 (1 FAILED) (0 secs / 0.047 s)
Chrome 30.0.1599 (Mac OS X 10.8.5): Executed 6 of 6 (1 FAILED) (0.41 secs / 0.047 secs)
```

# Add priorities

```
.controller('TaskCtrl', function ($scope) {  
  $scope.tasks = [  
    {name: 'Task 1', priority: 'high'},  
    {name: 'Task 2', priority: 'medium'},  
    {name: 'Task 3', priority: 'low'}  
  ];  
  
  $scope.add = function(task) {  
    var newTask = new Object();  
    newTask.name = task.name;  
    newTask.priority = task.priority;  
    $scope.tasks.push(newTask);  
  };  
  
  ...  
});
```

# Green unit test

```
Terminal — Google Chrome He — 80x24
Chrome 30.0.1599 (Mac OS X 10.8.5): Executed 1 of 6 SUCCESS (0 secs / 0.055 secs)
Chrome 30.0.1599 (Mac OS X 10.8.5): Executed 2 of 6 SUCCESS (0 secs / 0.076 secs)
Chrome 30.0.1599 (Mac OS X 10.8.5) Controllers TaskCtrl add should adds new task
to task list FAILED
    Expected 'Task 4' to equal 'high'.
    Error: Expected 'Task 4' to equal 'high'.
        at null.<anonymous> (/Volumes/MacOS/Dropbox/projects/angularjs-talk/
AngularDo/test/spec/controllers.js:31:42)
Chrome 30.0.1599 (Mac OS X 10.8.5): Executed 3 of 6 (1 FAILED) (0 secs / 0.113 s)
Chrome 30.0.1599 (Mac OS X 10.8.5): Executed 4 of 6 (1 FAILED) (0 secs / 0.116 s)
Chrome 30.0.1599 (Mac OS X 10.8.5): Executed 5 of 6 (1 FAILED) (0 secs / 0.117 s)
Chrome 30.0.1599 (Mac OS X 10.8.5): Executed 6 of 6 (1 FAILED) (0 secs / 0.117 s)
Chrome 30.0.1599 (Mac OS X 10.8.5): Executed 6 of 6 (1 FAILED) (0.555 secs / 0.1
17 secs)
INFO [watcher]: Changed file "/Volumes/MacOS/Dropbox/projects/angularjs-talk/Ang
ularDo/app/scripts/controllers.js".
Chrome 30.0.1599 (Mac OS X 10.8.5): Executed 2 of 6 SUCCESS (0 secs / 0.039 secs)
Chrome 30.0.1599 (Mac OS X 10.8.5): Executed 3 of 6 SUCCESS (0 secs / 0.044 secs)
Chrome 30.0.1599 (Mac OS X 10.8.5): Executed 4 of 6 SUCCESS (0 secs / 0.048 secs)
Chrome 30.0.1599 (Mac OS X 10.8.5): Executed 5 of 6 SUCCESS (0 secs / 0.049 secs)
Chrome 30.0.1599 (Mac OS X 10.8.5): Executed 6 of 6 SUCCESS (0 secs / 0.049 secs)
Chrome 30.0.1599 (Mac OS X 10.8.5): Executed 6 of 6 SUCCESS (0.428 secs / 0.049
secs)
```

# Green e2e scenario

```
Terminal — Google Chrome He — 95x24
    select 'task.priority' option 'medium'
    /Volumes/MacOS/Dropbox/projects/angularjs-talk/AngularDo/test/e2e/scenarios.js:29:9: Se
lector select[ng\:model="task.priority"] did not match any elements.
Chrome 30.0.1599 (Mac OS X 10.8.5) Scenarios: Add a new task when the new task is valid should
clear the new task box FAILED
    select 'task.priority' option 'medium'
    /Volumes/MacOS/Dropbox/projects/angularjs-talk/AngularDo/test/e2e/scenarios.js:29:9: Se
lector select[ng\:model="task.priority"] did not match any elements.
Chrome 30.0.1599 (Mac OS X 10.8.5): Executed 9 of 9 (3 FAILED) (3.237 secs / 2.764 secs)
INFO [watcher]: Changed file "/Volumes/MacOS/Dropbox/projects/angularjs-talk/AngularDo/test/e2e
/scenarios.js".
Chrome 30.0.1599 (Mac OS X 10.8.5) Scenarios: Add a new task when the new task is valid should
set priority FAILED
    element 'span.priority:last' text
    /Volumes/MacOS/Dropbox/projects/angularjs-talk/AngularDo/test/e2e/scenarios.js:39:16: S
elector span.priority:last did not match any elements.
Chrome 30.0.1599 (Mac OS X 10.8.5): Executed 9 of 9 (1 FAILED) (2.96 secs / 2.52 secs)
INFO [watcher]: Changed file "/Volumes/MacOS/Dropbox/projects/angularjs-talk/AngularDo/test/e2e
/scenarios.js".
Chrome 30.0.1599 (Mac OS X 10.8.5): Executed 9 of 9 SUCCESS (2.78 secs / 2.325 secs)
INFO [watcher]: Changed file "/Volumes/MacOS/Dropbox/projects/angularjs-talk/AngularDo/test/e2e
/scenarios.js".
Chrome 30.0.1599 (Mac OS X 10.8.5): Executed 9 of 9 SUCCESS (3.174 secs / 2.745 secs)
```

The screenshot shows a web application titled "AngularDo" running on a Mac OS X system. The browser window has a dark theme. The address bar displays "localhost:9000/#/" and the title bar shows the application icon and name. The main content area contains a header with navigation links for "AngularDo", "Home", and "About". Below the header is a search bar with a dropdown menu set to "High" and a placeholder "Add new task here", followed by a blue "Add" button. A table lists four tasks:

#	Task	Priority	Status
1	Task 1	high	Done
2	Task 2	medium	Done
3	Task 3	low	Done
4	Hight priority task	high	Done

All test are green

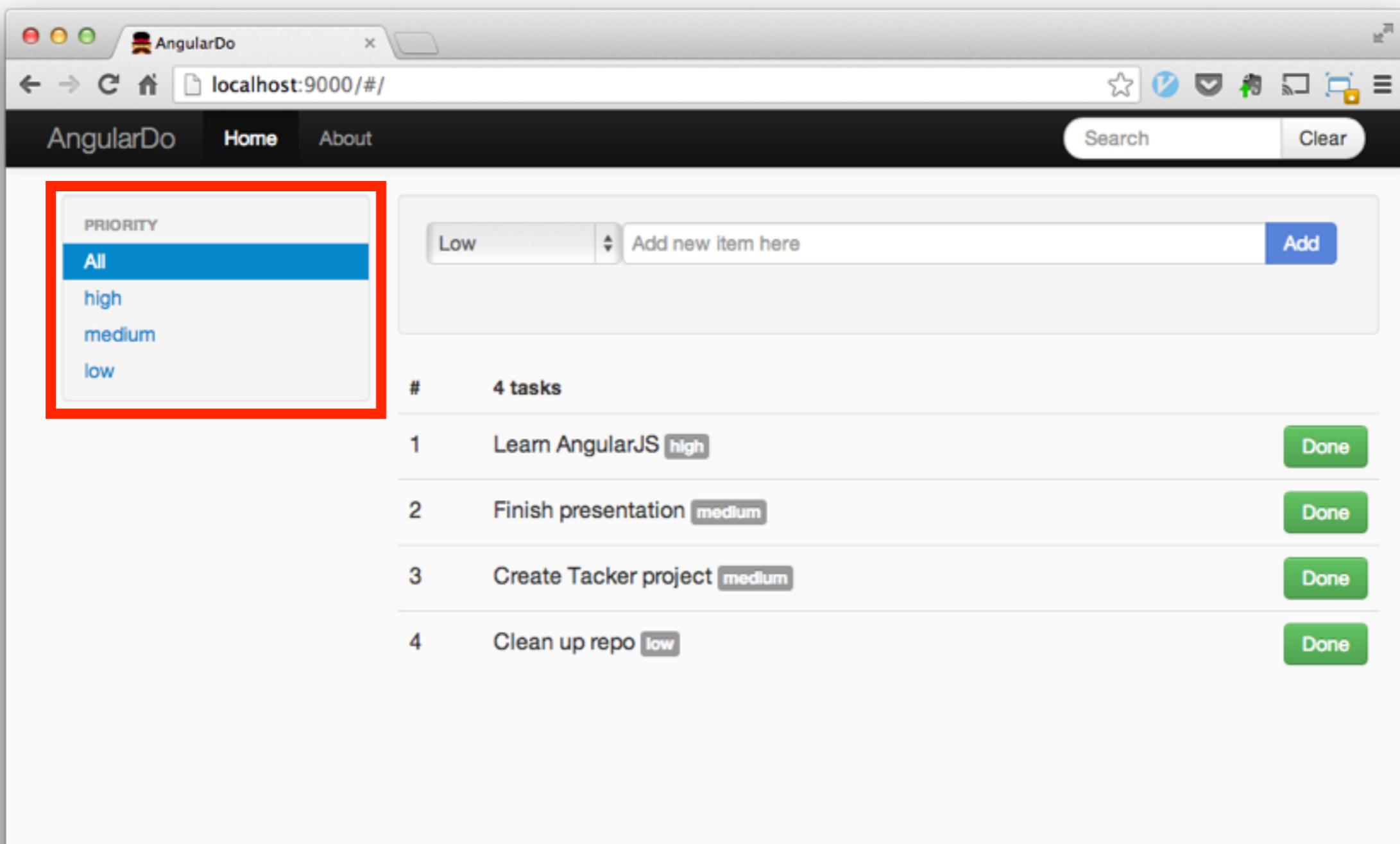
# Feature #5 Complete

# Feature #5

## Priority filter

```
git checkout -f feature_5_step_0
```

# Feature UI



# User Story

As a user,  
I should be filter tasks by priority,  
so I can find hight priority tasks

**Scenario:** Priority filter

When I select ‘high’ priority filter  
Then I should see only high priority tasks

# e2e scenario

```
describe("Filter by priority", function() {  
  describe("when high priority is selected", function() {  
    it("should display only high priority tasks", function() {  
      element("a.priority:contains('high')").click();  
      expect(repeater('tr.task').count()).toBe(1);  
    });  
  });  
  
  describe("when high priority is selected", function() {  
    it("should display only medium priority tasks", function() {  
      element("a.priority:contains('medium')").click();  
      expect(repeater('tr.task').count()).toBe(1);  
    });  
  });  
});  
  
...  
});
```

# Red scenario

```
Terminal — Google Chrome He — 96x24
element 'a.priority:contains('high')' click
/Volumes/MacOS/Dropbox/projects/angularjs-talk/AngularDo/test/e2e/scenarios.js:73:9: Selector a.priority:contains('high') did not match any elements.
Chrome 30.0.1599 (Mac OS X 10.8.5): Executed 10 of 13 (1 FAILED) (0 secs / 3.245Chrome 30.0.1599
(Mac OS X 10.8.5) Scenarios: Filter by priority when high priority is selected should display o
nly medium priority tasks FAILED
element 'a.priority:contains('medium')' click
/Volumes/MacOS/Dropbox/projects/angularjs-talk/AngularDo/test/e2e/scenarios.js:80:9: Selector a.priority:contains('medium') did not match any elements.
Chrome 30.0.1599 (Mac OS X 10.8.5): Executed 11 of 13 (2 FAILED) (0 secs / 3.486Chrome 30.0.1599
(Mac OS X 10.8.5) Scenarios: Filter by priority when high priority is selected should display o
nly medium priority tasks FAILED
element 'a.priority:contains('low')' click
/Volumes/MacOS/Dropbox/projects/angularjs-talk/AngularDo/test/e2e/scenarios.js:87:9: Selector a.priority:contains('low') did not match any elements.
Chrome 30.0.1599 (Mac OS X 10.8.5): Executed 12 of 13 (3 FAILED) (0 secs / 3.729Chrome 30.0.1599
(Mac OS X 10.8.5) Scenarios: Filter by priority when no priority is selected should display all
tasks FAILED
element 'a.priority:contains('All')' click
/Volumes/MacOS/Dropbox/projects/angularjs-talk/AngularDo/test/e2e/scenarios.js:94:9: Selector a.priority:contains('All') did not match any elements.
Chrome 30.0.1599 (Mac OS X 10.8.5): Executed 13 of 13 (4 FAILED) (0 secs / 3.937Chrome 30.0.1599
(Mac OS X 10.8.5): Executed 13 of 13 (4 FAILED) (4.445 secs / 3.937 secs)
```

# filter

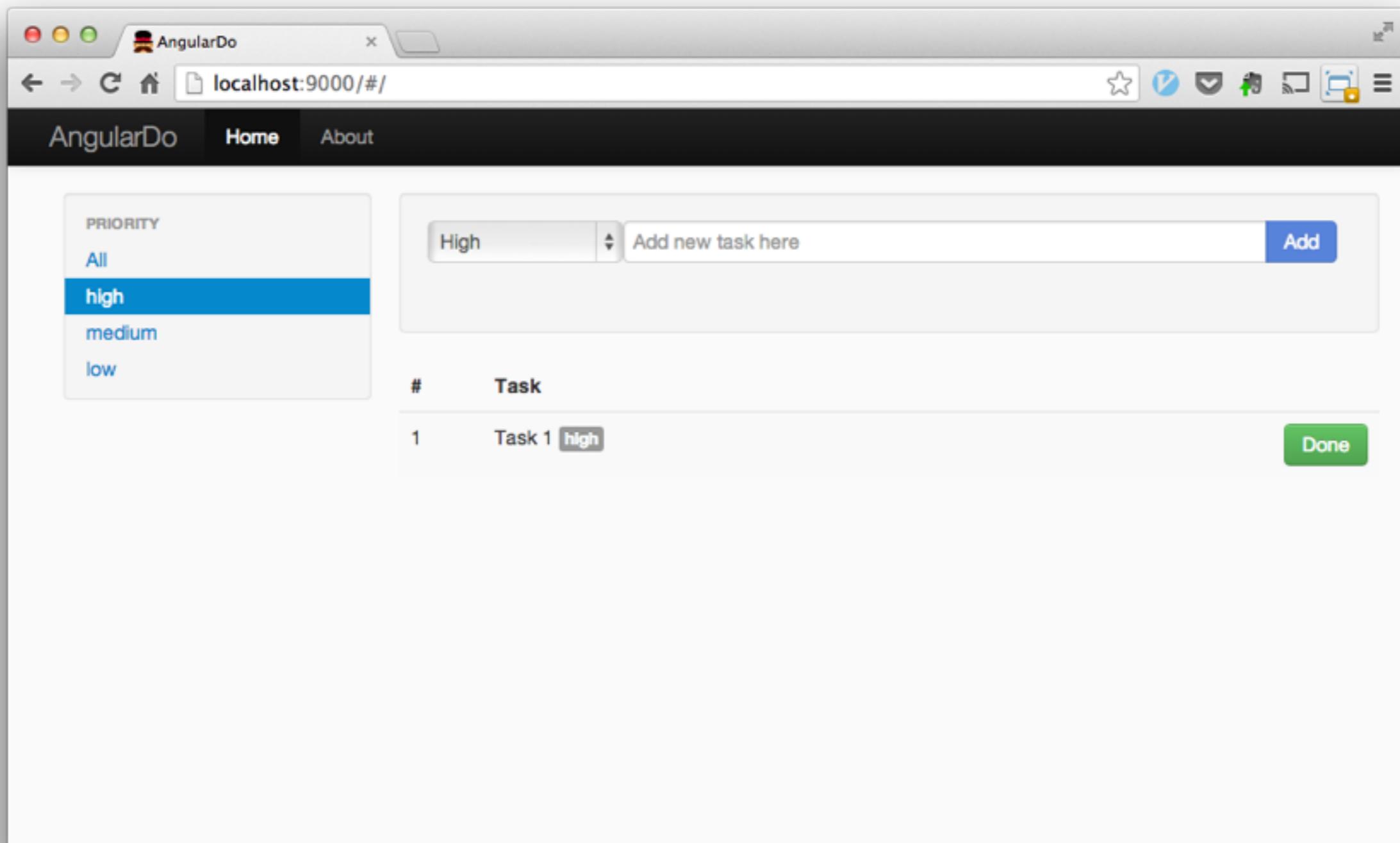
task.priority == query.priority

```
<tr ng-repeat="task in tasks | filter:query)" ...>
```

```
<li ng-class="{'active': query.priority == ''}">
  <a ng-init="query.priority = ''"
     ng-click="query.priority = ''; $event.preventDefault()...">
    All
  </a>
</li>
```

# Green e2e scenario

```
Terminal — Google Chrome He — 96x24
Chrome 30.0.1599 (Mac OS X 10.8.5): Executed 10 of 13 (1 FAILED) (0 secs / 3.245Chrome 30.0.1599
(Mac OS X 10.8.5) Scenarios: Filter by priority when high priority is selected should display o
nly medium priority tasks FAILED
    element 'a.priority:contains('medium')' click
        /Volumes/MacOS/Dropbox/projects/angularjs-talk/AngularDo/test/e2e/scenarios.js:80:9: Sel
        ector a.priority:contains('medium') did not match any elements.
Chrome 30.0.1599 (Mac OS X 10.8.5): Executed 11 of 13 (2 FAILED) (0 secs / 3.486Chrome 30.0.1599
(Mac OS X 10.8.5) Scenarios: Filter by priority when high priority is selected should display o
nly medium priority tasks FAILED
    element 'a.priority:contains('low')' click
        /Volumes/MacOS/Dropbox/projects/angularjs-talk/AngularDo/test/e2e/scenarios.js:87:9: Sel
        ector a.priority:contains('low') did not match any elements.
Chrome 30.0.1599 (Mac OS X 10.8.5): Executed 12 of 13 (3 FAILED) (0 secs / 3.729Chrome 30.0.1599
(Mac OS X 10.8.5) Scenarios: Filter by priority when no priority is selected should display all
tasks FAILED
    element 'a.priority:contains('All')' click
        /Volumes/MacOS/Dropbox/projects/angularjs-talk/AngularDo/test/e2e/scenarios.js:94:9: Sel
        ector a.priority:contains('All') did not match any elements.
Chrome 30.0.1599 (Mac OS X 10.8.5): Executed 13 of 13 (4 FAILED) (0 secs / 3.937Chrome 30.0.1599
(Mac OS X 10.8.5): Executed 13 of 13 (4 FAILED) (4.445 secs / 3.937 secs)
INFO [watcher]: Changed file "/Volumes/MacOS/Dropbox/projects/angularjs-talk/AngularDo/test/e2e/
scenarios.js".
Chrome 30.0.1599 (Mac OS X 10.8.5): Executed 13 of 13 SUCCESS (4.784 secs / 4.213 secs)
```



All test are green

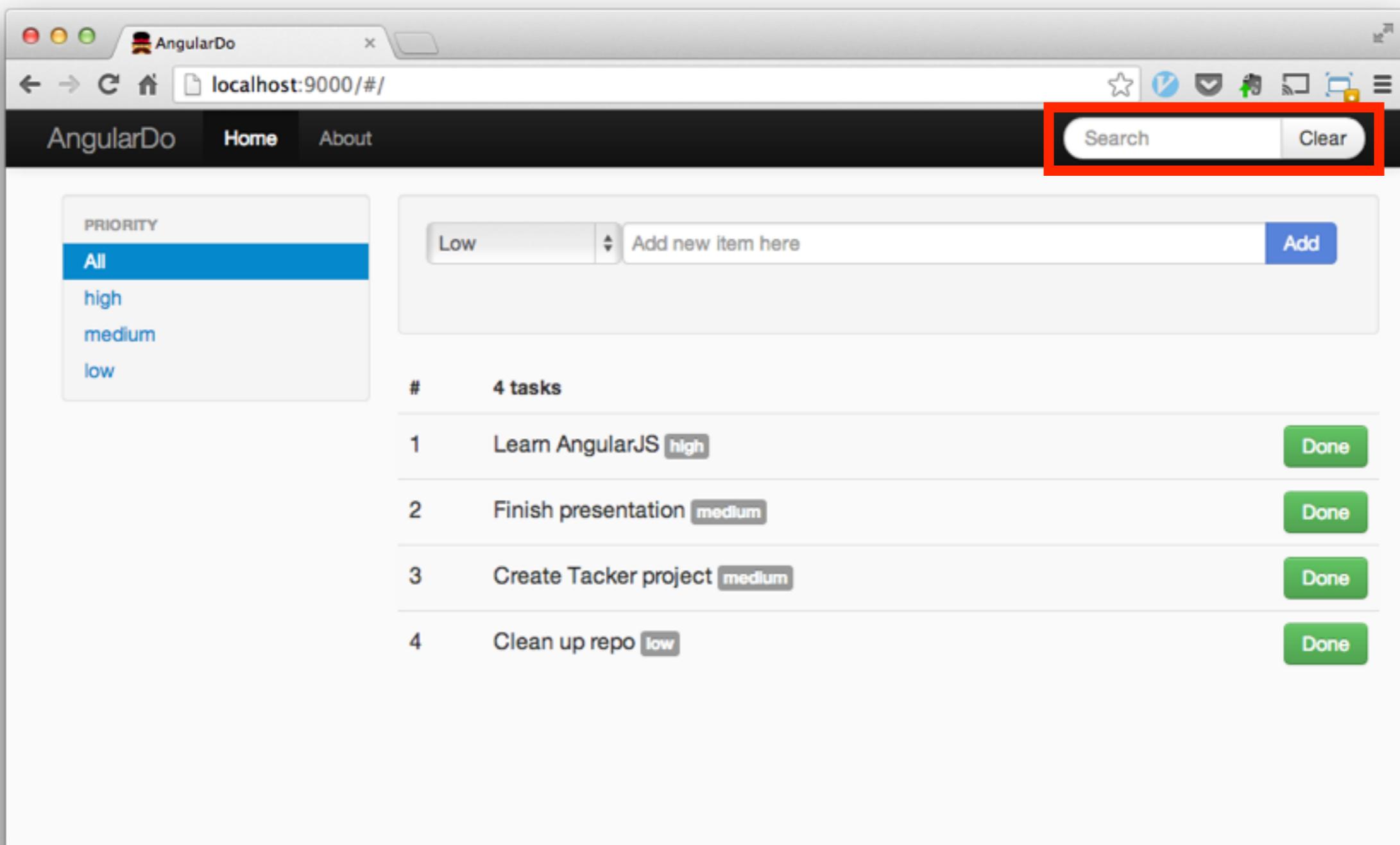
# Feature #5 Complete

# Feature #6

## Search tasks

```
git checkout -f feature_6_step_0
```

# Feature UI



The screenshot shows a web application titled "AngularDo" running on a Mac OS X desktop. The window title is "AngularDo". The address bar shows "localhost:9000/#/". The top navigation bar includes links for "AngularDo", "Home", and "About". On the right side of the top bar is a search bar with a red rectangular highlight around it, containing the text "Search" and "Clear" buttons.

**PRIORITY**

- All (selected)
- high
- medium
- low

Low Add new item here Add

# 4 tasks

1	Learn AngularJS	high	Done
2	Finish presentation	medium	Done
3	Create Tacker project	medium	Done
4	Clean up repo	low	Done

# User Story

As a user,  
I should be able to search tasks,  
so I can find important tasks

**Scenario:** Search task

When I search for 'Task 1'  
Then I should see 'Task 1' in the list

# e2e scenario

```
describe("Task search", function() {  
  it("should only display task that match the keyword", function() {  
    input("query.name").enter("Task 1");  
    expect(repeater('tr.task').count()).toBe(1);  
    expect(element('tr.task').text()).toMatch(/Task 1/);  
  });  
});
```

# Red scenario

```
Terminal — Google Chrome He — 95x24
INFO [watcher]: Changed file "/Volumes/MacOS/Dropbox/projects/angularjs-talk/AngularDo/test/e2e/scenarios.js".
Chrome 30.0.1599 (Mac OS X 10.8.5): Executed 13 of 13 SUCCESS (4.343 secs / 3.872 secs)
INFO [watcher]: Changed file "/Volumes/MacOS/Dropbox/projects/angularjs-talk/AngularDo/test/e2e/scenarios.js".
Chrome 30.0.1599 (Mac OS X 10.8.5) ERROR
    Uncaught SyntaxError: Unexpected identifier
        at /Volumes/MacOS/Dropbox/projects/angularjs-talk/AngularDo/test/e2e/scenarios.js:104
Chrome 30.0.1599 (Mac OS X 10.8.5): Executed 0 of 0 ERROR (0.371 secs / 0 secs)
INFO [watcher]: Changed file "/Volumes/MacOS/Dropbox/projects/angularjs-talk/AngularDo/test/e2e/scenarios.js".
Chrome 30.0.1599 (Mac OS X 10.8.5) Scenarios: Task search should only display task that match the keyword FAILED
    TypeError: Object #<Object> has no method 'toMath'
Chrome 30.0.1599 (Mac OS X 10.8.5): Executed 14 of 14 (1 FAILED) (4.075 secs / 3.606 secs)
INFO [watcher]: Changed file "/Volumes/MacOS/Dropbox/projects/angularjs-talk/AngularDo/test/e2e/scenarios.js".
Chrome 30.0.1599 (Mac OS X 10.8.5) Scenarios: Task search should only display task that match the keyword FAILED
    input 'query.name' enter 'Task 1'
        /Volumes/MacOS/Dropbox/projects/angularjs-talk/AngularDo/test/e2e/scenarios.js:102:7: Selector [ng\:model="query.name"] did not match any elements.
Chrome 30.0.1599 (Mac OS X 10.8.5): Executed 14 of 14 (1 FAILED) (4.347 secs / 3.882 secs)
```

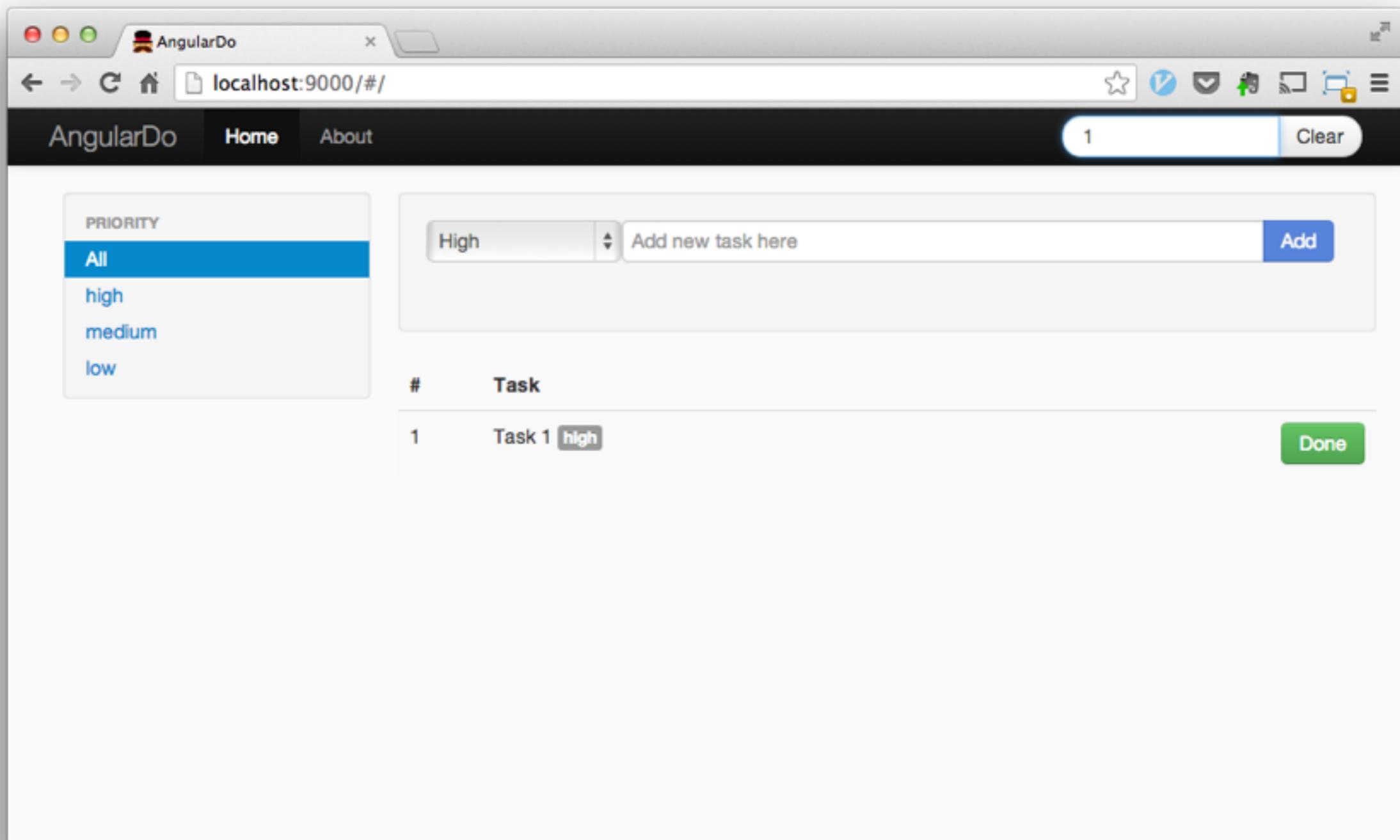
# filter:query

```
<input ng-init="query.name = ''" ng-model="query.name" ...>
```



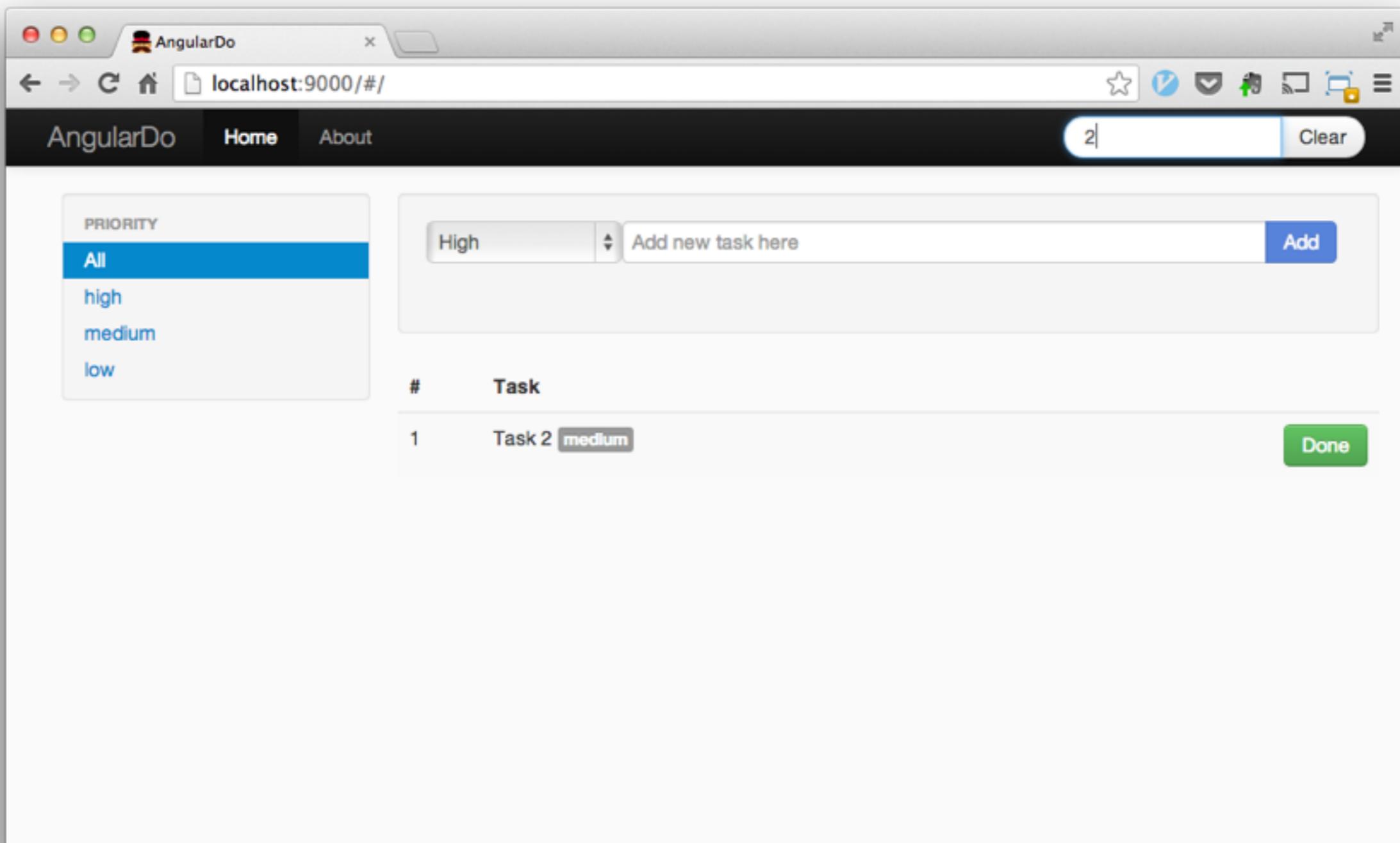
```
<button ng-click="query.name = ''" ...>Clear</button>
```

```
<tr ng-repeat="task in tasks | filter:query" class="task">
```



# Green e2e scenario

```
Terminal — Google Chrome He — 95x24
INFO [watcher]: Changed file "/Volumes/MacOS/Dropbox/projects/angularjs-talk/AngularDo/test/e2e/scenarios.js".
Chrome 30.0.1599 (Mac OS X 10.8.5) ERROR
    Uncaught SyntaxError: Unexpected identifier
        at /Volumes/MacOS/Dropbox/projects/angularjs-talk/AngularDo/test/e2e/scenarios.js:104
Chrome 30.0.1599 (Mac OS X 10.8.5): Executed 0 of 0 ERROR (0.371 secs / 0 secs)
INFO [watcher]: Changed file "/Volumes/MacOS/Dropbox/projects/angularjs-talk/AngularDo/test/e2e/scenarios.js".
Chrome 30.0.1599 (Mac OS X 10.8.5) Scenarios: Task search should only display task that match the keyword FAILED
    TypeError: Object #<Object> has no method 'toMath'
Chrome 30.0.1599 (Mac OS X 10.8.5): Executed 14 of 14 (1 FAILED) (4.075 secs / 3.606 secs)
INFO [watcher]: Changed file "/Volumes/MacOS/Dropbox/projects/angularjs-talk/AngularDo/test/e2e/scenarios.js".
Chrome 30.0.1599 (Mac OS X 10.8.5) Scenarios: Task search should only display task that match the keyword FAILED
    input 'query.name' enter 'Task 1'
        /Volumes/MacOS/Dropbox/projects/angularjs-talk/AngularDo/test/e2e/scenarios.js:102:7: Selector [ng\:model="query.name"] did not match any elements.
Chrome 30.0.1599 (Mac OS X 10.8.5): Executed 14 of 14 (1 FAILED) (4.347 secs / 3.882 secs)
INFO [watcher]: Changed file "/Volumes/MacOS/Dropbox/projects/angularjs-talk/AngularDo/test/e2e/scenarios.js".
Chrome 30.0.1599 (Mac OS X 10.8.5): Executed 14 of 14 SUCCESS (4.397 secs / 3.916 secs)
```



All test are green

# Feature #6 Complete

# Feature #7

## Persist tasks

```
git checkout -f feature_7_step_0
```

# User Story

As a user,  
I should be able to persist my tasks,  
so I can access my task anywhere

**Scenario:** Persist tasks

When I add a new task  
Then it should be persisted in the database

**Scenario:** Mark as task as done

When I mark a task as done  
Then it should be removed from the database

# \$resource unit tests

```
it("should save the new task", function() {  
  scope.add(task);  
  expect($save).toHaveBeenCalled();  
});
```

```
it("should remove new task from data store", function() {  
  scope.remove(1, task);  
  expect(task.$remove).toHaveBeenCalled();  
});
```

# Red unit test

```
secs)
INFO [watcher]: Changed file "/Volumes/MacOS/Dropbox/projects/angularjs-talk/AngularDo/app/scripts/controllers.js".
Chrome 30.0.1599 (Mac OS X 10.8.5): Executed 1 of 8 SUCCESS (0 secs / 0.025 secs
Chrome 30.0.1599 (Mac OS X 10.8.5) Controllers TaskCtrl add should save the new task FAILED
    Expected spy $save to have been called.
    Error: Expected spy $save to have been called.
        at null.<anonymous> (/Volumes/MacOS/Dropbox/projects/angularjs-talk/AngularDo/test/spec/controllers.js:52:24)
Chrome 30.0.1599 (Mac OS X 10.8.5): Executed 4 of 8 (1 FAILED) (0 secs / 0.069 s
Chrome 30.0.1599 (Mac OS X 10.8.5): Executed 5 of 8 (1 FAILED) (0 secs / 0.079 s
Chrome 30.0.1599 (Mac OS X 10.8.5) Controllers TaskCtrl remove should remove new task from data store FAILED
    Expected spy $remove to have been called.
    Error: Expected spy $remove to have been called.
        at null.<anonymous> (/Volumes/MacOS/Dropbox/projects/angularjs-talk/AngularDo/test/spec/controllers.js:72:31)
Chrome 30.0.1599 (Mac OS X 10.8.5): Executed 6 of 8 (2 FAILED) (0 secs / 0.082 s
Chrome 30.0.1599 (Mac OS X 10.8.5): Executed 7 of 8 (2 FAILED) (0 secs / 0.083 s
Chrome 30.0.1599 (Mac OS X 10.8.5): Executed 8 of 8 (2 FAILED) (0 secs / 0.083 s
Chrome 30.0.1599 (Mac OS X 10.8.5): Executed 8 of 8 (2 FAILED) (0.476 secs / 0.083 secs)
```

# \$resource

```
angular.module('AngularDoApp')
.controller('TaskCtrl', function ($scope, Task, $resource) {
  ...
})
.factory('Task', ['$resource', function($resource){
  return $resource('http://localhost\\:3000/:path/:id', {}, {
    query: {method: 'GET', params:{path: 'tasks.json'}, isArray:true},
    get: {method: 'GET', params:{path: ''}},
    save: {method: 'POST', params:{path: 'tasks.json'}},
    remove: {method: 'DELETE', params:{path: 'tasks'}}
  });
}]);
```

# \$save, \$remove

```
$scope.add = function(task) {
  var newTask = new Task(); // use to be new Object()
  newTask.name = task.name;
  newTask.priority = task.priority;
  newTask.$save();
  $scope.tasks.push(newTask);
};

$scope.remove = function(index, task) {
  var id = task.url.replace("http://localhost:3000/tasks/", '');
  task.$remove({id: id});
  $scope.tasks.splice(index, 1);
};
```

# Green unit test

```
Terminal — Google Chrome He — 80x24
Chrome 30.0.1599 (Mac OS X 10.8.5): Executed 8 of 8 (2 FAILED) (0.476 secs / 0.0
83 secs)
INFO [watcher]: Changed file "/Volumes/MacOS/Dropbox/projects/angularjs-talk/Ang
ularDo/app/scripts/controllers.js".
Chrome 30.0.1599 (Mac OS X 10.8.5): Executed 1 of 8 SUCCESS (0 secs / 0.021 secs
Chrome 30.0.1599 (Mac OS X 10.8.5): Executed 3 of 8 SUCCESS (0 secs / 0.068 secs
Chrome 30.0.1599 (Mac OS X 10.8.5): Executed 4 of 8 SUCCESS (0 secs / 0.071 secs
Chrome 30.0.1599 (Mac OS X 10.8.5): Executed 5 of 8 SUCCESS (0 secs / 0.077 secs
Chrome 30.0.1599 (Mac OS X 10.8.5): Executed 7 of 8 SUCCESS (0 secs / 0.081 secs
Chrome 30.0.1599 (Mac OS X 10.8.5): Executed 8 of 8 SUCCESS (0 secs / 0.081 secs
Chrome 30.0.1599 (Mac OS X 10.8.5): Executed 8 of 8 SUCCESS (0.463 secs / 0.081
secs)
INFO [watcher]: Changed file "/Volumes/MacOS/Dropbox/projects/angularjs-talk/Ang
ularDo/test/spec/controllers.js".
Chrome 30.0.1599 (Mac OS X 10.8.5): Executed 1 of 8 SUCCESS (0 secs / 0.027 secs
Chrome 30.0.1599 (Mac OS X 10.8.5): Executed 2 of 8 SUCCESS (0 secs / 0.035 secs
Chrome 30.0.1599 (Mac OS X 10.8.5): Executed 4 of 8 SUCCESS (0 secs / 0.042 secs
Chrome 30.0.1599 (Mac OS X 10.8.5): Executed 5 of 8 SUCCESS (0 secs / 0.044 secs
Chrome 30.0.1599 (Mac OS X 10.8.5): Executed 6 of 8 SUCCESS (0 secs / 0.048 secs
Chrome 30.0.1599 (Mac OS X 10.8.5): Executed 7 of 8 SUCCESS (0 secs / 0.048 secs
Chrome 30.0.1599 (Mac OS X 10.8.5): Executed 8 of 8 SUCCESS (0 secs / 0.048 secs
Chrome 30.0.1599 (Mac OS X 10.8.5): Executed 8 of 8 SUCCESS (0.365 secs / 0.048
secs)
```

All test are green

# Feature #7 Complete

# Feature #8

## Task counter

```
git checkout -f feature_8_step_0
```

# Feature UI

The screenshot shows a web application titled "AngularDo" running on a Mac OS X system. The application interface includes a navigation bar with "AngularDo", "Home", and "About" links, and a search bar with "Search" and "Clear" buttons. On the left, there's a sidebar labeled "PRIORITY" with "All" selected, and options for "high", "medium", and "low". The main content area displays a list of tasks:

- Low Add new item here Add
- # 4 tasks
- 1 Learn AngularJS high Done
- 2 Finish presentation medium Done
- 3 Create Tacker project medium Done
- 4 Clean up repo low Done

A red box highlights the "# 4 tasks" summary at the top of the task list.

# User Story

As a user,  
I should see the number of tasks,  
so I can estimate amount of outstanding work

**Scenario:** Task counter

When I navigate to home page  
Then I should see the number of tasks

# e2e scenario

```
describe("Task counter", function() {  
  it("should display number of visible tasks", function() {  
    expect(element(".js-task-counter").text()).toEqual("3 tasks");  
  });  
});
```

# Red e2e scenario

```
Terminal — Google Chrome He — 96x24
  selector [ng\:model="task.name"] did not match any elements.
  Chrome 30.0.1599 (Mac OS X 10.8.5) Scenarios: Add a new task when the new task is invalid should
    leave the task list unchanged FAILED
      input 'task.name' enter ''
      /Volumes/MacOS/Dropbox/projects/angularjs-talk/AngularDo/test/e2e/scenarios.js:43:9: Sel
  ector [ng\:model="task.name"] did not match any elements.
  Chrome 30.0.1599 (Mac OS X 10.8.5) Scenarios: Add a new task when the new task is invalid should
    display an error message FAILED
      input 'task.name' enter ''
      /Volumes/MacOS/Dropbox/projects/angularjs-talk/AngularDo/test/e2e/scenarios.js:43:9: Sel
  ector [ng\:model="task.name"] did not match any elements.
  Chrome 30.0.1599 (Mac OS X 10.8.5): Executed 7 of 7 (4 FAILED) (5.68 secs / 4.989 secs)
  INFO [watcher]: Changed file "/Volumes/MacOS/Dropbox/projects/angularjs-talk/AngularDo/test/e2e/
scenarios.js".
  Chrome 30.0.1599 (Mac OS X 10.8.5): Executed 14 of 14 SUCCESS (13.526 secs / 12.736 secs)
  INFO [watcher]: Changed file "/Volumes/MacOS/Dropbox/projects/angularjs-talk/AngularDo/test/e2e/
scenarios.js".
  Chrome 30.0.1599 (Mac OS X 10.8.5) Scenarios: Task counter should display number of visible task
  s FAILED
    element '.js-task-counter' text
    /Volumes/MacOS/Dropbox/projects/angularjs-talk/AngularDo/test/e2e/scenarios.js:129:14: S
elector .js-task-counter did not match any elements.
  Chrome 30.0.1599 (Mac OS X 10.8.5): Executed 15 of 15 (1 FAILED) (10.072 secs / 9.47 secs)
```

# pluralize filter

```
{filtered.length | pluralize:'task'}
```

```
<tr ng-repeat="task in filtered = (tasks | filter:query)" ...>
```

# pluralize unit test

```
describe('pluralizeFilter', function() {
  it('should return pluralized number of nouns',
    inject(function(pluralizeFilter) {
      expect(pluralizeFilter(0, "apple")).toBe('No apples');
      expect(pluralizeFilter(1, "apple")).toBe('1 apple');
      expect(pluralizeFilter(2, "apple")).toBe('2 apples');
    }));
});
```

# Red unit test

```
Terminal — Google Chrome He — 80x24
    at Object.getService [as get] (/Volumes/MacOS/Dropbox/projects/angularjs-talk/AngularDo/app/bower_components/angular/angular.js:2960:39)
        at /Volumes/MacOS/Dropbox/projects/angularjs-talk/AngularDo/app/bower_components/angular/angular.js:2837:45
            at getService (/Volumes/MacOS/Dropbox/projects/angularjs-talk/AngularDo/app/bower_components/angular/angular.js:2960:39)
                at Object.invoke (/Volumes/MacOS/Dropbox/projects/angularjs-talk/AngularDo/app/bower_components/angular/angular.js:2978:13)
                    at workFn (/Volumes/MacOS/Dropbox/projects/angularjs-talk/AngularDo/app/bower_components/angular-mocks/angular-mocks.js:1795:20)
                        Error: Declaration Location
                            at window.jasmine.window.inject.angular.mock.inject (/Volumes/MacOS/Dropbox/projects/angularjs-talk/AngularDo/app/bower_components/angular-mocks/angular-mocks.js:1781:25)
                                at null.<anonymous> (/Volumes/MacOS/Dropbox/projects/angularjs-talk/AngularDo/test/spec/filters.js:8:40)
                                    at null.<anonymous> (/Volumes/MacOS/Dropbox/projects/angularjs-talk/AngularDo/test/spec/filters.js:7:4)
                                        at /Volumes/MacOS/Dropbox/projects/angularjs-talk/AngularDo/test/spec/filters.js:3:1
Chrome 30.0.1599 (Mac OS X 10.8.5): Executed 8 of 8 (1 FAILED) (0 secs / 0.058 s)
Chrome 30.0.1599 (Mac OS X 10.8.5): Executed 8 of 8 (1 FAILED) (0.394 secs / 0.058 secs)
```

# pluralize filter

```
'use strict';

angular.module('AngularDoApp')
  .filter('pluralize', function() {
    return function(number, noun){
      if (number == 0)
        return "No " + noun + "s";
      if (number == 1)
        return number + " " + noun;
      return number + " " + noun + "s";
    }
  });
}
```

# Green unit test

```
Terminal — Google Chrome He — 80x24
AngularDo/test/spec/filters.js:7:4
    at /Volumes/MacOS/Dropbox/projects/angularjs-talk/AngularDo/test/spec/filters.js:3:1
Chrome 30.0.1599 (Mac OS X 10.8.5): Executed 8 of 8 (1 FAILED) (0 secs / 0.058 s)
Chrome 30.0.1599 (Mac OS X 10.8.5): Executed 8 of 8 (1 FAILED) (0.394 secs / 0.058 secs)
INFO [watcher]: Changed file "/Volumes/MacOS/Dropbox/projects/angularjs-talk/AngularDo/app/scripts/filters.js".
Chrome 30.0.1599 (Mac OS X 10.8.5) ERROR
    Uncaught SyntaxError: Unexpected token .
    at /Volumes/MacOS/Dropbox/projects/angularjs-talk/AngularDo/app/scripts/filters.js:4
Chrome 30.0.1599 (Mac OS X 10.8.5): Executed 0 of 0 ERROR (0.452 secs / 0 secs)
INFO [watcher]: Changed file "/Volumes/MacOS/Dropbox/projects/angularjs-talk/AngularDo/app/scripts/filters.js".
Chrome 30.0.1599 (Mac OS X 10.8.5): Executed 2 of 8 SUCCESS (0 secs / 0.154 secs)
Chrome 30.0.1599 (Mac OS X 10.8.5): Executed 3 of 8 SUCCESS (0 secs / 0.183 secs)
Chrome 30.0.1599 (Mac OS X 10.8.5): Executed 4 of 8 SUCCESS (0 secs / 0.185 secs)
Chrome 30.0.1599 (Mac OS X 10.8.5): Executed 5 of 8 SUCCESS (0 secs / 0.206 secs)
Chrome 30.0.1599 (Mac OS X 10.8.5): Executed 6 of 8 SUCCESS (0 secs / 0.209 secs)
Chrome 30.0.1599 (Mac OS X 10.8.5): Executed 8 of 8 SUCCESS (0 secs / 0.212 secs)
Chrome 30.0.1599 (Mac OS X 10.8.5): Executed 8 of 8 SUCCESS (0.669 secs / 0.212 secs)
```

# Green e2e scenario

```
Terminal — Google Chrome He — 96x24
      input 'task.name' enter ''
      /Volumes/MacOS/Dropbox/projects/angularjs-talk/AngularDo/test/e2e/scenarios.js:43:9: Selector [ng\:model="task.name"] did not match any elements.
      Chrome 30.0.1599 (Mac OS X 10.8.5): Executed 7 of 7 (4 FAILED) (5.68 secs / 4.989 secs)
      INFO [watcher]: Changed file "/Volumes/MacOS/Dropbox/projects/angularjs-talk/AngularDo/test/e2e/scenarios.js".
      Chrome 30.0.1599 (Mac OS X 10.8.5): Executed 14 of 14 SUCCESS (13.526 secs / 12.736 secs)
      INFO [watcher]: Changed file "/Volumes/MacOS/Dropbox/projects/angularjs-talk/AngularDo/test/e2e/scenarios.js".
      Chrome 30.0.1599 (Mac OS X 10.8.5) Scenarios: Task counter should display number of visible tasks FAILED
          element '.js-task-counter' text
          /Volumes/MacOS/Dropbox/projects/angularjs-talk/AngularDo/test/e2e/scenarios.js:129:14: Selector .js-task-counter did not match any elements.
          Chrome 30.0.1599 (Mac OS X 10.8.5): Executed 15 of 15 (1 FAILED) (10.072 secs / 9.47 secs)
          ^C
[system] Andys-MacBook-Pro in ~/projects/angularjs-talk/AngularDo
± |master ✘| → ./run-e2e-tests.sh
WARN [proxy]: proxy "/proxy" normalized to "/proxy/"
INFO [karma]: Karma v0.10.4 server started at http://localhost:9876/
INFO [launcher]: Starting browser Chrome
INFO [Chrome 30.0.1599 (Mac OS X 10.8.5)]: Connected on socket 6VAIyvtGofDw99pvMwTk
Chrome 30.0.1599 (Mac OS X 10.8.5): Executed 15 of 15 SUCCESS (9 secs / 8.467 secs)
```

The screenshot shows a web application titled "AngularDo" running on a Mac OS X system. The browser window has a title bar with the title "AngularDo" and a tab labeled "localhost:9000/#/". The main content area features a navigation bar with "AngularDo", "Home", and "About" links, along with "Search" and "Clear" buttons. On the left, there's a sidebar titled "PRIORITY" with "All" selected, and options for "high", "medium", and "low". The main area displays a form to "Add new task here" with a priority dropdown set to "High" and an "Add" button. Below this, a section titled "# 3 tasks" lists three items:

#	Task Description	Priority	Status
1	Medium priority task	medium	Done
2	Low priority task	low	Done
3	High priority task	high	Done

All test are green

# Feature #8 Complete

# grunt build

```
Terminal — bash — 80x24
url(..../images/glyphicons-halflings-white.png) changed to url(..../images/41ed205e.
glyphicons-halflings-white.png)

Done, without errors.

Elapsed time
useminPrepare:html          31ms
concurrent:dist              10s
autoprefixer:dist            244ms
concat:dist/scripts/plugins.js 21ms
copy:dist                     4s
cdnify:dist                  60ms
ngmin:dist                   674ms
cssmin:dist/styles/main.css   94ms
uglify:dist                   74ms
uglify:dist/scripts/plugins.js 507ms
uglify:dist/scripts/modules.js 137ms
rev:dist                      22ms
usemin:html                  2s
usemin:css                    319ms
Total                         19s

|ruby-2.0.0-p247| Andys-MacBook-Pro in ~/projects/angularjs-talk/AngularDo
± |master x| →
```

# Questions?