1. General

Definition: A palindrome is a word, phrase, number, or other sequence of characters, which reads the same backward or forward. The project implementation assumes one character is not a palindrome.

The task of identifying all palindromes in a string, I have divided on subtasks:

* Splitting a string on substrings
* Check if a string is palindrome
* Get only unique palindromes
* Sort palindromes by length

2. Structure of the project

/build – contains built project sources

/custom\_modules – stores custom modules

/src – contains source files

/src/modules – contains AMD modules for Systemjs

/src/styles – stores stylesheets for the project

/src/dev.html –file to launch project on the development stage

/src/index.html – file to launch project on the production stage. It’s used on the build stage.

/test – contains source files related to testing the project

/test/lib – contains library dependencies

/test/spec – contains spec files

/test/spec.js – used to include specs dependencies

/test/index.html – file to run testing in browser

3. Preconditions

- Install nodejs.

- Install Grunt globally: **npm install –g grunt.**

- Install CLI for Grunt: **npm install -g grunt-cli.**

- Install Grunt locally: run **npm install grunt** in project root directory.

- Install all required modules**: npm install.**

Also for development, you should allow http requests in browser.

4. Configuration of build system

As build system I used grunt. All build tasks are described in Gruntfile.js.

Available tasks:

**grunt live** – used to watch all changes in browser without refreshing the project.

**grunt code** – used to inspect code with JSHint.

**grunt test** – used to run tests.

**grunt build** – used to build.

**grunt release** – used on release stage. It runs subtasks: test, code and build. The task will fail if any of these subtasks do not complete successfully.

5. Deployment

To deploy the project you need:

1. Run task **grunt release** in CLI for project root folder.
2. Copy all contents of build folder to hosting folder.
3. Run **index.html.**

6. Tests

There are two possibilities to run tests:

1. Use **grunt test** command to run tests from CLI.
2. Launch a file /test/index.html to run tests in browser.

For tests, I used BDD framework Jasmine. For more detailed tests description, please refer to spec file – test/spec/palindrome.js.