

# Port Jangouts from AngularJS 1.4

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## Summary

Nobody knows when Angular 2 is going to be released but it will be early, and all AngularJS 1.X projects should be migrated to the new version. With this proposal I will migrate the actual code of Jangouts from Angular 1.4 to Angular 2.

The new version of Angular is really different from the previous version. Migrating Jangouts to the new version is necessary but this implies a lot of work. First migrate from ECMAScript 5 to TypeScript and, at the same time, update the code to the new version of Angular 2.

On the other hand, during the transition a testsuite will be added.

## Benefits for Jangouts

- With the migration to Angular 2 the code will be more maintainable and Jangouts can benefit from improvements that implies use Angular 2.
- A testsuite will make the project more stable and will make the integration of contributions easy, without compromising the proper working.
- This work will facilitate to upgrade and use the new libraries that are appearing (Webpack<sup>1</sup>, Native Script<sup>2</sup>, Angular Universal<sup>3</sup>)

## Project Goals

Goals to accomplish in this project:

- Migrate code from ECMAScript 5 to TypeScript.
- Migrate code from Angular 1.4 to Angular 2.
- Add a testsuite for the project.
- Write and update a proper documentation.
- Update build tools.

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<sup>1</sup><https://webpack.github.io/>

<sup>2</sup><https://www.nativescript.org/>

<sup>3</sup><https://github.com/angular/universal>

# Implementation

First the implementation that will be done with this project should follow the most commonly used style guide for Angular 2 (draft)<sup>4</sup>. There are different ways for migrate to Angular 2:

- Make an hybrid application with AngularJS and Angular 2.
- Rewrite the whole code to Angular 2.

This will be the first point of discussion when deciding which strategy to adopt.

After that, the use of TypeScript as a new language can produce some troubles. TypeScript requires a definitions files for the libraries we want to include with the `import` syntax, but now *janus-gateway* doesn't have this definition file. So in a first implementation the library will be included as usually (with an script tag in HTML) but at the end of the project, it would be interesting make a definition file for the *janus* library.

Certainly TypeScript is not required to write Angular 2 applications, but is recommended by a wide group of developers and the use of this language brings some benefits:

- Since TypeScript is a superset of JavaScript, we don't need to go through a big rewrite to migrate to it.
- Makes abstractions more explicit.
- Makes code easier to read and understand.
- Since Typescript is a statically typed language we get type errors compile-time and runtime, and better auto-completion by the text editors and IDEs.

The main implementation can be split in 4 blocks (not necessarily in this order):

1. Setup build tools (Gulp, Webpack...) to handle TypeScript files.
2. Write components, providers and routes.
3. Write testsuite.
4. Write documentation

## Tentative Timeline

### Before April 22:

- To familiarize myself with Jangouts functionality and architecture.
- Study how WebRTC works and get an idea of how browsers manage it.
- To familiarize myself with Janus-Gateways and Janus JavaScript library.

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<sup>4</sup><https://github.com/johnpapa/angular-styleguide/blob/master/a2/README.md>

**April 22 – May 23 (Before the official coding time):**

- To do self coding with Angular 2, Webpack and other tools to improve my further understanding and ease of use in this project.
- During this period I will remain in constant touch with my mentor and the Angular 2 community. I will remain active on IRC and mailing lists to be update of the possible modifications that can suffer the Angular 2 API.
- With the help of my mentor I will become absolutely clear about my future goals and the detailed roadmap I will follow.

**May 23 – June 20 (Official coding period starts):**

- Setup the build system for new language.
- Define all components, providers and routes.
- Write the main code to interact with Janus-Gateway.

Leave the code related to the user interface to the last part of coding period, force me to write a complete testsuite to ensure that providers works.

In this dates I will have two exams (June 2 and June 17), so maybe I will not be in touch with my mentor as often as I would like.

**MID TERM EVALUATION****June 20 – July 15:**

- Implement all the components for the application and connect it with providers.
- Complete the testsuite and try to accomplish a high level of coverage.

**July 15 - July 25:**

- To be in constant touch with my mentor and the community to let them know about our progress.
- Most of the time will be consumed for rigorous testing and bug fixes.

**July 25 – July 31:**

- For Documentation

A Buffer of two weeks has been kept for any unpredictable delay.

## Bonus track

If I get the all goals before the deadline, I will try to apply some of this improvements to Jangouts:

- Build a TypeScript definition file for janus-gateway JavaScript library.
- Add code quality services for coverage, duplicate code detection, etc. (Code Climate<sup>5</sup>, Travis Ci<sup>6</sup>, Coveralls<sup>7</sup>...)
- Add RxJS powered state management (@ngrx/store<sup>8</sup>)
- Improve mobile experience

## About

I've been working a long time with JavaScript and with AngularJS since two years ago, collaborating in some projects like `angular-http-batcher`<sup>9</sup> or `bootstrap-datetimepicker`<sup>10</sup>. I'm interested in this project because I'm learning about Angular 2 (I made a Yeoman generator<sup>11</sup>) and migrate Jangouts will be a way to do this returning something to the open source community.

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<sup>5</sup><https://codeclimate.com/>

<sup>6</sup><https://travis-ci.org/>

<sup>7</sup><https://coveralls.io/>

<sup>8</sup><https://github.com/ngrx/store>

<sup>9</sup><https://github.com/jonsamwell/angular-http-batcher/pull/26>

<sup>10</sup><https://github.com/smalot/bootstrap-datetimepicker>

<sup>11</sup><https://github.com/magarcia/generator-angular2-webpack-starter>