

# TypeScript and Building Libraries

By Spencer Pollock

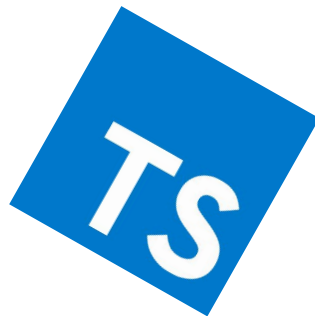


# TypeScript



- What is Typescript
- Advantages
- Why use it?

# What is Typescript?



- JavaScript Super Set
- More robust software while still deployable to Javascript
- Able to use newer features of the ECMAScript standards over Javascript
- Uses type inference over Javascript dynamically typed
- Enhanced IDE support; IDE informed in realtime by the Typescript compiler for errors
- Strict null checks (--strictNullChecks compiler flag)
  - No undefined variables allowed unless specifically defined
  - ex: ``let x: number | undefined = undefined;``
- Allows for incremental builds

# GitHub Gist

There's more, but that's the gist

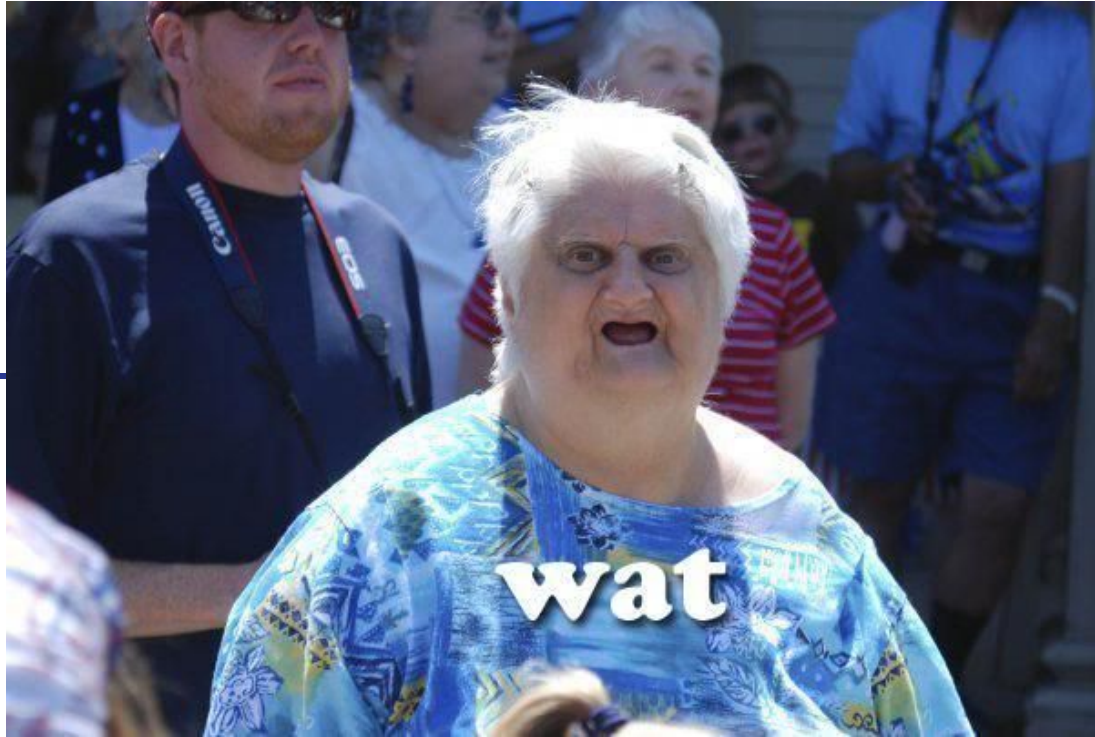
Basic stuff:



# So let's make a TypeScript project



... --save-





Cool! Now write a function to  
export for your own library



```
export function add(x: number, y: number) : number {  
    return x + y;  
}
```

- `export` is a keyword
- `x: number` is `[variable]:[type]`
- `Function() : number`: number is the returned type



# The Other Things

## Section 2

- Npm
- Rollup & Babe
- Config Files
- Mocha & Chai

# npm - Node Package Manager

- Online repository for node libraries
- Creates project dependencies
- Quick and simple to install and use
- Great to distribute libraries



# Rollup

- Module bundler
  - What's that?
  - Why?



# Babel

- JavaScript compiler
  - Why do I need that?



# Config Files

I should probably talk about this  
now...

- package.json
- tsconfig.json
- rollup.config.json
- .babelrc (put in package.json)

So now let's bundle our project!



# Mocha & Chai

- Mocha: test framework
- Chai: TDD/BDD assertion library
- Why do these matter?
  - Verbose
  - Simple to understand when writing your tests
  - Simple to understand when reading your test results





Let's write some tests then!







Wait, that's it?

YES!

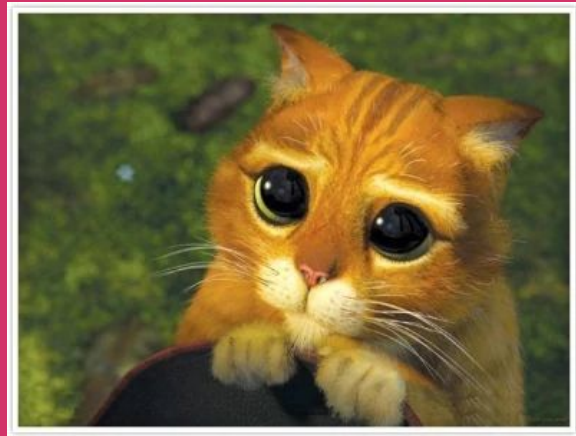
YES!

YES!



YES! Now we can publish!

# Questions?



Please?

# Thank You





GitHub Link to my finished project

# References

- <https://www.typescriptlang.org/docs/>
- <https://github.com/umdjs/umd>
- <https://github.com/amdjs/amdjs-api/wiki/AMD>
- <https://codeburst.io/https-chid-ume-nnamdi-com-npm-module-in-typescript-12b3b22f0724>
- <https://rollupjs.org/>
- <https://babeljs.io/>
- <https://mochajs.org/>
- <http://www.chaijs.com/>
- <https://www.npmjs.com/>
- Many many more