JSX v/s TSX

Tsx advantages:

* Both compile down to pure javascript.
* Typescript need a very good understanding of interface and data type.
* Going for TypeScript is not an on-off switch. It is instead a gradual adaptation depending on the current condition of the project. Suppose you have decided to use TypeScript for an ongoing React project. In that case, you need to look at how you can use JavaScript and TypeScript side by side and gradually increase the TypeScript coverage.
* **Better Refactoring**

With TypeScript, refactoring is much easier since we know the exact Types and where to change them. And early detection of that something went wrong will ensure that you are not breaking anything.

* **Less amount of undefined errors**

The risk of appearing Undefined errors at runtime is less since the TypeScript compiler also detects them at transpile time.

* **Better readability and maintainability**

With Type Definitions, the codebase will be much readable and maintainable. You can easily follow object-oriented programming principles and use the constructs like Interfaces to structure your code with the least coupling.

Disadv:

* The learning curve could be one of the difficulties of starting with TypeScript, especially if your team comes from a vanilla JavaScript background. In this case, the best option is to go for a gradual adaptation

(But if the team is familiar with strongly typed languages, for example, Java or C#, learning Typescript is relatively straight forward.)

* A third party Library could be missing Type Definitions (Since TypeScript has already gained popularity, this is a rare case.)

## Compilation time

Since the source code building has to go through another layer of transpiling, it will, of course, add another few milliseconds of extra time. But this will not be noticeable most of the time.

Conversion from jsx to tsx

<https://facebook.github.io/create-react-app/docs/adding-typescript>

1. npm install --save typescript @types/node @types/react @types/react-dom @types/jest

2. rename js/jsx to ts/tsx files

3. npm install @babel/preset-typescript

4. Add in .babelrc file

"presets": ["@babel/preset-typescript", "@babel/preset-react", "@babel/preset-env"],

( optional props have to be specified otherwise throws errors)