

What the Flow??!! 🧠💥

Learnings Migrating to TypeScript



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DISCLAIMER:


**Just based on my experience.
Please don't take this as a best practice.**


Why the change? 🤔


Multiple reasons
(your situation might be different)


But first some context


Flow in Mobile & Web apps


 Tax 2018


 To Do


 Account


 Living situation

 Income

 Home

 Work

 Health

 Finances

Relationship status

Names


Personal details

Children

At home

Living abroad

Foreign income

What is your official marital status in Germany? 

Single

Married / civil partnership

Divorced

Widowed

It's complicated

9:41 AM

<


Living Situation 2016

CHILDREN


No >


LIVING ALONE


Yes >




What were you doing throughout the year 2016?

☒  Working

☐  Studying

☐  Training

☐  Freelancing

TypeScript in the backend

- Microservices
- Shared libraries
- Shared types – @taxfix/types



Flow problems
flow-typed & flow-bin

flow-bin

Internally coupled to React features and versions:

We had **0.83.0**

React Hooks needed **0.87.0**

Parameters in useCallback needed **0.88.0**

React.forwardRef needed **0.89.0**

React.useImperativeHandle needed **0.92.0**

It never ends 🦴



Understanding complex Flow errors

How we started migrating ✨



Flow & TypeScript working together
Progressive migration of components
Then everything else

rescripts

Update to latest rescripts

```
yarn add -D @rescripts/cli@^0.0.7
```

Which updates underlying Create React App

```
react-scripts@^2.1.0
```

tsconfig.json

Install **typescript** as dev dependency

```
yarn add -D typescript
```

Exclude Flow .js files

```
"include": ["src"],  
"exclude": ["src/**/*.js"]
```

.eslintrc

New rule:




```
"import/extensions": [0, "never", { "ts": "never" }],
```

New setting:

```
"import/resolver": {  
  "node": true,  
  "eslint-import-resolver-typescript": true  
}
```

Caveats ⚠

Importing

	From Flow file (.js)	From TypeScript file (.ts)
Flow file (.js)		
TypeScript file (.ts)	// \$FixFlowImport declare module	

.flowconfig

Add module definitions as a library:

```
[libs]
flow-typed
typescript-migration
```

Add suppress comment and type:

```
[options]
suppress_comment= \\(.\\|\\n\\.)*\\.$FlowIgnoreImport
suppress_type=$FlowIgnoreImport
```

Importing TypeScript from Flow

src/App.js

```
// $FlowFixImport  
import Component from '../path/to/typescript-file';
```

typescript-migration/definitions.js

```
declare module '../path/to/typescript-file' {  
  declare module.exports: any;  
}
```

Current situation



Thanks! 🙏

Q&A