

# TypeScript

## Setup

### Installation

Globally Install - `npm i -g typescript`

Transpile - `tsc <filename.ts>`

Install tsconfig.json - `tsc --init`

### Tsconfig.json

```
/* Modules */
```

target : compilation version

rootDir: starting point

```
/* Emit */
```

outDir: compiled files stored

"removeComments": true, remove comments when compiling to JS

"noEmitOnError": true, if there any error compiler will stop

After configure tsconfig.json can compile code using : `tsc`

```
"noImplicitAny": true,
```

```
"noUnusedParameters": true, this show warning when we are not using param  
inside the function
```

```
"noImplicitReturns": true, if we are not return anything, warning
```

```
"noUnusedLocals": true,
```

## Debugging

```
"sourceMap": true, Say how each line of code in file.ts map to the file.js
```

Create launch.json file and add line preLaunchTask

```
{  
    // Use IntelliSense to learn about possible attributes.  
    // Hover to view descriptions of existing attributes.
```

```
// For more information, visit:
https://go.microsoft.com/fwlink/?linkid=830387
{
  "version": "0.2.0",
  "configurations": [
    {
      "type": "pwa-node",
      "request": "launch",
      "name": "Launch Program",
      "skipFiles": [
        "<node_internals>/**"
      ],
      "program": "${file}",
      "preLaunchTask": "tsc: build - tsconfig.json",
      "outFiles": [
        "${workspaceFolder}/**/*.js"
      ]
    }
  ]
}
```

## Fundamentals

### YOU'LL LEARN

- The any Type
- Arrays
- Tuples
- Enums
- Functions
- Objects

### JavaScript

- number
- string
- boolean
- null
- undefined
- object

### TypeScript

- any
- unknown
- never
- enum
- tuple

script TypeScript Beginners [2022]

## Best Practises

- When assign values to array make sure to assign one data type. Then compiler can understand the type of variables
- When creating function annotate the return type
- Declare with type (without assigning )
  - Variable
  - Array
  - Parameters

Object are static, not dynamic such as JS