d.ts [illegible]

[illegible]

- [illegible]
- [illegible]
  - [illegible]
  - [illegible]
  - [illegible]
- declare [illegible]
- [illegible]
- [illegible]
  - /// <reference path="" />
  - /// <reference types="" />
  - /// <reference lib="" />

[illegible]

[illegible] declaration file [illegible]

[illegible] `[illegible].d.ts` [illegible] `d` [illegible] declaration[illegible]

[illegible]

```
const maxInterval = 12;


function getArrayLength(arr) {
  return arr.length;
}


module.exports = {
  getArrayLength,
  maxInterval,
};
```

[illegible]

```
export function getArrayLength(arr: any[]): number;
export const maxInterval: 12;
```

[illegible] `export =` [illegible] moment [illegible]

```
declare module 'moment' {
  function moment(): any;
  export = moment;
}
```

[illegible] `moment` [illegible] `moment()` [illegible] `export =` [illegible] `module.exports` [illegible]

[illegible] `export =` [illegible] `export default` [illegible]

```
// [illegible]
module.exports = 3.142;

// [illegible]
// [illegible]
declare const pi: number;
export default pi;

// [illegible]
declare const pi: number;
export= pi;
```

[illegible] `export default` [illegible] `export =` [illegible]

[illegible] `types.d.ts` [illegible]

```
// types.d.ts
export interface Character {
  catchphrase?: string;
  name: string;
}
```

[illegible] TypeScript [illegible]

```
// index.ts
import { Character } from "./types";


export const character:Character = {
  catchphrase: "Yee-haw!",
  name: "Sandy Cheeks",
};
```

[illegible] tsconfig.json
[illegible]
[illegible] moment [illegible] `moment.d.ts` [illegible] moment
[illegible] tsconfig.json [illegible]

```
{
  "compilerOptions": {},
  "files": [
    "src/index.ts",
    "typings/moment.d.ts"
  ]
}
```

[illegible]

[illegible]

- TypeScript [illegible]
- TypeScript [illegible]
- [illegible]

[illegible]

[illegible] `declaration` [illegible]

[illegible] `tsconfig.json` [illegible]

```
{
  "compilerOptions": {
    "declaration": true
  }
}
```

[illegible]

```
$ tsc --declaration
```

[illegible]

[illegible] TypeScript [illegible] JavaScript [illegible] API[illegible]

[illegible] TypeScript [illegible] `lib` [illegible]

- lib.d.ts
- lib.dom.d.ts
- lib.es2015.d.ts
- lib.es2016.d.ts
- lib.es2017.d.ts
- lib.es2018.d.ts
- lib.es2019.d.ts
- lib.es2020.d.ts
- lib.es5.d.ts
- lib.es6.d.ts

[illegible] “lib.[description].d.ts”[illegible] `description` [illegible] `lib.dom.d.ts` [illegible] DOM [illegible]

[illegible] ES6 [illegible]

TypeScript [illegible] `target` [illegible] `lib` [illegible]

```
{
  "compilerOptions": {
    "lib": ["dom", "es2021"]
  }
}
```

[illegible] `lib` [illegible] `dom` [illegible] `es2021` [illegible]

[illegible] `noLib` [illegible]

[illegible]

[illegible]

[illegible]

[illegible] 1[illegible]

[illegible] `[vendor].d.ts` [illegible] `vendor` [illegible] `moment` [illegible] `moment.d.ts` [illegible]

[illegible] 2[illegible]

[illegible] TypeScript [illegible] DefinitelyTyped [illegible] [illegible]

[illegible] npm [illegible] `@types` [illegible] jQuery [illegible] `@types/jquery` [illegible]

```
$ npm install @types/jquery --save-dev
```

[illegible] `@types/jquery` [illegible] `node_modules/@types/jquery` [illegible] `index.d.ts` [illegible] jQuery [illegible] `index.d.ts` [illegible] `package.json` [illegible] `types` [illegible] `typings` [illegible]

TypeScript [illegible] `node_modules/@types` [illegible] `typeRoots` [illegible]

```
{
  "compilerOptions": {
    "typeRoots": ["./typings", "./vendor/types"]
  }
}
```

[illegible] TypeScript [illegible] `node_modules/@types` [illegible] `tsconfig.json` [illegible] `typings` [illegible] `vendor/types` [illegible]

[illegible] TypeScript [illegible] `typeRoots` [illegible] `types` [illegible]

```
{
  "compilerOptions": {
    "types" : ["jquery"]
  }
}
```

[illegible] `types` [illegible] `typeRoots` [illegible] TypeScript [illegible] `jquery` [illegible] jQuery [illegible]

[illegible] 3[illegible]

[illegible] TypeScript [illegible] `any` [illegible] jQuery [illegible]

```
declare var $:any


// [illegible]
declare type JQuery = any;
declare var $:JQuery;
```

[illegible] jQuery [illegible] `$` [illegible] `any` [illegible] TypeScript [illegible]

[illegible] `any` [illegible]

```
declare module '[illegible]';
```

[illegible] `any` [illegible]

declare [illegible]

[illegible] declare [illegible] declare [illegible] declare [illegible]

[illegible] `declare` [illegible]

```
declare let foo:string;
```

interface [illegible] `declare` [illegible] interface [illegible]

```
interface Foo {} // [illegible]
declare interface Foo {} // [illegible]
```

[illegible] `export` [illegible] `import` [illegible]

```
export interface Data {
  version: string;
}
```

[illegible] moment [illegible] `moment.d.ts` [illegible]

```
declare module 'moment' {
  export interface Moment {
    format(format:string): string;

    add(
      amount: number,
      unit: 'days' | 'months' | 'years'
    ): Moment;

    subtract(
      amount:number,
      unit:'days' | 'months' | 'years'
    ): Moment;
  }

  function moment(
    input?: string | Date
  ): Moment;

  export default moment;
}
```

[illegible] `moment()` [illegible]

[illegible] D3 [illegible] `D3.d.ts` [illegible]

```
declare namespace D3 {
  export interface Selectors {
    select: {
      (selector: string): Selection;
      (element: EventTarget): Selection;
    };
  }

  export interface Event {
    x: number;
    y: number;
  }

  export interface Base extends Selectors {
    event: Event;
  }
}

declare var d3: D3.Base;
```

[illegible]

[illegible] package.json [illegible] `types` [illegible] `typings` [illegible]

```
{
  "name": "awesome",
  "author": "Vandelay Industries",
  "version": "1.0.0",
  "main": "./lib/main.js",
  "types": "./lib/main.d.ts"
}
```

[illegible] `types` [illegible]

[illegible] `index.d.ts` [illegible] `package.json` [illegible]

[illegible] npm [illegible]

```
{
  "name": "browserify-typescript-extension",
  "author": "Vandelay Industries",
  "version": "1.0.0",
  "main": "./lib/main.js",
  "types": "./lib/main.d.ts",
  "dependencies": {
    "browserify": "latest",
    "@types/browserify": "latest",
    "typescript": "next"
  }
}
```

[illegible] package.json [illegible] browserify [illegible] `@types/browserify` [illegible]

[illegible]

[illegible]

[illegible] `main.d.ts` [illegible] `interfaces.d.ts` [illegible] `functions.d.ts` [illegible] `main.d.ts` [illegible]

```
/// <reference path="./interfaces.d.ts" />
/// <reference path="./functions.d.ts" />
```

[illegible] `///` [illegible] TypeScript [illegible]

[illegible]

[illegible]

- path
- types
- lib

[illegible]

`/// <reference path="" />`

`/// <reference path="" />` [illegible]

```
/// <reference path="./lib.ts" />


let count = add(1, 2);
```

[illegible] `./lib.ts` [illegible] `add()` [illegible] `./lib.ts` [illegible] JS [illegible] `./lib.js` [illegible]

[illegible] Node.js [illegible]

```
/// <reference path="node.d.ts"/>
import * as URL from "url";
let myUrl = URL.parse("https://www.typescriptlang.org");
```

[illegible]

`path` [illegible]

[illegible]

- `path` [illegible]
- `path` [illegible]

[illegible] JS [illegible] `outFile` [illegible] `outFile` [illegible] CommonJS [illegible] ES [illegible] `module` [illegible] None[illegible] System [illegible] AMD [illegible]

[illegible] `noResolve` [illegible]

`/// <reference types="" />`

types [illegible] DefinitelyTyped [illegible] `node_modules/@types` [illegible]

types [illegible] `node_modules/@types` [illegible]

```
/// <reference types="node" />
```

[illegible] Node.js [illegible] `node_modules` [illegible] `@types/node/index.d.ts` [illegible]

[illegible] `import` [illegible]

[illegible] `.d.ts` [illegible] `.d.ts` [illegible] `.ts` [illegible] `.ts` [illegible] `tsconfig.json` [illegible] `types` [illegible]

`/// <reference lib="" />`

`/// <reference lib="..." />` [illegible] lib [illegible] `tsconfig.json` [illegible] `lib` [illegible] lib [illegible]

[illegible] TypeScript [illegible] lib [illegible] TypeScript [illegible] `lib` [illegible] JavaScript [illegible] API[illegible]

[illegible] TypeScript [illegible] “lib.[description].d.ts” [illegible] `/// <reference lib="" />` [illegible] `lib` [illegible] `description` [illegible] `lib="es2015"` [illegible] `lib.es2015.d.ts` [illegible]

```
/// <reference lib="es2017.string" />
```

[illegible] `es2017.string` [illegible] `lib.es2017.string.d.ts` [illegible]

[illegible] #2
[illegible] [illegible] [illegible] 2023-07-09 12:07:22 UTC
[illegible] [illegible] [illegible] 2025-07-08 17:34:15 UTC