



# What should I know about GIT?

- Source control
- Branching
- Merge
- Rebase
- Cherry pick
- Stash
- Tag
- Etc.

The logo consists of a solid blue square with the letters 'T' and 'S' in white, bold, sans-serif font. The 'T' is on the left and the 'S' is on the right, both centered vertically within the square.

**TS**

# Why I should use Typescript?

- Less bugs
- Development performance
- Features: type checking, autocompletion, source documentation and etc.
- Responsive support from the Typescript team
- Starts and ends with JavaScript
- Beautiful and elegant
- Etc.

# Getting started

- <https://nodejs.org/en/>
- `npm install -g typescript` (or install locally in dev dependencies)
- `tsc helloworld.ts`

# How to compile



tsc helloworld.ts

tsconfig.json

# Settings

- target
- removeComments
- outDir
- sourceMap
- outFile
- files
- Etc.

# Variables

- Use ES6 **let** and **const** to declare variables in Typescript.
- `let user: User = new User();`
- `const cardNumber: string = "**** * 1111";`



# Types

- boolean
- number
- String
- Object
- Array
- Tuple
- enum
- null
- undefined
- void
- never
- **any**

# Type declaration

- declare type primitive = number | string | boolean | null | undefined;

# Type conversion

- `<type>variable;`
- `as`

# What should I know about **classes** in TS?

- fields
- methods
- constructor
- static fields and methods
- private/public/protected
- get/set
- readonly

# Inheritance and abstract classes

- basic inheritance mechanism in general the same as in ES6
- abstract class can't be instantiated
- but more concrete implementation can be
- example: abstract Figure, concrete Square and Circle.

# What should I know about **interfaces** in TS?

- syntax
- optional and readonly properties
- implementation
- Interface inheritance
- Function and array interfaces

# Generics

- Use generics when something should work with any data types.
- You can use them with functions, classes, interfaces.
  
- Example: promisify, Map class.

# Namespaces

- Namespaces contains a group of classes, functions, interfaces, variables, other namespaces, etc.
- Use **namespace** to declare namespaces.
- Use **exports** for using entities in other namespaces.



# Modules

TS support the following modules:

- AMD (Asynchronys Module Defenition)
  - CommonJS
  - UMD (Universal Module Defenition)
  - System
  - ES 2015
- Use **export/import** features.
- 
- Example: User and UserService

# Decorators

- Allow to add metadata to classes or their members for changing their behavior without changing their code.
- Decorator – function, which can apply on class, field, methods, getter, setter, parameters, etc.
- Set **experimentalDecorators: true** for using decorators.

# Resources

- <https://git-scm.com/>
- <https://www.typescriptlang.org/>
- <https://www.typescriptlang.org/docs/handbook/typescript-in-5-minutes.html>
- <https://metanit.com/web/typescript/1.1.php>
- <https://habr.com/ru/post/471026/>