TypeScript for JS developers

Duration: 32 hours (4 hours x 8 sessions, 2 sessions per week)

**Introduction to TypeScript** (Week 1: Day 1 (a): 10/6/2023 )

Topics:

* Introduction to TypeScript and its benefits
* Setting up TypeScript in a project
* Basic types and type annotations
* Type inference
* Functions and interfaces in TypeScript

**Advanced Type System**

Topics:

* Union and intersection types
* Type aliases and type assertions
* Literal types and type guards
* Nullish Coalescing and Optional Chaining

**Working with Classes and Generics**

Topics:

* Object-oriented programming in TypeScript
* Class inheritance and access modifiers
* Abstract classes and interfaces
* Introduction to generics

**Asynchronous Programming and Modules**

Topics:

* Promises and async/await in TypeScript
* Working with asynchronous APIs
* Introduction to modules and namespaces
* Module resolution strategies

**Advanced Type Techniques**

Topics:

* Mapped types and utility types
* Conditional types
* Infer keyword and type inference with generics
* Using type predicates for complex type narrowing

**Decorators and Advanced Patterns**

Topics:

* Introduction to decorators and their use cases
* Custom decorators and decorator factories
* Applying decorators to classes, methods, and properties
* Exploring advanced design patterns in TypeScript

**Tooling and Build Process**

Topics:

* TypeScript configuration options
* Integrating TypeScript with build tools (Webpack, Rollup)
* Debugging TypeScript applications
* Using type definition files and third-party libraries

**Advanced Topics and Real-world Applications**

Topics:

* Advanced type constraints and conditional logic
* Writing type-safe APIs
* Integrating TypeScript into a modern web framework (e.g., React, Angular)
* Best practices for maintaining large TypeScript codebases

Easy to read, write and maintain

Typescritp is superset of javaScript, which means any valid js code is also valid TypeScript code.

Browser don’t support typescript.

Convert typescript to js