

Programming in TypeScript



Training recipients

The training is aimed at programmers who already know JavaScript (or another OOP language) and want to consciously use the TypeScript type system in their everyday work. This is a course that complements your toolkit with the type layer — not an introduction to programming.



Benefits

- Conscious use of the TypeScript type system in everyday work
- Modeling data and contracts with interfaces, types and generics
- Using advanced types (mapped, conditional, utility) for safe and expressive code
- Integrating TypeScript with existing JavaScript code and libraries
- Configuring and running TypeScript in a modern environment (compiler, native runtime support, ESLint)



Training program

1. TypeScript as a superset of JavaScript
 - relationship with the ES.Next standard
 - how it works, type erasure
2. Environment and tooling
 - the TypeScript compiler and configuration (tsconfig)
 - running TypeScript natively in the runtime environment
 - ESLint and static code analysis
3. The type system
 - inference, literal types, unions
 - type narrowing, type guards
 - any
 - vs

- unknown
4. Modeling objects and contracts
 - structural typing
 - interfaces vs type aliases
 5. Typing functions
 - signatures and overloads
 - generics on functions
 - typing asynchronous code
 6. Generic types
 - parameterization and constraints
 - generic collections
 7. Advanced types
 - keyof, typeof, indexed access
 - mapped types, conditional types
 - utility types, template literal types
 8. Object-oriented programming in TypeScript
 - classes, access modifiers, abstract classes
 - implements, polymorphism
 9. Modules and declaration files
 - ESM modules
 - declaration files (.d.ts), ambient types
 - working with untyped JavaScript libraries



Expected preparation of the participant

Good practical knowledge of JavaScript (or another object-oriented language).



Training Includes

- Training method: Workshops
- Mode: Distance Learning (DL)
- Level: Intermediate
- Duration: 2 days | 14h
- Language: English



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2 days / 14 hours

Language

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