

KOENIG SOLUTIONS • COURSE OUTLINE

Advanced JavaScript with TypeScript

3 Days

24 HOURS

4

MODULES

36

TOPICS

COURSE OVERVIEW

The Advanced JavaScript With TypeScript course is designed to provide a comprehensive understanding of sophisticated JavaScript concepts, going beyond the basics to explore objects, functions, Asynchronous patterns, ES6 features, and the powerful typing system of TypeScript. In Module 1: Advanced JavaScript: Objects and Functions, learners delve into Object-oriented programming in JavaScript, examining Inheritance, the Prototype chain, and the distinctions between primitives and objects. They also learn about first-class functions, including how to pass functions as arguments and use them as return values, as well as the utility of Immediately Invoked Function Expressions (IIFEs). As the course progresses through modules on Asynchronous JavaScript and ES6, participants are equipped to write more maintainable and efficient code. Module 4: TypeScript introduces TypeScript advanced concepts, enhancing JavaScript with Static typing, and covering object-oriented principles in TypeScript, including Classes, Interfaces, and Access modifiers. This course is ideal for those aiming to master modern JavaScript development, ensuring they are well-versed in TypeScript advanced features to improve code quality and collaboration in complex projects.

WHO THIS COURSE IS FOR

The Advanced JavaScript with TypeScript course equips developers with cutting-edge web programming skills and modern best practices. Target Audience for the Advanced JavaScript with TypeScript Course:

Front-end Developers

Full-stack Developers

Web Developers

Software Engineers

JavaScript Developers

UI/UX Developers

Technical Lead Managers

Application Developers

System Architects

DevOps Engineers (who want to understand front-end development)

Computer Science Students

IT Professionals looking to upskill in advanced web technologies

Freelancers seeking to expand their JavaScript and TypeScript proficiency

What You Will Learn

- Explain prototype chains and object creation patterns in JavaScript
- Apply first-class functions and IIFEs in JavaScript code
- Compare primitives and objects in JavaScript
- Implement asynchronous JavaScript with callbacks and Async/Await
- Develop AJAX calls to APIs using Fetch and Promises
- Apply ES6 features such as destructuring and arrow functions
- Develop classes in TypeScript using access modifiers and interfaces
- Compare TypeScript static typing with standard JavaScript

COURSE SYLLABUS

4 Modules, 36 Topics

01

Advanced JavaScript: Objects and Functions

TOPICS

- **Object:** Inheritance and the Prototype Chain
- **Creating Objects:** Function Constructors
- The Prototype Chain in the Console
- Creating Objects: Object.Create
- Primitives vs. Objects
- **First Class Functions:** Passing Functions as Arguments
- **First Class Functions:** Functions Returning Functions
- Immediately Invoked Function Expressions (IIFE)

02

Asynchronous JavaScript: Promises, Async/Await, and AJAX

TOPICS

- An Example of Asynchronous JavaScript
- **Asynchronous JavaScript:** The Event Loop
- Asynchronous JavaScript with Callbacks
- From Callback Hell to Promises
- From Promises to Async/Await
- AJAX and APIs
- Making AJAX Calls with Fetch and Promises

03

JavaScript ES6

TOPICS

- Variable Declarations with LET and CONST
- Strings in ES6
- Arrow Functions
- Destructuring
- Arrays in ES6
- The Spread Operator
- Rest Parameters
- Default Parameters
- Classes

04

TypeScript

TOPICS

- What is TypeScript?
- TypeScript Installation
- TypeScript vs. JavaScript
- OOPs in TypeScript
- Creating Classes and Class Properties
- Methods
- Access Modifiers
- Constructor
- Getters and Setters
- Static Properties and Methods
- Inheritance
- Interfaces

WHAT IS INCLUDED

Everything You Need to Succeed

- Koenig course material for every module
- Delivery by certified instructors and subject matter experts
- Hands-on exercises throughout the course
- Course completion certificate from Koenig

ABOUT KOENIG

Who We Are

Established in 1993, Koenig Solutions is a globally recognised training provider with 35+ technology partnerships, 5,000+ training programmes and a network of certified instructors and subject matter experts, supporting individuals and enterprise teams worldwide.

FLEXIBLE DELIVERY

Learn the Way That Suits You

Classroom Training

Live Online Classes (ILO)

Fly-Me-A-Trainer (FMAT)

Flexi (Self-Paced)

1-on-1 Training

Ready to Get Started?

Talk to a learning advisor about schedules, group training and customised delivery.

Visit koenig-solutions.com

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