

# Introduction to ECMAScript 6 (ES6) Development (TT4132)

Core ES6 Scripting and Development Skills for Modern Web Developers

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## Course Snapshot

- **Course: Introduction to ECMAScript (ES6) Development (TT4132)**
- **Duration:** 2 days
- **Audience & Skill-Level:** This Introductory-level course is for web developers with at least basic experience in HTML5, CSS3 and JavaScript.
- **Hands-on Learning:** This course is approximately **50% hands-on**, combining expert lecture, real-world demonstrations and group discussions with machine-based practical labs and exercises. Student machines are required.
- **Delivery Options:** This course is available for **onsite private classroom presentation, live online virtual presentation**, or can be presented in a **flexible blended learning format** for combined onsite and remote attendees. Please also ask about our **Self-Paced / Video** or **QuickSkills / Short Course** options.
- **Public Schedule:** This course has active dates on our live-online open enrollment **Public Schedule**.
- **Customizable:** This course agenda, topics and labs can be further adjusted to target your specific training skills objectives, tools and learning goals. Please inquire for details.

## Overview

ECMAScript 6 is the new edition to the ECMAScript language, whose specifications are inherited by JavaScript. ES6 gives a vast makeover to JavaScript by adding new syntaxes and APIs to write complex applications and libraries that are easier to debug and maintain. By learning the latest version of ECMAScript, you'll have a greater understanding of JavaScript and more confidence and fluency when developing with it - follow this course and use and adopt ES6 features into your work, instead of the usual tired JavaScript hacks and tricks.

**JumpStart to ECMAScript 6 (ES6)** introduces students to ECMAScript 6's built-in objects and shows them how to create custom iterators. It also provides guidance on Next, as well as how to write asynchronous code in a synchronous style using ES6, so developers can unlock greater control and sophistication in the way they develop with JavaScript.

Beyond this, students will also explore how to learn how to use Reflect API to inspect and manipulate object properties. Next, it teaches how to create proxies, and use it to intercept and customize operations performed on objects. Finally, it explains old modular programming techniques such as IIFE, CommonJS, AMD, and UMD and also compares it with ECMAScript modules and demonstrates how modules can increase the performance of websites when used.

## Learning Objectives

Our engaging instructors and mentors are highly experienced practitioners who bring years of current "on-the-job" experience into every classroom. Working in a hands-on learning environment, guided by our expert team, attendees will learn about and explore:

- Learn the new syntax of ECMAScript 6
- Use the new prototype-based features introduced by ES6
- Execute ES6 in a non-supported ES6 environment
- Learn how to write asynchronous code using promises - it makes your code more efficient and easier to maintain
- Find out how to use iterators, iterables, and generators
- Explore object-oriented programming and create objects using classes
- Build proxies using the ES6 proxy API and understand its uses
- Learn how to create JavaScript libraries using ECMAScript 6 modules

## Audience & Pre-Requisites

In order to be successful in this class, incoming attendees are required to have at least some basic experience working with HTML and CSS. Some exposure to JavaScript would be helpful as well.

**Take Before:** Attendees should have experience with the topics in the following courses, or should have recently attended these as a pre-requisite:

- TT4605: Web Essentials: HTML5 / CSS3
- TT4110: Introduction to Modern JavaScript

**Take After:** Our core training courses provide students with a solid foundation for continued learning based on role, goals, or their areas of specialty. Our web developer learning paths offer a wide variety of continued learning paths such as:

- TT4193: Introduction to React | React Essentials (3 days)
- TT4190: Getting Started with React (5 days)
- Additional React, Redux, NodeJS / MEANStack, Angular or other next level web development courses
- Web security training
- Please contact us for recommended next steps tailored to your longer-term education, project, role or development objectives.

**Enhanced Learning Services:** Please also ask about our **Pre-Training Class OnRamp & Prep / Primer offerings, Skills Gap Assessment Services, Case Studies, Knowledge Check Quizzes, Skills Immersion Programs & Camps, Collaborative Mentoring Services and Extended Learning Support & Post Training services.**

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## Course Topics / Agenda

*Please note that this list of topics is based on our standard course offering, evolved from typical industry uses and trends. We will work with you to tune this course and level of coverage to target the skills you need most. Course agenda, topics and labs are subject to adjust during live delivery in response to student skill levels and interests.*

### 1. Playing with Syntax

- The let keyword
- The const keyword
- Default parameter values
- The spread operator
- The rest parameter
- The destructuring assignment
- The arrow functions
- The enhanced object literals

### 2. Knowing Your Library

- Working with numbers
- Doing Math
- Working with strings
- Arrays
- Collections
- Object

### 3. Using Iterators

- The ES6 symbols
- The iteration protocols
- Generators
- The "for...of" loop
- The tail call optimization

### 4. Asynchronous Programming

- The JavaScript execution model
- Writing asynchronous code
- Promises to the rescue
- The JavaScript APIs based on Promises

### 5. Implementing the Reflect API

- The Reflect object

### 6. Using Proxies

- Proxies in a nutshell
- The Proxy API
- The uses of proxies

### 7. Walking You Through Classes

- Understanding the Object-oriented JavaScript
- Using classes
- Using "super" in the object literals

### 8. Modular Programming

- The JavaScript modules in a nutshell
- Implementing modules the old way
- Implementing modules the new way

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**Student Materials:** Each student will receive a **Student Guide** with course notes, code samples, software tutorials, diagrams and related reference materials and links (as applicable). Our courses also include step by step hands-on lab instructions and solutions, clearly illustrated for users to complete hands-on work in class, and to revisit to review or refresh skills at any time. Students will also receive related (as applicable) project files, code files, data sets and solutions required for the hands-on work.

**Classroom Setup Made Simple:** Our dedicated tech team will work with you to **ensure your classroom and lab environment is setup, tested and ready to go** well in advance of the course delivery date, ensuring a smooth start to class and seamless hands-on experience for your students. We offer several flexible student machine setup options including **guided manual set up** for simple installation directly on student machines, or **cloud based / remote hosted lab solutions** where students can log in to a complete separate lab environment minus any installations, or we can supply **complete turn-key, pre-loaded equipment** to bring ready-to-go student machines to your facility. Please inquire for details.

## For More Information

**Need dedicated training?** All courses can be presented **onsite** or **online**, or in a **blended learning format**, tailored to target your specific audience, needs and learning goals. In addition to **full day courses**, we also offer **flex hours, short courses, self-paced options** and more. We train beginner to advanced skills in all areas we cover, and offer **New Hire / Cohort Training, Boot Camps, Skills Immersion Programs, Coaching & Mentoring, Reskilling Programs, Skills Migration & Transition Programs**, and more. We collaborate with you to ensure all courses are truly targeted to meet your specific needs and learning skills, maximizing your valuable training time, as well as your critical budget.

Please visit our extensive **Public Training Schedule** for training for smaller groups or individuals. Please contact us for course details, **Corporate Rates** and **Special Discount Offers**. Our pricing and services are always satisfaction guaranteed.

**For more information** about our dedicated training services, collaborative mentoring services, courseware licensing options, courseware development services, public course schedule, training management services, partner and reseller programs, or to see our complete list of course offerings and special offers please visit us at [www.triveratech.com](http://www.triveratech.com), email [Info@triveratech.com](mailto:Info@triveratech.com) or call us toll free at **844-475-4559**. Our pricing and services are always satisfaction guaranteed.

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