
Beginning Object-Oriented Programming with JavaScript

Duration: 3 Days Course Code: LO035402

Overview:

JavaScript is one of the most widely used programming languages in the world. Born as a simple glue between the user and HTML, it has evolved over the years and has acquired an increasingly important role in modern software development. Today, its scope is no longer just the web browser. Now, it also resides on the server, desktop PCs, mobile devices, and even embedded devices.

JavaScript has now become a language to create complex applications. *Beginning Object-Oriented Programming with JavaScript* explains how we can write robust and efficient code with JavaScript to create scalable and maintainable applications.

The purpose of this course is to cover all the new object-oriented features introduced in ECMAScript 2015 and show how to build large-scale web apps that promote scalability, maintainability, and reusability. It is ideal for development teams that are thinking of using JavaScript for full-stack web development so that they only need to worry about one language across the entire stack.

Target Audience:

This course is for existing developers who are new to OOP in JavaScript. They will be looking to build their understanding of modern web development, using the features from the latest changes to the ECMAScript specification.

Objectives:

- This course begins with a subtle refresher on objects. It teaches you how easy it is to define objects with the new ECMAScript classes. From there, we'll fly you through some essential OOP principles, forming a base for you to get hands-on with encapsulation.
 - You'll explore various presentations such as MVC and MVP, along with implementing data binding.
 - You'll get to work with the different methods of inheritance. From there, we'll move on to some advanced patterns for object creation, and you'll get a strong idea of how to use interesting patterns to present data to users and to bind data. You'll manage dynamic typing using various data types and get familiar with duck typing and polymorphism.
 - By the end of this course, you'll discover whether JavaScript is asynchronous and learn to write asynchronous code using callbacks and events.
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Prerequisites:

We specifically focus on object-oriented programming with JS in this course, so prior understanding of basic syntax is assumed.

Content:

Lesson 1: Diving into Objects and OOP Principles

- Creating and Managing Object Literals .
- Defining Object Constructors
- Using Object Prototypes
- Using Classes
- Beginning with Object-Oriented JavaScript
- Checking Abstraction and Modeling Support
- Analyzing OOP Principles Support in JavaScript

Lesson 2: Working with Encapsulation and Information Hiding

- Setting up Strategies for Encapsulation and Information Hiding
- Using the Meta-Closure Approach
- Using Property Descriptors
- Implementing Information Hiding in ES6 Classes

Lesson 3: Inheriting and Creating Mixins

- Implementing Objects, Inheritance, and Prototypes
- Using Class Inheritance
- Controlling Inheritance
- Implementing Multiple Inheritance
- Creating and Using Mixins

Lesson 4: Defining Contracts with Duck Typing

- Managing Dynamic Typing
- Defining Contracts and Interfaces
- Implementing Duck Typing
- Comparing Duck Typing and Polymorphism

Lesson 5: Advanced Object Creation

- Mastering Design Patterns, Object Creation, and Singletons
- Implementing an Object Factory
- Exploiting the Builder Pattern

Lesson 6: Working with Data

- Managing User Interfaces
- Implementing Presentation Patterns
- What is Data Binding?
- Implementing Data Binding
- Applying the Publish/Subscribe Pattern

Lesson 7: Asynchronous Programming and Promises

- Is JavaScript Asynchronous?
- Writing Asynchronous Code
- Introducing Promises

Lesson 8: Organizing Code

- Taking Control of the Global Scope
- Creating Namespaces
- Organizing Code with the Module Pattern
- Loading the Module
- Using the ECMAScript 2015 Modules

Further Information:

For More information, or to book your course, please call us on Head Office 01189 123456 / Northern Office 0113 242 5931

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