

Price: R12,900.00 excl. VAT
Duration: 5 days
Delivery: Virtual classroom or
on-site training

JavaScript Programming

Description

JavaScript is a core technology of modern web applications. Developers use it to implement client-side logic, respond to user actions and communicate with web services. It is also the foundation for frameworks such as Angular and React.

The JavaScript Programming course teaches developers how to use JavaScript to build interactive behaviour in web pages. You will write code that processes user input, manipulates page content and controls program flow in the browser. The course focuses on the core language features required to develop and maintain browser-based applications.

You should already have some programming experience and a good understanding of HTML before attending this course.

Objectives

After you have completed the JavaScript Programming course, you will be able to:

- Use modern JavaScript confidently to update, extend, and troubleshoot web pages without relying on senior developers.
- Work effectively with the DOM by selecting elements, modifying content, and responding to user interactions.
- Write clean, maintainable code using variables, functions, conditions, loops, and modern ES6+ features.
- Handle events professionally to build interactive, user-friendly web interfaces.
- Work with data in the browser, including JSON, the Fetch API, and asynchronous operations.
- Create and use objects, arrays, and classes to structure code that scales as applications grow.
- Apply best practices for browser-based development to ensure consistent behaviour across environments.
- Understand where JavaScript fits in the wider ecosystem and prepare for frameworks such as React, Angular, or Vue.

Intended Audience

This course is useful if:

- You are a programmer who needs to work with or extend JavaScript in your projects.
- You are responsible for maintaining or troubleshooting JavaScript code in existing systems.
- You are a web developer who needs to add interactive behaviour to web pages using JavaScript.

Prerequisites

Before you attend the JavaScript Programming course:

- You must be able to write HTML and CSS and create HTML forms. If you do not have this experience, first attend our HTML and CSS course.

- You must already have programming experience. If you have no programming background, start with our Introduction to JavaScript Programming course

Course Contents

Introduction

- The role of JavaScript in modern web applications.
- JavaScript versions and standards.
- Browser compatibility considerations.
- Incorporating JavaScript in HTML pages.
- Using the browser console.
- Progressive enhancement principles.

JavaScript Language Fundamentals

- JavaScript syntax, statements and comments.
- Identifiers.
- Variables and constants using let and const.
- Data types and type conversion.
- Expressions and operators.
- User-defined functions, parameters and return values.
- Arrow functions.
- Program flow: conditional and iterative statements.
- Strict mode.
- Introduction to error handling.

Built-in JavaScript Objects

- Objects, properties and methods.
- Arrays and common array methods.
- The Date object.
- The Math object.
- The String object and string methods.
- Other objects: Number, Boolean, Function and RegExp.

Custom Objects

- Programmer-defined objects.
- Object literals.
- Iterating through object properties.
- Prototypes and prototype inheritance.
- Classes in ES2015.
- JavaScript Object Notation (JSON).

The Document Object Model

- The DOM hierarchy.
- Collections.
- The window object: dialog boxes, timers and other methods.
- The location object.
- The history object.
- The document object.

DOM Nodes and Elements

- The Node object properties and methods.
- The Element object properties and methods.
- Creating and modifying elements and attributes.
- The Style object.

Forms and Form Controls

- Properties and methods for the form object and form controls.

Event Handling

- HTML events.
- Registering event handlers.
- Event handler invocation.
- Event propagation.

Working with Data

- Using the Fetch API to retrieve data.
- Processing JSON data.

Browser APIs

- Web storage.
- Overview of common browser APIs.

JavaScript Frameworks

- The concept of a framework.
- Comparison of frameworks.
- Best practices when using frameworks.

*** The lecturer reserves the right to modify the contents of the course to suit the needs of the delegates.*