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## JavaScript Test Driven Development (3 days)

### Course overview

The days of writing spaghetti JavaScript should be behind us. JavaScript is a grown-up language now and lies at the heart of mobile-friendly HTML5-enabled Web applications. This course describes how you can apply Test Driven Development techniques to create robust, reliable, and performant web UIs using contemporary JavaScript tools and libraries.

### What you'll learn

- TDD techniques and principles
- Contemporary testing frameworks (e.g. Jasmine, QUnit)
- Test doubles and mocking
- Testing Ajax
- Testing Node.js

### Prerequisites

- Good working knowledge of JavaScript

### Course details

- **JavaScript essential techniques:** Closures; Inheritance and prototypes; Properties; Namespaces; Encapsulation
- **Test-Driven Development principles:** Test, code, refactor, repeat; The benefits of TDD; The process of TDD
- **Unit testing in JavaScript:** Getting started with unit testing; Structure of a unit test; Setting up a test environment; Executing a test; Refactoring
- **Dealing with browser inconsistencies:** Anticipating browser differences; Detecting browser support; Object and feature checking; The role of Modernizr
- **Testing DOM manipulation:** What can you test with DOM? Testing UI components; Testing events and user interactions
- **Test doubles and mocking frameworks:** Managing dependencies; Defining test doubles; Stubs, mocks, dummies, and fakes; Tool support
- **Testing Ajax-enabled web pages:** Using Ajax manually; Using Ajax via jQuery; Testing GET and POST requests; Stubbing; Testing headers
- **Testing Node.js at the server:** Setting up Node.js; The role of unit testing with Node.js; Techniques for testing Node.js