

Front End Development with HTML5, CSS3 & jQuery

Course 42584 – 40 Hours

Overview

When dealing with Rich Internet Applications (RIA), development & technologies focus is moving from server to client side. The support for rich client applications reduces server loads and provides better response time and lower server development costs. In order to build rich client side applications correctly, getting familiar with JavaScript wide capabilities along with advanced CSS, HTML & jQuery features is essential. Building reusable, scalable and performance oriented JavaScript code requires a deep understanding of the language and as our applications grow more complex, this is no longer something we can live without. In this course we will learn the tools and patterns to build scalable JavaScript apps that will serve visitors from many platforms. We will get to know the various Ajax libraries and focus on jQuery to bridge the browser compatibility gap.

On Completion, Delegates will be able to

- Develop scalable, reusable and testable JavaScript code as the infrastructure for large scale web applications
- Use the jQuery library for DOM access and Ajax
- Develop AJAX based applications following the “one .html file” paradigm
- Use HTML5 and CSS3 to write modern web applications

Who Should Attend

This course is intended for back end developers who wish to focus on rich client-side techniques and frameworks.

Prerequisites

Before attending this course, students must have:

- Previous experience in Object Oriented Programming (like: Java, C++ or C#)
- Basic knowledge in web concepts and HTML/CSS
- Basic JavaScript knowledge is highly recommended

Course Contents

Module 1: JavaScript Basics

- Introduction to JavaScript (in brief)
- JavaScript Basic Syntax
- Flow control
- Objects and Arrays
- Functions

Module 2: Advanced JavaScript

- JavaScript Objects Model
- This Context
- Functional programming in JavaScript (Higher Level JavaScript)
- ES6 – New JavaScript Features:
 - Let, const
 - High order functions
 - Arrow function
 - Class
 - Rest and spread
- Using callbacks, Promise, Async await
- Avoiding Global Objects
- Objects Related Design Patterns:
 - Namespace
 - Private methods
 - Prototypical
 - Inheritance
- Deployment and Loading optimization strategies

Module 3: jQuery

- jQuery Library Introduction
- jQuery concepts – getter and setters
- jQuery basics – document ready, callback functions
- jQuery structure and components
- jQuery Selectors
- Traversing document elements
- Modifying CSS attributes
- Binding and unbinding events
- Using jQuery's AJAX Features
- jQuery Extensions (Plugins)
- jQuery UI plugin library
- Writing your own custom jQuery plugins

Module 4: AJAX

- Why do we need it?
- XMLHttpRequest
- \$.ajax

- Axios
- AJAX Threading Model
- JSON
- The same origin policy
- JSONP
- CORS

Module 5: HTML 5

- History API
- Offline Web Application
- Local Storage
- Indexed DB
- Canvas
- Web workers
- Web sockets
- File API
- Validation
- New Form/Input elements
- Videos and Audio elements
- Drag and Drop
- Geolocation
- XMLHttpRequest 2

Module 6: CSS 3

- New selectors
- box-sizing
- Shadow
- Border
- HSL
- Flex
- Column layout
- Element resize
- Gradient
- Font Face
- Media Queries
- Transformations
- Transitions

Module 7.1: Introduction to Angular (If time permits)

- TypeScript
 - Typescript compiler - tsconfig
 - Strongly types
 - Interfaces
 - Public / private
- Angular-cli

- Components
- 2Way-binding
- Services
- Routing

Module 7.2: Introduction to React (If time permits) (This module is available only to organizations ordering the course – Organizations can choose between modules 7.1 or 7.2)

- React-create-app
- React components
- Rendering and lifecycles
- Unidirectional flow
- State management – redux
- Saga or Thunk