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Call: 434-509-5680 or Email: [sales@cloudcontraptions.com](mailto:sales@cloudcontraptions.com)

## **Full-Stack Web Development Essentials with HTML5, CSS3, JavaScript, Node & Browser APIs**

### **Class Duration**

35 hours of live training delivered over 5 days

### **Student Prerequisites**

- Basic understanding of programming concepts

### **Target Audience**

Software engineers, web developers, and technical leads who need a concise, practical refresh or ramp-up on modern full-stack web development. Ideal for teams standardizing on Node/Express and browser-native capabilities, developers moving from legacy stacks, and professionals who must improve delivery speed, code quality, and maintainability. This course assumes basic programming familiarity and focuses on techniques that accelerate feature delivery, reduce defects, and make applications easier to evolve at scale.

### **Description**

This live, hands-on course equips developers to deliver reliable, maintainable, and performant web applications end to end. Participants set up a productive toolchain with VS Code and Git, master web standards and HTTP, and use browser dev tools for fast diagnostics. You will build server-side features with Node, manage packages, create Express REST APIs, and persist data. On the front end, you will craft accessible HTML5, production-grade forms, and responsive layouts using CSS3, Flexbox, and Grid. You will deepen core JavaScript skills—from objects and closures to asynchronous programming with promises—and integrate essential Browser APIs such as Storage, Geolocation, Canvas, Fetch, and WebSockets to ship real-time, user-centered features that drive business outcomes.

### **Learning Outcomes**

1. Configure a modern dev environment, connect to lab machines, and work efficiently in VS Code.



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2. Apply Git for source control: cloning labs, branching, committing, and managing Markdown-based docs.
3. Explain web standards and HTTP, and debug applications using browser developer tools.
4. Build Node-based servers, manage packages, and implement Express REST APIs backed by persistent data.
5. Create accessible, valid HTML5 with semantic structure, tables, and production-ready forms with validation.
6. Style responsive interfaces using CSS3 fundamentals, the box model, Flexbox, and Grid layout.
7. Write robust JavaScript: types, functions, objects, prototypes, closures, arrays/maps/sets, and async with promises.
8. Integrate key Web Browser APIs including Storage, Geolocation, Canvas, Fetch, and WebSockets for real-time UX.

## Training Materials

All students receive comprehensive courseware covering all topics in the course. Courseware is distributed via GitHub in the form of documentation and extensive code samples. Students practice the topics covered through challenging hands-on lab exercises.

## Software Requirements

Students will need a free, personal GitHub account to access the courseware. No local student setup is required, this course is delivered with GitHub Codespaces. The free allotment of Codespaces hours from GitHub is sufficient to complete the course.

## Training Topics

### Getting Started

- Overview of VS Code
- Edit Files in VS Code
- Source control with Git
- Clone Course Demos & Labs
- Basic Git Commands
- Markdown Files



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## Web Development & Node

- Overview of Web Standards
- Browser Dev Tools
- HTTP protocol
- Introducing Node
- Node-powered Web server
- Node Packages
- Express REST API
- Persist Data
- Web Sockets

## HTML5 Essentials

- HTML Elements and Attributes
- Validate HTML
- Container Elements
- Inline elements
- Tables
- HTML5 Semantic Elements
- Support for HTML5

## HTML5 Forms

- Form and Control Elements
- Form Validation
- Input Types
- Select
- TextArea
- File Upload

## CSS3 Essentials

- Basics of CSS syntax
- Selectors
- Order and Specificity
- Text & Font Properties
- Border Properties
- Backgrounds
- Box Model
- Flexbox and Grid



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## JavaScript Essentials

- JavaScript & ECMAScript
- Types & Variables
- Conditional Logic and Looping
- Defining and Calling Functions
- Development Tools
- Working with Arrays, Maps, & Sets
- Objects and Properties
- Prototype Inheritance
- Closures
- Arrow Functions
- Asynchronous Programming
- Promises

## Web Browser APIs

- Web Storage API
- Geolocation API
- Canvas API
- Fetch API
- Web Sockets API