

Web Development Masterclass: Full-Stack Certification

Master front-end, back-end, databases, and cloud deployment. Designed for aspiring developers and professionals aiming for certification.

Programming Instructor: Alex Thompson • 5 sections • 59 lessons • 16.00h total

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About this course

The web development field is rapidly evolving with cloud computing, modern frameworks, and full-stack demands. Many courses focus on theory without practical application, leaving learners unprepared for real-world projects and job requirements. In this masterclass, you'll build a strong foundation in web technologies, from HTML and CSS to JavaScript, PHP, and databases. Through video lessons, real-world case studies, and project-based exercises, you'll learn to design, develop, and deploy complete web applications. The course includes preparation for professional certification and guidance on building a portfolio for the 2026 job market.

Course curriculum

Foundations of Web Development & the Internet

- **How the Web Works: HTTP, DNS, and Browsers (18m)**
Learn the client-server model, how browsers request data, and the role of HTTP/HTTPS and DNS in delivering web content.
- **Introduction to Linux: File System and Terminal (12m)**
Get started with Linux basics, including navigating directories, file permissions, and using the command line for development.
- **Essential Linux Commands for Developers (8m)**
Master common terminal commands like ls, cd, mkdir, grep, and chmod to streamline your workflow.
- **Setting Up a Local Development Environment (25m)**
Install and configure VS Code, Git, and Node.js/npm to create a productive coding workspace on your machine.
- **Understanding Front-End vs. Back-End vs. Full-Stack (10m)**
Explore the differences between front-end, back-end, and full-stack roles, with examples of tools and languages for each.
- **Cloud Computing Fundamentals: IaaS, PaaS, SaaS (15m)**
Understand cloud service models and how they support web application hosting, scaling, and management in 2026.
- **The Role of Cloud Services in Modern Web Apps (12m)**
Case study on how cloud platforms like AWS or DigitalOcean enable deployment and reduce infrastructure overhead.
- **Version Control with Git: Commits and Branches (18m)**
Step-by-step guide to using Git for tracking changes, creating branches, and managing code history in projects.

Front-End Development: HTML, CSS & Responsive Design

- **Semantic HTML5: Structure and Accessibility (18m)**
Build well-structured web pages using semantic tags like header, nav, section, and footer for better accessibility.
- **HTML Forms and User Input Handling (12m)**
Create forms with input types, validation attributes, and submission methods for user interaction.
- **Integrating Multimedia: Images, Audio, and Video (10m)**
Embed responsive images, audio players, and video elements with proper optimization for web performance.
- **CSS Selectors and the Box Model Explained (15m)**
Master CSS selectors, understand the box model properties, and apply styles to control layout and spacing.

- **Layout with Flexbox and CSS Grid (20m)**
Design responsive layouts using Flexbox for one-dimensional and Grid for two-dimensional arrangements.
- **CSS Transitions and Simple Animations (12m)**
Add smooth transitions and keyframe animations to enhance user experience without JavaScript.
- **Responsive Design with Media Queries (18m)**
Implement media queries to adapt your site for different screen sizes, following mobile-first principles.
- **Mobile-First Design Strategy for 2026 (10m)**
Learn why starting with mobile design is critical and how to optimize for modern devices and browsers.
- **Introduction to Tailwind CSS Framework (25m)**
Set up Tailwind CSS and use utility classes to rapidly style your HTML without writing custom CSS.
- **Bootstrap 6: Components and Grid System (20m)**
Use Bootstrap's pre-built components and responsive grid to accelerate front-end development.
- **Git Fundamentals: Tracking and Committing Changes (15m)**
Practice creating repositories, staging changes, writing commit messages, and viewing history.
- **Collaborative Development with GitHub Pull Requests (18m)**
Work with branches, fork repositories, and manage pull requests for team-based projects.

JavaScript & Interactive Web Applications

- **JavaScript Variables, Data Types, and Operators (12m)**
Start with JavaScript basics: declaring variables, understanding data types, and using operators.
- **Functions, Scope, and Closures in JavaScript (18m)**
Define functions, explore scope chains, and use closures for data privacy and encapsulation.
- **DOM Manipulation: Accessing and Modifying Elements (15m)**
Use JavaScript to select HTML elements, change content, and respond to user actions dynamically.
- **Event Handling and User Interactions (12m)**
Attach event listeners to elements, handle clicks, inputs, and keyboard events for interactive pages.
- **Form Validation with JavaScript (10m)**
Implement client-side validation to check form inputs before submission, improving user feedback.
- **Asynchronous JavaScript: Promises and Async/Await (20m)**
Manage asynchronous operations with Promises and write cleaner code using async/await syntax.
- **Fetching Data: The Fetch API and JSON Handling (15m)**
Retrieve data from APIs using fetch, parse JSON responses, and integrate external data into your app.
- **Introduction to React: Components and Props (25m)**
Set up a React project, create functional components, and pass data using props.
- **State Management with React Hooks (18m)**
Use useState and useEffect hooks to manage component state and side effects in React applications.
- **Debugging with Browser DevTools (12m)**
Explore Chrome DevTools for debugging JavaScript, inspecting elements, and profiling performance.

Back-End Development: PHP, Databases & LAMP Stack

- **PHP Syntax and Basic Constructs (12m)**
Learn PHP variables, data types, operators, control structures like if-else and loops.
- **Working with PHP Superglobals (15m)**
Use `$_GET`, `$_POST`, `$_SESSION`, and `$_COOKIE` to handle user data and sessions.
- **File Handling and Error Management in PHP (10m)**
Read, write, and manage files on the server, and implement error reporting and logging.
- **Introduction to Databases: Relational Models (12m)**
Understand database design, normalization, and entity-relationship models for efficient data storage.
- **SQL Essentials: CRUD Operations (18m)**
Write `SELECT`, `INSERT`, `UPDATE`, and `DELETE` statements to manage data in MySQL or MariaDB.
- **Connecting PHP to MySQL: Database Queries (15m)**
Use PHP's PDO or MySQLi to connect to databases, execute queries, and fetch results.
- **Using Prepared Statements for Security (12m)**
Prevent SQL injection by using prepared statements with parameterized queries in PHP.
- **MVC Architecture for PHP Applications (20m)**
Organize code using Model-View-Controller pattern to separate concerns and improve maintainability.
- **Configuring the LAMP Stack on Linux (25m)**
Step-by-step guide to installing and configuring Apache, PHP, and MySQL on a Linux server.
- **Building a CRUD Application with PHP and MySQL (30m)**
Create a full CRUD (Create, Read, Update, Delete) application from scratch with database integration.
- **User Authentication: Sessions and Password Hashing (18m)**
Implement secure login systems using sessions, cookies, and password hashing with bcrypt.
- **Security Fundamentals: Preventing Common Attacks (15m)**
Learn to guard against SQL injection, XSS, and CSRF attacks in your web applications.
- **Implementing HTTPS and Secure Data Transmission (10m)**
Set up SSL/TLS certificates and configure HTTPS to encrypt data between client and server.
- **Advanced SQL: Joins, Indexes, and Transactions (20m)**
Use SQL joins to combine tables, indexes to speed up queries, and transactions for data integrity.
- **Testing and Debugging Back-End Code (12m)**
Apply unit testing, logging, and debugging techniques to ensure code quality and reliability.

Deployment, Cloud Computing & Certification Prep

- **Linux User Management and File Permissions (12m)**
Manage users and groups, set file permissions with `chmod`, and understand ownership.
- **Automating Tasks with Cron Jobs and Services (10m)**
Schedule recurring tasks and manage system services for efficient server operation.
- **Firewall and SSH Security Configuration (15m)**
Set up UFW firewall and harden SSH access to protect your server from unauthorized access.
- **Cloud Platforms: Setting Up AWS EC2 or DigitalOcean (20m)**
Launch cloud instances, configure security groups, and prepare for application deployment.

- **Deploying Your LAMP Application to the Cloud (18m)**
Step-by-step deployment of a PHP application to a cloud server with domain and DNS setup.
- **CI/CD Pipelines for Automated Testing and Deployment (25m)**
Implement continuous integration with GitHub Actions or GitLab CI for efficient workflows.
- **Introduction to Docker for Containerization (20m)**
Learn Docker basics: images, containers, Dockerfiles, and commands to containerize applications.
- **Automated Deployments with Docker and CI/CD (18m)**
Integrate Docker into your deployment pipeline for consistent and reproducible environments.
- **Load Balancing and High Availability (15m)**
Configure load balancers to distribute traffic and ensure your application scales under load.
- **Caching with Redis and CDN for Performance (12m)**
Use Redis for database caching and CDNs for static assets to speed up response times.
- **Monitoring Tools and Uptime Management (10m)**
Set up monitoring for server resources, application logs, and uptime alerts.
- **Capstone Project: Build and Deploy a Full-Stack App (32m)**
Apply all course skills to create, secure, and deploy a complete web application.
- **Certification Exam Review and Practice (20m)**
Review key concepts, take practice tests, and prepare for the professional certification exam.
- **Portfolio Development and Career Guidance for 2026 (15m)**
Build an impressive portfolio and learn about job opportunities and trends in web development.

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