Trivera Technologies LLC

Collaborative IT Training, Mentoring & Courseware Solutions
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Web Essentials: Introduction to JavaScript

The Web Development , Programming & Design Series

Course: TT4110 Web Essentials: Introduction to JavaScript
Duration: 3 days
Focus: JavaScript, HTML DOM, and related technologies.
Targeted Audience: Aspiring Web Developers
Skill-level: Introductory
Hands-On Format: This hands-on class is approximately 50/50 lab to lecture ratio, combining engaging lecture, demos, group activities and discussions with comprehensive machine-based practical programming labs and project work.
Language / Tools: JavaScript, used in common browsers
Delivery Format: We're flexible! This course is available for onsite private classroom presentation, or live online virtual presentation, or can be presented in a combined delivery learning solution. Please also visit our Public Schedule for open-enrollment course dates.
Customizable: This course may be easily tailored to target your training skills objectives, tools of choice and learning goals.

Web Essentials: JavaScript is an in-depth, hands-on JavaScript training course geared for software developers who need to understand what JavaScript is and how to use it with today's systems and architectures, expanding their knowledge and skills in architecting and developing sophisticated web interfaces. This comprehensive course provides a balanced mixture of theory and practical labs designed to take students from the fundamentals of JavaScript and its related technologies through to the use of tools and libraries to ease the development of advanced web applications.

Graduates will hit the ground running, applying JavaScript to projects at both an architectural as well as a line by line coding level. Students who attend this course will leave this course armed with the required skills to design, implement, and deploy robust, flexible, and safe JavaScript-based applications.

▶ Course Objectives: What You'll Learn

JavaScript is a widely used approach to improving the way users interact with web applications. Depending on the configuration, potential technologies used include HTML/XHTML, CSS, DOM, and XML.

This course provides indoctrination in the practical use of the umbrella of technologies that work in conjunction with JavaScript as well as some of the tools, toolkits, and frameworks that can be used in conjunction with web development and deployment. The course begins with an initial look at JavaScript and how it is used within the context of web applications. The students walk through the different technologies that are used with JavaScript. Once the foundations have been established, the course looks at the fundamental aspects of JavaScript in terms of web applications, security, tools, and frameworks.

Working within in a dynamic, hands-on learning environment, guided by our expert web development team, attendees will learn to:

- Understand what JavaScript is and how it is used within the context of web applications
- Work with the different technologies that are the foundation for web applications.
- Understand and work with the fundamental aspects of JavaScript in terms of web applications, security, tools, and frameworks
- Examine application security, ranging from web application issues to the vulnerabilities and threats that are specific to JavaScript

Need different skills or topics? If your team requires different topics or tools, additional skills or custom approach, this course may be easily adjusted to accommodate. We offer additional web programming, design and security courses which may be blended with this course for a track that best suits your development objectives.

Course Structure: Throughout the course students will be led through a series of progressively advanced topics, where each topic consists of lecture, group discussion, comprehensive hands-on lab exercises, lab review and quizzes. This course is "skills-centric", designed to train attendees in leading-edge web development skills, coupling the most current, effective techniques with the soundest practices.

Hands- on Learning: This course is about **50% hands-on lab and 50% lecture,** with extensive programming exercises designed to reinforce fundamental skills and concepts learned in the lessons. Our courses include ample materials and labs to ensure all students are either appropriately challenged, or assisted, at all times – no matter their skill level.

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Audience & Pre-requisites: Who Should Attend

This is an **introductory** level JavaScript course, designed for developers who need to extend their knowledge of JavaScript development or need to reinforce sound JavaScript coding practices, immediately.

Attendees should have previous experience or working knowledge of developing software applications. This is a hands-on programming class. Real world programming experience is a must.

Related Courses – Suggested Learning Path

Take Before: Students should have working knowledge of basic HTML and CSS, or should attended this course as a prerequisite
- **TT4000 Understanding Internet Architectures**

Alternative Courses: We offer other courses that provide different levels of knowledge or focus:
- **TT4650 Mastering HTML5, CSS3 and JavaScript (3 days)**

Take After: We offer a variety of introductory through advanced web programming, development and design courses. We will collaborate with you to design the best solution to ensure your needs are met, whether we customize the material, or devise a different educational path to help your team best prepare for this training.

Some of the more popular follow-on courses include:
- **TT4660 Web Essentials: Introduction to JQuery**
- **TT4665 Mastering JQuery**
- **TT4600 Mastering Web Development using HTML5, CSS3, JQuery & More | Covering UI Patterns, Best Practices & Performance (with Advanced Topics) (4 days)**
- **TT4601 Mastering Web Development using HTML5, CSS3, JQuery & More | Covering UI Patterns, Backbone, Best Practices & Performance (with Advanced Topics) (5 days)**
- **TT4675 Mastering JavaScript & JQuery (5 days)**

Please contact us for recommended next steps tailored to your longer term education, project or development objectives.

Student Materials: What You'll Receive

Our robust course materials include much more than a simple slideshow presentation handout. Student materials include a comprehensive hard-copy course manual, complete with detailed course notes, detailed lab manuals and workbooks, code samples, software tutorials, diagrams and current reference materials, all directly related to the course at hand, indexed for ease of use. Step-by-step lab instructions, software tutorials and project descriptions are clearly illustrated and commented for maximum learning.

Delivery Environment: Tools to Use

This course can be delivered using a variety of software combinations and tooling. Our detailed lab workbooks are complete with software-specific instructions and tutorials, screen shots and step-by-step illustrations for using the software you select. In most cases we can port our classes to run in the environment of your choosing. Please inquire for details.

Setup Made Simple!

Our mission is to ensure a smooth start to your course with minimum set up burden for your team or firm. We offer several course set up options to help meet that goal. Please inquire for details on requirements and costs.
- **Manual Course Setup.** Our team provides a detailed setup guide with specific instructions, packaged software and links for all course tools and labs, as well as much live assistance as required to prepare your attendees or classroom for the course.
- **LoadNGo Instant Classroom Kit (DVD Image).** Depending on the course, we can supply a custom, course-specific DVD that houses the course set up software, labs, and other pertinent useful student resources such as whitepapers, tutorials and additional examples. This image is simple to install and remove, without impacting your student environments.
- **Remote Lab Environment**. Your team can access our hosted environment to access and use the software, labs and tools required for the hands-on portion of the training.
- **Provide Pre-Loaded Equipment**. If needed, we can ship in pre-loaded equipment to your site.

Focused, Skills-Driven Training | Maximizing Your Training Time and Value, while Reducing Risk

Our training programs are designed to be skills-driven, focused events, targeted to deliver the true skills you need to succeed in your projects and role. We'll work with you to ensure that your valuable training time and dollar is truly maximized. If your team requires more or less advanced materials or additional or custom topics, this course may be easily adjusted to accommodate. We offer and can blend on a wide variety of surrounding and supporting tools and elements to build out a truly robust educational experience, for you, your team, or your entire organization.

Please contact us for details about our **Extended Education Programs** that support, surround, supplement or extend your learning initiatives such as
- **Collaborative mentoring** for your team
- **Pre-and post-training assessments** help place learners on the right path
- Mentored, comprehensive **case-studies** can be woven into your training programs, complete with guided work and instructor interaction
- **Guided or self-paced projects**, homework and exams
- **Interactive, self-paced programs** students
- **Virtual lab hours** and/or constant Mentor access
- Role-basic, Topic-based or Goal-based corporate **Training Roadmap and Learning Paths development**, rollout and support

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- Skills-focused custom **New Hire Training Programs** and team **Reskilling initiatives**
- **Learning Management or Vendor Management Services** for your organization

Plus many additional, flexible learning modules, initiatives and programs that can be delivered across a variety of subjects and modalities, completely tailored for your organization.

Workshop Topics Covered

Session: HTML and CSS Review

Lesson: HTML Review
- HTML/CSS Timeline
- HTML Markup Defines Format
- HTML Rendered
- HTML Processing Flow

Lesson: CSS Review
- Cascading Style Sheets (CSS): Rules for Rendering
- HTML/CSS Processing Flow
- Defining Style Rules
- Pseudo-classes and -elements

Lesson: CSS3 Overview
- CSS3 New Features
- CSS3 Browser Support
- CSS3 Selectors Support
- CSS3 Properties Support

Session: JavaScript

Lesson: JavaScript Basics
- Identifiers and literals
- Loop Structures
- Iteration
- Conditional Structures

Lesson: Debugging Tools
- Internet Explorer Developer Tools
- FireBug & FireBug Lite
- Fiddler

Lesson: JavaScript Functions
- Functions in JavaScript
- Invoking Functions
- Function Constructor
- Function Scope and Closures

Lesson: JavaScript Arrays
- JavaScript Object
- JavaScript Literals
- JavaScript Arrays

Lesson: JavaScript Strings and Regular Expressions
- String Objects
- JavaScript and Regular Expressions
- Regex Content
- Working with the RegEx Object

Lesson: Object-Oriented JavaScript
- Classes as Functions or Functions as Classes
- Prototypes
- Extending Classes With Prototype
- Reusable, Flexible Classes

Lesson: JavaScript Event Handling
- Basic Event Handling
- Handling HTML Events
- DOM 2 Event Propagation: Three Phases
- InnerHTML

Lesson: Advanced JavaScript
- Same Origin Policy
- Scheduling in JavaScript
- Opening And Manipulating Windows
- JavaScript Execution Context
- Manipulating Document During Loading

Session: Working with DOMs

Lesson: HTML DOM Mechanics
- DOM Structure
- Accessing Nodes
- Attaching Events
- Unobtrusive JavaScript
- DOM Differences: The Whitespace Problem

Lesson: XML DOM Mechanics
- W3C Standard Method for Creating a DOM Document
- Populating a DOM with XML
- Receiving XML Responses
- JavaScript to Process XML

Lesson: XSLT Applied
- XML/XSLT Processing Flow
- XSLT Transformations
- XSLT in the Browser
- Overview of Sarissa
- Advantages/Disadvantages of XSLT

Session: Advanced Topics

Lesson: JavaScript Best Practices
- JavaScript Code Conventions
- Formatting and Structure
- Variable and Function Declarations
- Statement Conventions
- Best Practices and Principles

Lesson: Performance and Optimization
- Code Optimization
- JavaScript Verbosity Tradeoffs
- Memory Considerations
- Cyclic References

Lesson: Security
- Security: The Complete Picture
- Unvalidated Input
- Injection Flaws
- XSS
- Spoofing
- How Attackers See JavaScript Applications
- OWASP Top Ten for 2013

Need courseware? This course is fully customizable, and also available for license with complete support for qualified organizations. To learn more about our Courseware Services and Licensing options, please contact us at Courseware@triveratech.com for details.

▶ Why Choose Trivera Technologies?

Whether you're a manager choosing a training provider or course to bring to your team, an instructor looking for reliable, solid course materials, or a student looking for an exciting, targeted training class to attend or to recommend to your colleagues - *Our single focus is to make YOUR training event or experience a success.* Here's why choosing our team as your web development, programming and design training and courseware resource takes the risk right out of your decision making process…

- *Our prices and services are guaranteed.* We stand behind our courses, courseware and instructors 100%. We'll match or beat any pricing for similar services, any time. Whether you're a stakeholder organizing your firm's educational services, a student in our live or virtual classroom or a trainer using our materials to educate your own client or team.

- **Our Instructors and Mentors bring years of leading-edge, hands-on Web Development, Design & Programming experience into the classroom and content.** Our engaging, dynamic instructors and course authors are also skilled web developers and designers, who work on exciting web projects in between training engagements. Many of our web team members are game designers and developers, mobile app developers, and mobile app and web development security experts - all of whom are immersed in the latest skills, tools and technologies available in this fast-changing industry. They bring experience and expertise well-beyond the course materials.

- **Our 'skills-driven' courses are efficient, focused, current and comprehensive**. Our experts target exactly the skills your team needs to succeed in their jobs, projects or roles, rather than taking a 'laundry-list' approach to training, which can often result in overtraining, course overload or overwhelmed students. We'll work with you to define what it is you need to accomplish, and create the right program, training to those goals. Students of all skill levels will be able to hit the ground running with their new skills right after class ends, since the program was correctly designed from the start.

- **Our 360° Turn-Key Training Services ensure your Important Event is Truly Targeted, Exceeds Your Expectations and is delivered 100% Worry-Free!** The Trivera team treats <u>every</u> delivery engagement like a first-run, important event, not simply a staffing assignment. For every class we deliver, our team works closely with yours to ensure that your course runs smoothly from start to finish, and that there are **no surprises** in the classroom for you, your students or the instructors. Our experts work with you to choose the right topics and courses that align with your true skills goals, tuning as needed. We align the best all-around trainer to fit your exact needs – not just whoever happens to be 'on the bench'. We offer pre-reading, quizzes and support resources to help assess and prepare your team for the training, so we can best tune the training and maximize their time in the classroom. We'll ensure that your classroom is set up and ready to go prior to course start. Throughout the course delivery, our instructors constantly evaluate the class delivery and students, tuning topics, activities, discussions and labs as needed to ensure all student skill levels and needs are targeted. All activities, data and results are documented and shared with your firm so you have a complete picture of the course and its results, throughout the course delivery, and afterwards. Post training support is also included for your students to address any future related questions.

- **We wholly-own our course content, giving Trivera flexibility & quality above the rest.** Our course materials are **owned** by our company and *fully customizable at <u>little or no cost</u>*. Dozens of training firms and independent instructors purchase and use our course materials, and hire us for training support as well. As a result, our courseware is subject to very stringent quality requirements. Not only will your organization benefit from our own technical team's technical expertise, but also from the feedback of hundreds of students and trainers using these materials, worldwide, on a regular basis. This unique fact guarantees that our materials are not only robust and interesting, but also technically correct, current and of the highest quality and usability.

- **Our content is always updated and ready to go.** Our dedicated course development team keeps our training content, courses and student resources completely updated with the latest skills, industry trends and software editions to ensure your team is always getting the most current information, techniques and skills available.

- **We're here for Extended Support Service** for students, instructors, facilities or anyone using our content or working with our instructors, in any way. There is someone here to assist you with questions, technical calls, set up, content – or whatever you need - at all times. Your success is our singular goal. We also support all of our students long after the class ends by offering pertinent free technical resources, live mentoring and technical support to help you apply your newly learned skills, and steeply discounted additional training offerings.

- **We're published authors and industry speakers.** Our team was selected to write the online *JEE, EJB, EJB CMP-CMR a*nd *Web Services Tutorial Series for IBM developerWorks®.* These are the same instructors who train our classes and author the courseware. Most of our trainers/consultants have also authored additional articles on web services, EJB, Struts, JEE and advanced Java topics, and are recognized speakers and presenters on the industry technical seminar circuit. Our team is comprised on several successful published authors. Members of our team have written or contributed to: *Python Programming, Eclipse Kick Start, Mastering Eclipse; Professional Struts; Using Java Tools for Extreme Programming; Mastering Resin; Mastering TomCat and others.*

- **Need a small-business status with whom to team?** Trivera Technologies is a 100% Woman-*Owned Small Business Concern. Please contact us to t*eam with us for your small-business or woman-owned set aside opportunities.

- *Our prices and services are guaranteed.* We stand behind our courses and instructors 100%. We'll match or beat any pricing for similar services, any time. Whether you're a stakeholder organizing your firm's educational services, a student in our live or virtual classroom or a trainer using our materials to educate your own client or team – **Our core mission is to make YOU a success in the classroom**.

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▶ **For More Information**

Need dedicated training? All courses can be brought **onsite** or produced **online** / virtually for a private presentation, customized to suit your unique requirements or goals. Please contact us for course details and Special Discount Offers. Our pricing is always cost effective, and our services are guaranteed. Please also visit our **Public Training Schedule** for available open enrollment dates that may apply. Please contact **Training@triveratech.com** for more information, pricing and special offers.

Need courseware or courseware development services? Let us take the risk out of your next courseware purchase, curriculum development project or classroom delivery! All Trivera Technologies course materials are available for corporate license and customization, with complete instructor support and free corporate branding. Samples are available upon request. Please contact us at **Courseware@triveratech.com** for details, options and excellent pricing.

For more information about our training services, collaborative mentoring services, courseware licensing options, courseware development services, public course schedule, training management services, partner and reseller programs, or to see our complete list of course offerings please visit us at **www.triveratech.com**, email **Info@triveratech.com** or call **609.953.1515**.

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For a Complete List of our Course Offerings please visit: **http://www.triveratech.com/Courses/Courselist.htm**

Trivera Technologies is a Woman-Owned Small-Business Firm