

TRAINING HTML 5 - 2010 Calendar

Next-Generation Rich Web Application with HTML 5

Developing real-time and collaborative web applications using HTML 5 WebSocket and Communication

Prerequisites

This HTML 5 course is designed for software developers interested in designing, creating, and deploying HTML5 web applications. It is valuable to both beginners and advanced developers that already have experience in developing web applications. To get the most out of the course, you should be somewhat familiar with HTML and JavaScript. Prior exposure to any of these concepts will be helpful, but not required:

- HTML/XML
- JavaScript
- Ajax

Overview

HTML5 is the next major milestone in HTML and it is not just another incremental enhancement; it represents an enormous advance for modern web applications. HTML5 is such a big step forward that it prompted Vic Gundotra, VP of Engineering at Google, to say " *The web has not seen this level of transformation, this level of acceleration, in the past ten years... we're betting big on HTML5.*"

A large number of features are already supported in browsers, so it is time to start using it!

This HTML5 training course is divided into two training modules. In the first HTML 5 module you will learn how to create HTML5 web pages and web applications using HTML5 markup and HTML5 JavaScript APIs. In the second HTML 5 module that is a highly practical about HTML5 Communication for real-time web applications, using HTML5 WebSocket, Server-Sent Events, Cross-Document Messaging, and XMLHttpRequest Level 2. This course will teach you how to create next generation HTML5 web applications.

With these new standards, the browser can now enjoy the first-class citizenry of network communication that has long been enjoyed by desktop applications. You will learn how to use the emerging standards to build scalable, mission critical real-time Web 2.0 applications such as:

- Trading System Clients
- Online Betting Applications
- Social Chat Solutions
- Performance Monitoring Applications
- RFID and GPS Tracking Applications
- Sports and News Broadcasting Applications

Training objectives

This course guides the participants in a step-by-step learning process about the new HTML 5 features and the development of real-time applications.

PC requirements

Each participant should come with his/her own notebook with the following minimum requirements to participate in the Flash Media Server 2 course:

- Intel Pentium Core Duo
- Microsoft Windows XP with Service Pack 2, Windows XP Professional, Windows 2000 Server, or Windows Server 2003
- 1 GB of memory
- 300 MB of available hard-disk space to install

Those who are not equipped with a notebook with the above characteristics may rent a PC for the entire course. Please inform us a few days in advance if you require this service.

Teaching material

The course will provide each student the following text book:
Pro HTML5 Programming: Powerful APIs for Richer Internet Application Development
Editor: Apress

The course is coordinated by Peter Lubbers

Programme

Part 1 - Overview of the Real-Time Web

The Web Today

- The current state of the Web
- About HTTP
- About AJAX
- Lab: Building a real-time application

Previous Push Technology Attempts

- Reverse AJAX and Comet
- Long-polling and streaming
- Push Technology Concerns
 - Scalability
 - Cross-domain issues
 - Connection limit

Part 2 - HTML 5 Communication e WebSocket

HTML5 Overview

- Overview of HTML5
- Overview of HTML5 Communication
- WHATWG and W3C specifications
- What is part of HTML5?

Cross Document Messaging

- Cross document messaging overview
 - Understanding the origin concept
 - Browser support
- Lab: Using the PostMessage API

XMLHttpRequest Level 2

- XHR Level 2 Overview
 - Browser support
 - Server support
- Cross-document XHR
- Progress events
- Lab: Using XHR Level 2

Server-sent Events

- SSE Overview
 - Browser support
 - Server support
 - SSE Emulation
- Broadcasting information
- Lab: Using the EventSource API

HTML5 WebSocket

- WebSocket overview
 - WebSocket API
 - WebSocket Protocol
- Web Socket browser support
- Web Socket server implementations
- Web Socket emulation
- Lab: Using the WebSocket API

WebSocket and Transport Protocols

- Transport protocol overview
 - Payload

- Protocols
- Integration with (useful) transport protocols
- Practical use cases

Real-Time Messaging

- Real-time Messaging Architecture
 - Pub/Sub architecture
 - About JMS
 - About Streaming Text Orientated Messaging Protocol (Stomp)
 - About Advanced Message Queuing Protocol (AMQP)
- Message brokers
 - Apache ActiveMQ
 - RabbitMQ
- Client-side messaging APIs
- Lab: Building a real-time stock application

Real-Time Chat

- Overview
 - XMPP
 - IRC
 - Other chat protocols
- Client-side APIs for XMPP
- Integrating with Google Talk and Jabber
- Lab: Building a real-time chat application

Part 3 - WebSocket in the Enterprise

Creating a Custom WebSocket Protocol Client

- Protocol implementation decisions
- Lab: Implementing the protocol client

Enterprise Deployment

- WebSocket network traversal overview
 - WebSocket and proxy servers
 - WebSocket and firewalls
 - WebSocket and load-balancing routers
- Scaling up and scaling out
- High availability and fault tolerance
- WebSocket in the cloud
- Lab: enterprise deployment

Benchmarking WebSocket Performance

- Testing and benchmarking
- Benchmarking tools
- Server to server configuration
- Lab: Benchmarking WebSocket

WebSocket Security

- WebSocket Security Overview
- Protocol-based security
- Protocol validation
- TLS and SSL certificates
- Single sign-on
- Lab: Securing WebSocket traffic

Using HTML5 Today

- When can I use these features?
- Using HTML5 in browsers that do not support it
 - Detecting native availability of HTML5 features
 - Emulation

Part 4 - Markup, forms and new media classes

HTML5 Markup

- HTML5 page structure
- HTML5 DOCTYPE
- HTML5 markup

- Structural elements
- Semantic elements
- Deprecated elements
- HTML5 and CSS
- Lab: Using HTML5 Markup

HTML5 Forms

- HTML5 form elements
- Building and using HTML5 forms
- Lab: Using HTML5 Forms

HTML5 Audio and Video

- The audio and video elements
- Understanding audio and video
 - Audio and video containers
 - Audio and video codecs
- Lab: Using the audio and video APIs

Part 5 - Advanced programming HTML 5

Overview of the HTML5 APIs

- Overview of the HTML5 APIs
- Common building blocks
- Programming HTML5

HTML5 Canvas and SVG

- Overview
 - Canvas vs. SVG
 - Canvas coordinates
 - Context
 - Accessibility
 - Pixel data
- Lab: Using the Canvas APIs
 - Canvas basics
 - Drawing operations
 - Canvas transforms

HTML5 Communication APIs

- Cross-document messaging
 - Overview
 - Understanding the origin concept
 - Lab: Using the PostMessage API
- XMLHttpRequest Level 2
 - Overview
 - Cross-document XHR
 - Progress events
 - Lab: Using XHR Level 2
- Server-sent Events
 - Overview
 - Lab: Using the EventSource API

HTML5 WebSocket

- Real-time Communication overview
- WebSocket overview
 - WebSocket API
 - WebSocket Protocol
- Lab: Using the WebSocket API
- Extra: Beyond WebSocket

HTML5 Web Workers

- Web Workers overview
 - Multi-core processor architecture
 - Web Worker communication
- Lab: Using the Web Workers APIs

HTML5 Geolocation

- Geolocation overview
 - User Privacy
 - Location information sources
- Lab: Using the Geolocation APIs

HTML5 Storage

- Overview
 - Local Storage
 - Session Storage
 - Web SQL Database
- Lab: Using the storage APIs

Participation price

Early Bird (before 31 May) special price 1.000 euro + IVA.

The standard price is 1.200 euro + iva.

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About the Instructor



Peter Lubbers is the Director of Documentation and Training at Kaazing. Peter is the co-author of the Apress book "Pro HTML5 Programming" and teaches HTML5 training courses. An HTML5 and WebSocket enthusiast, Peter frequently speaks at international events and is the co-founder of the San Francisco HTML5 User Group.

Prior to joining Kaazing, Peter worked as an information architect at Oracle, where he wrote many books, such as the award-winning Oracle Application Server Portal Configuration Guide and the Oracle Application Server Developer's Guide for Microsoft Office. Peter also develops documentation automation solutions and two of his

inventions are patented.

A native of the Netherlands, Peter served as a Special Forces commando in the Royal Dutch Green Berets. In his spare time (ha!), Peter likes to run ultra-marathons. He is the 2007 and 2009 ultrarunner.net series champion and three-time winner of the Tahoe Super Triple marathon. Peter lives on the edge of the Tahoe National Forest and loves to run in the Sierra Nevada foothills and around Lake Tahoe (preferably in one go!). Don't worry though—he won't make you run laps around the building or do pushups during the HTML5 course!