

TRAINER PREPARATION GUIDE 4.6: CODE ADDITIONAL HTML5 APIs.

Lesson Objective 4.6:

Code additional HTML5 APIs.

Required materials to teach this lesson:

1. Microsoft® Word or similar word processing tool
2. Microsoft® Expression® Web 4 (preferred) or Notepad (Notepad++ is preferred; it provides real-time feedback for writing JavaScript). Download: <http://www.notepadplusplus.org/> (Internet Explorer® 9 or later).
3. Internet access
4. Internet Explorer® 9
5. 98-375-ENU-4.6-LP
6. 98-375-ENU-4.6-IC
7. 98-375-ENU-4.6-ICKey
8. 98-375-ENU-4.6-PC
9. 98-375-ENU-4.6-Resources

Preparation tasks

Technical preparation activities:

1. Unzip the resources file and test in a browser. The file is to be used in the lesson demonstration. It will access the location of your PC and display a Bing® map with a pinpoint on your location (Internet Explorer 9 required).

2. **Vocabulary:**

communications protocol: a set of rules or standards designed to enable computers to connect with one another and to exchange information with as little error as possible.

thread: in programming, a process that is part of a larger process or program.

3. **Additional readings and resources:**

MSDN®:

Geolocation: [http://msdn.microsoft.com/en-us/library/gg589499\(v=vs.85\).aspx](http://msdn.microsoft.com/en-us/library/gg589499(v=vs.85).aspx)

Web Workers: [http://msdn.microsoft.com/en-us/library/ie/hh673568\(v=vs.85\).aspx](http://msdn.microsoft.com/en-us/library/ie/hh673568(v=vs.85).aspx)

WebSockets: [http://msdn.microsoft.com/en-us/library/ie/hh673567\(v=vs.85\).aspx](http://msdn.microsoft.com/en-us/library/ie/hh673567(v=vs.85).aspx)

Other resources (books, e-reference):

HTML5 Rocks - Geolocation API:

http://www.html5rocks.com/en/tutorials/geolocation/trip_meter/

What is a WebSocket?: <http://websocket.org/>

HTML5 Rocks – The Basics of Web Workers:

<http://www.html5rocks.com/en/tutorials/workers/basics/>

Note: Support for HTML5 and CSS3 is changing and developing quickly. The list of resources is current as of January 2012. Check resources for current and up-to-date information at the time of classroom use.

Instructor computer setup:

1. A workstation with access to the Internet.

Instructional preparation activities:

1. Review the instructor suggestions in the notes view of Microsoft PowerPoint® presentation 98-375-ENU-4.6-LP.
2. Make copies of student documents available as needed.
3. Complete the instructions for the demonstration before class.

Lesson sequence (50 minutes)

Activating prior knowledge/lesson staging (5 minutes):

Instruct students to answer each question in the “Guiding questions” section of the In-class Activity document or in their personal class notes.

Guiding questions:

1. **List uses for an API that determines your current location.** This information can be used to provide navigation information, the distance to another location, or location and directions to local businesses. There are many uses for this information in web design.
2. **What is the purpose of a web worker?** The primary function of a web worker is to allow the web page to run multiple tasks at one time. The tasks are spawned and run in the background.
3. **What is a WebSocket?** A WebSocket is a new JavaScript API and protocol that allows for two-way communication from the web server to the client.

Lesson activity (35 minutes):

1. Teacher instruction
 - a. Use the PowerPoint presentation 98-375-ENU-4.6-LP to review the coding of additional HTML5 APIs.
 - b. An In-class Activity document is available for use as needed.

Lesson review (10 minutes):

1. Lead students in a discussion of the guiding questions.
2. During and after the discussion, have students list any questions they have or any topics with which they would like more assistance.
3. Have students work in pairs to answer the additional questions written by students. Answer any questions that cannot be answered by students, or collect them for follow-up later.
4. Provide the Post-class Activity document for additional review.