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Get Started With HTML5

Browser Support

- Your best bet to experiment with HTML5
  - Safari
  - Chrome
  - Beta: FireFox 4 and IE 9.
- Test your browser:
  - html5test.com
  - html5demos.com
  - www.findmebyip.com/litmus
- JavaScript library to test for HTML5 features
  - www.modernizr.com

As of
October
2010

- Dreamweaver CS5 11.0.3 update will install HTML5 compatibility pack.
- CS4 and CS3 users should download the pack from Dreamweaver Exchange.
- See a demo:
  - www.youtube.com/watch?v=soNIxy2sj0A

DreamWeaver Story

What's New in HTML5?

- New semantic elements
(header, section, footer etc.)
- New form input elements
(e-mail, date, time etc.)
- Audio and video
- CSS3

For web page designers

- The canvas element
- Custom audio & video player
- Geolocation
- Local data storage
- Web SQL & IndexedDB
- Offline apps
- Messaging
- Web worker
- Push using WebSocket

For developers

Basic HTML 5 Document

```html
<!DOCTYPE html>

<html>
<head>
<title>Page Title</title>
<meta charset="UTF-8">
</head>
<body>
<p>Hello World</p>
</body>
</html>
```

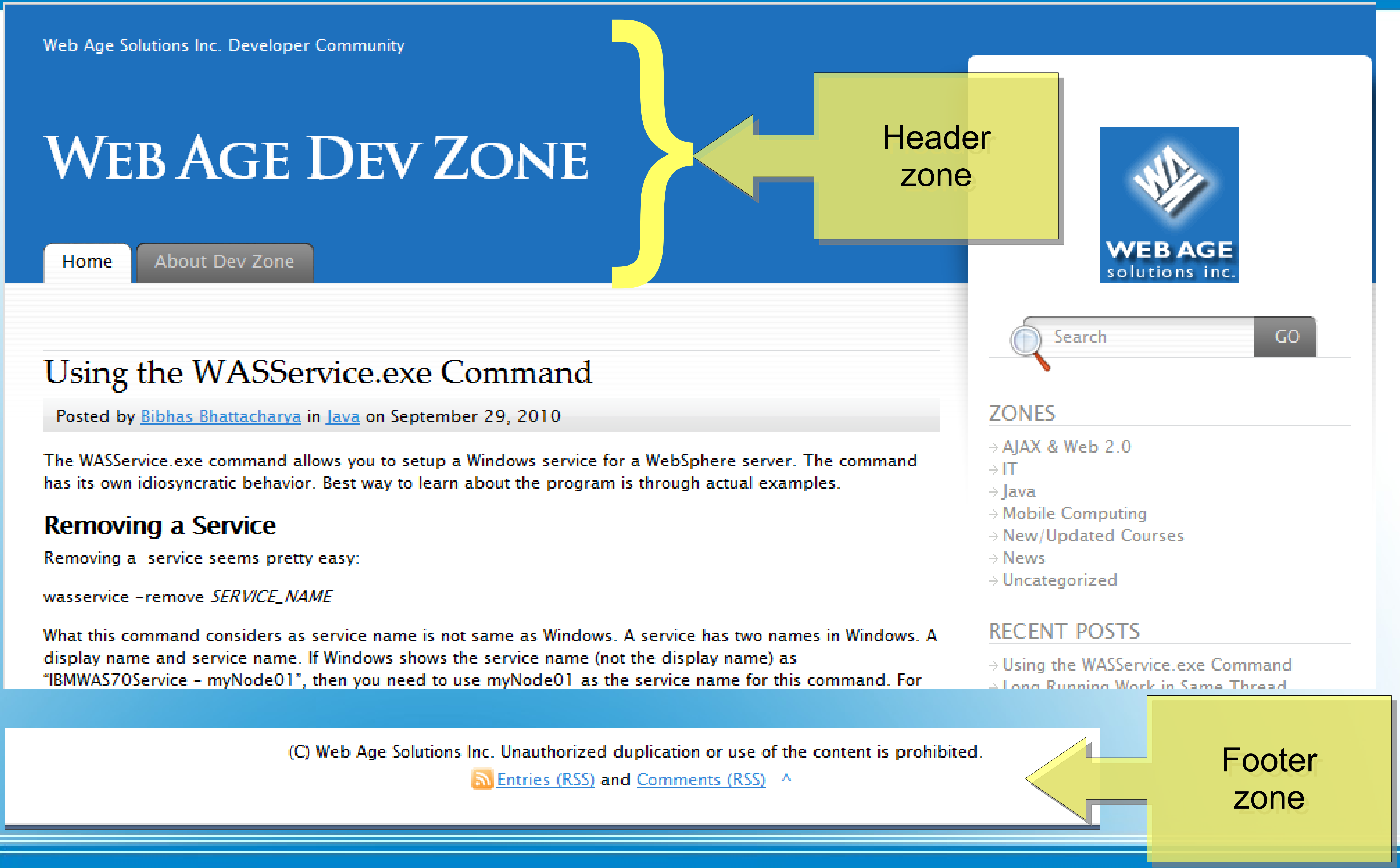
Simplified DOCTYPE

Simplified charset setting

- Elements that have no special visual styling but are used to provide structure and meaning to the content.
- HTML4 semantic elements
  - div (block)
  - span (in line)
- HTML5 semantic elements
  - header, footer, section, article, aside, time and others...
- In contrast, these have visual styling: h1, pre, b.

What are Semantic Elements?

Identify Header and Footer



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WEB AGE DEV ZONE

Header zone

Using the WASService.exe Command

Posted by Bibhas Bhattacharya in Java on September 29, 2010

The WASService.exe command allows you to setup a Windows service for a WebSphere server. The command has its own idiosyncratic behavior. Best way to learn about the program is through actual examples.

Removing a Service

Removing a service seems pretty easy:

wasservice -remove *SERVICE_NAME*

What this command considers as service name is not same as Windows. A service has two names in Windows. A display name and service name. If Windows shows the service name (not the display name) as "IBMWAS70Service - myNode01", then you need to use myNode01 as the service name for this command. For

ZONES

- AJAX & Web 2.0
- IT
- Java
- Mobile Computing
- New/Updated Courses
- News
- Uncategorized

RECENT POSTS

- Using the WASService.exe Command
- Long Running Work in Same Thread

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Entries (RSS) and Comments (RSS) ^

Footer zone

Define Header and Footer

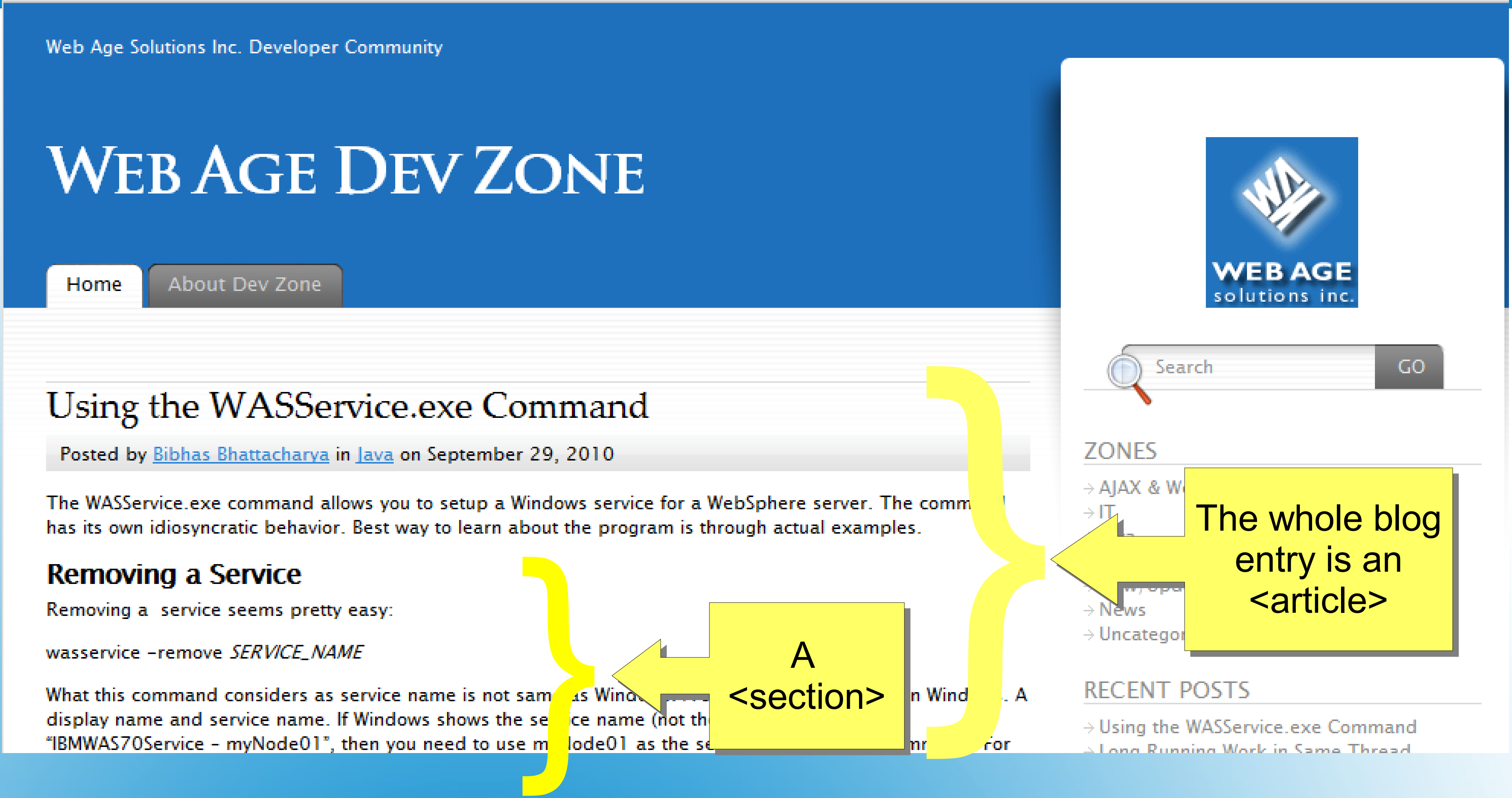
```
<body>

<header>
<h1>WEB AGE DEV ZONE</h1>
</header>

<!-- Body content -->

<footer>
<p>(C) Copyright Web Age Solutions Inc.</p>
</footer>

</body>
```



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A <section>

The whole blog entry is an <article>

Identify Section and Article

- A fully self contained chunk of content that can live on its own is an <article>
    - For example: a blog posting, product information and a complete news item.
- A collection of text elements is a <section>
    - Used often in place of a <div>
    - Used mainly to apply group styling or to hide/show/collapse content.
    - It is common for an <article> to have several sections. Although, sections can be used on their own to identify regions of a page.
- Do your best to replace <div> elements in an HTML4 page with either <article> or <section>.

Guidelines for Section and Article

Example Section and Article

```
<article>
<h1>Using the WASService.exe Command</h1>
...
<section>
<h3>Removing a Service</h3>
...
</section>
</article>
```

HTML5 Video

```
<video>

<source src="myvid.mp4" type='video/mp4;
   codecs="avc1.42E01E, mp4a.40.2" '>
<source src="myvid.ogv" type='video/ogg;
   codecs="theora, vorbis" '>

<object width="425" height="350">
     <param name="movie"
value="http://www.youtube.com/v/vvtdkxCIKC8"/>
     <embed src="http://www.youtube.com/v/vvtdkxCIKC8"
       type="application/x-shockwave-flash" width="425"
height="350">
     </embed>
</object>

</video>
```

Alternate
format support

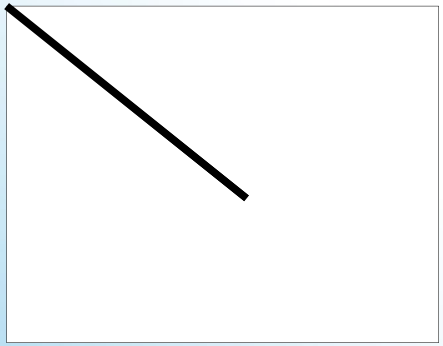
Flash
Fallback

What Can Canvas Do?

- 2D graphics. 3D coming soon.
- Hardware accelerated in most browsers.
- Example use cases:
  - Dynamic data driven charts. Lots of jQuery and Prototype plugins already out.
  - Interactive drawing
  - Custom, fancy and funny form input elements

Example Canvas

```
function drawLine() {

   var canvas = document.getElementById('c1');
   var ctx= canvas.getContext('2d');

   ctx.beginPath();
   ctx.moveTo(0, 0);
   ctx.lineTo(100, 100);
   ctx.stroke();
}

<canvas id="c1" width="500" height="500">

This text is displayed if your browser does not
support HTML5 Canvas.

</canvas>
```



Geolocation

```
function testGeoloc() {
  if (navigator.geolocation) {
    navigator.geolocation.getCurrentPosition(
        geoSuccess, geoFailed);

   }
}

function geoSuccess(pos, timestamp) {

  alert("Lat: " + pos.coords.latitude +
    " Long: " + pos.coords.longitude);

}

function geoFailed(err) {
  alert(err.message);
}
```

Called only if user permits and browser finds location

Browser Side Data Storage

- Extensive data storage capability:
  - Web Storage – Small amounts of data using an easy name value pair based API.
  - IndexedDB – Store large amounts of structured (table & column oriented) data. No SQL.
  - Web SQL – SQL oriented. May lose out to IndexedDB.
- Example use cases:
  - Offline apps.
  - Caching Ajax pulled data to improve performance.

- Can store string data only but can be larger than a cookie.
- Two global objects are used:
  - localStorage – Stores data for the duration of browser's lifetime only. Scope is per window. Good for Ajax data caching.
  - sessionStorage – Data is permanently stored. Scope is per domain. Good for offline apps.
- Both objects expose the same methods:
  - setItem(name, value)
  - getItem(name)
  - removeItem(name)

Web Storage

Web Storage Example

Store structured data using JSON

```
function saveData() {
   var o = new Object();
   o.fullName = document.getElementById(
    "fullName").value;
   o.salary = document.getElementById(
    "salary").value;

   localStorage.setItem("employee", JSON.stringify(o));
}

function loadData() {
   var str = localStorage.getItem("employee");
   if (str != null) {
      var o = JSON.parse(str);
      document.getElementById("fullName").value =
         o.fullName;
     document.getElementById("salary").value =
         o.salary;
   }
}
```

- Allows user to be productive when not online. Example use cases:
  - E-mail program that allows sending e-mail while offline.
  - Employee contact app that works when browser is offline.
- Key strategies to build offline apps:
  - Use a data storage mechanism to retain data locally. Sync local data with server when online.
  - Cache static files (CSS, HTML, JavaScript etc.) in the browser.

Offline Apps

Caching Files in Browser Side

- Create a cache manifest file in your application.

```
CACHE MANIFEST
/index.html
/stylesheet.css
/images/masthead.png
/scripts/misc.js
NETWORK:
/api
FALLBACK:
images/dynamic.php static_image.png
```

- Set the MIME type of the manifest file to text/cache-manifest.
- Use the manifest file from the app's HTML file.

```
<!DOCTYPE HTML>
<html manifest="manifest.cache">
```

- Allows a window to post messages to another window.
  - Windows can be from different domains.
  - Any JavaScript object can be sent as message payload.
- Sending a message:

```
var popupWindow =
    window.open("http://xyz.com/message_receiver.html");
...

var o = new Object();
o.fullName = document.getElementById("fullName").value;
o.salary = document.getElementById("salary").value;

popupWindow.postMessage(o, "xyz.com");
```

Web Messaging

```
window.addEventListener("message", onMessage, false);

...

function onMessage(e) {

    o = e.data;

    document.getElementById("fullName").value = o.fullName;
    document.getElementById("salary").value = o.salary;
}
```

Receiving a Message

Web Worker

- Allows an app to perform background work in a different thread.
  - Takes advantage of multi-core machines.
- Main GUI thread and the background thread communicates through the messaging API.
- Example, starting background work:

```
var w = new Worker("my_worker.js");
w.onmessage = function(e) {
  document.getElementById("progress").innerText =
    "Progress: " + e.data;
}

function startWork() {
  w.postMessage(""); //Notify worker. Also starts work.
}
```

- The my_worker.js file.

```
onmessage = function (event) {
  var i = 0;
  for (i = 0; i < 9000000; ++i) {
    Math.sqrt(i); Math.cos(i); Math.sin(i);
    if (i % 100 == 0) {
        postMessage(i); //Notify main thread
    }
   }
};
```

Performing Background Work

- New semantic elements
- Built-in audio and video
- Canvas for 2D and 3D hardware accelerated drawing.
- New data storage options
- Offline applications
- Inter window messaging
- Multi-threading using Web Worker.

Summary