

Curs 3

2012/2013

# Tehnici moderne de proiectare a aplicatiilor web



# CURS

I.	HTML si XHTML (recapitulare)	1 oră
II	CSS	2 ore
III	<del>Baze de date, punct de vedere practic</del>	<del>1 oră</del>
IV	<del>Limbajul de interogare SQL</del>	<del>4 ore</del>
V	PHP - HyperText Preprocessor	8 ore
VI	XML - Extended Mark-up Language si aplicatii	4 ore
VII	Conlucrare intre PHP/MySql, PHP/XML, Javascript/HTML	2 ore
VIII	Exemple de aplicatii	6 ore
	Total	28 ore



# rf-opto.etti.tuiasi.ro

- [http://rf-opto.etti.tuiasi.ro/master\\_it.php](http://rf-opto.etti.tuiasi.ro/master_it.php)
- Laborator 2011-2012
  - Exercitii/Performanta MySql
  - optional



# Nota

- An V
  - 33% E
  - 66% Aplicatii
    - 33% L
    - 33% P



Web Design

# Concepte generale



# Concepte

- Steve Krug: “**Don't Make Me Think**”
- Utilizatorii scaneaza pagina, nu o citesc
- Informatia trebuie redusa la minimul necesar in majoritatea locurilor
- “Daca ceva e greu de utilizat, mai bine nu o utilizez”
- Utilizatorii au comportament de **rechin**
- Originalitatea **nu e** intotdeauna **recomandata**



Capitolul II

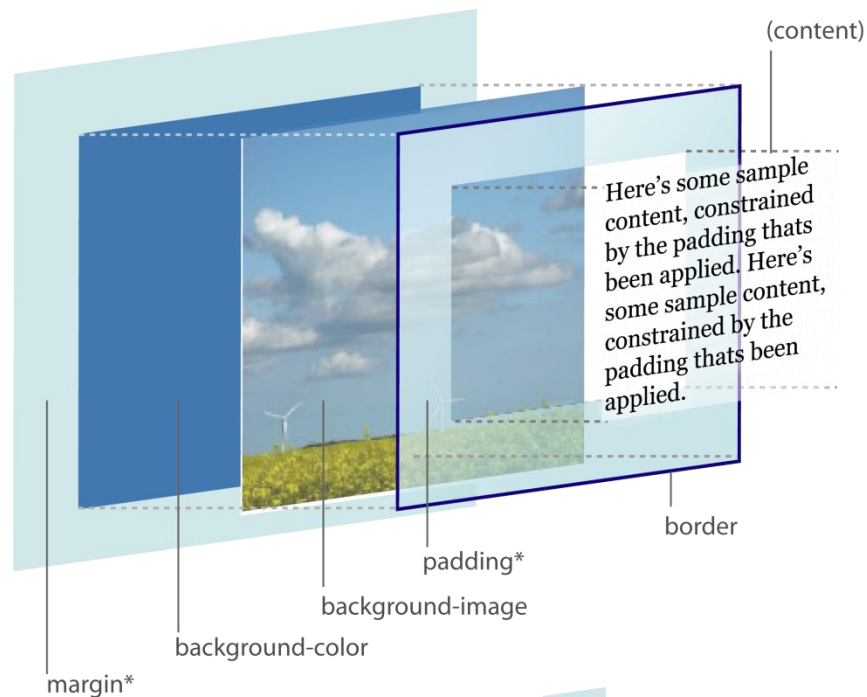
**CSS**



# CSS Box Model

- Orientat in jurul conceptului de “cutie” – Box model

THE CSS BOX MODEL HIERARCHY



\* transparent elements



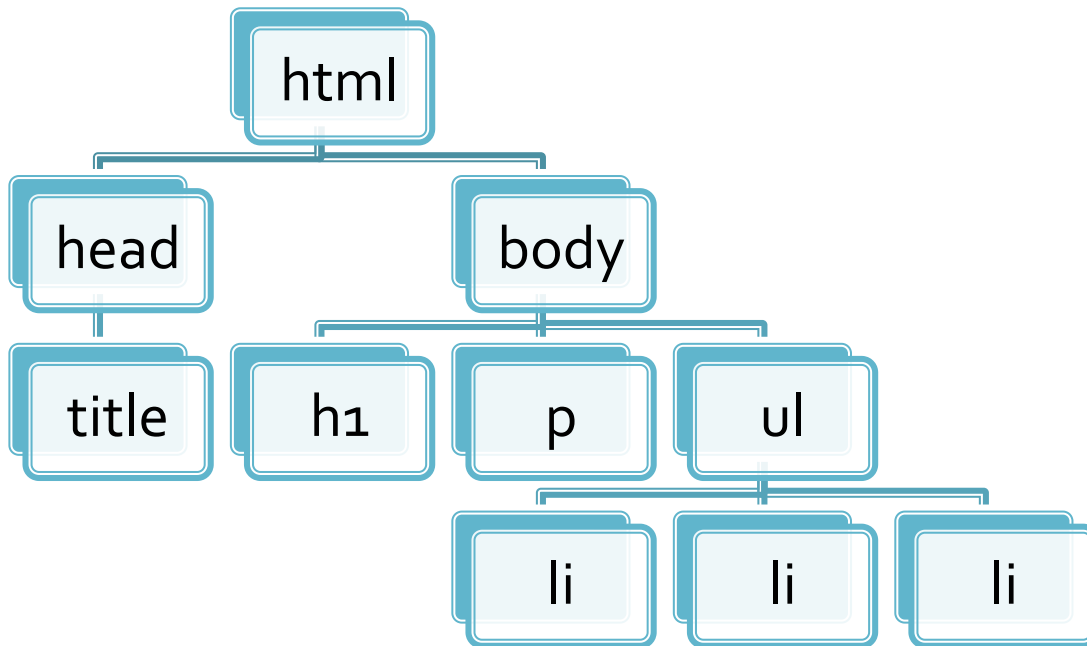
# Pozitionare

- **position**:absolute | fixed | relative | static | inherit;
- **top, right, bottom, left**:auto | [valoare] | [%] | inherit;
- **z-index**: [valoare intreaga]; - mai mare = deasupra



# DOM

- DOM – Document Object Model: structura de tip graf



```
<html>  
<title>pagina mea</title>  
<body>  
  <h1>Compozitori:</h1>  
  <p>  
    <ul>  
      <li> elvis costello  
      <li> johannes brahms  
      <li> georges brassens  
    </ul>  
  </p>  
</body>  
</html>
```



# Relatie cu Javascript in aplicatii

- Javascript poate accesa prin intermediul obiectului DOM atasat documentului HTML elementele din structura arbore DOM si modifica proprietatile corespunzatoare
- se deschide astfel calea spre aplicatii dinamice



# CSS Zen Garden

- <http://www.csszengarden.com/>
- un fisier html comun
- schimbarea formei permisa numai prin intermediul CSS



# CSS Zen Garden – HTML original

## css Zen Garden

### The Beauty of CSS Design

A demonstration of what can be accomplished visually through CSS-based design. Select any style sheet from the

Download the sample [html file](#) and [css file](#)

### The Road to Enlightenment

Littering a dark and dreary road lay the past relics of browser-specific tags, incompatible DOMs, and broken CSS

Today, we must clear the mind of past practices. Web enlightenment has been achieved thanks to the tireless effort

The css Zen Garden invites you to relax and meditate on the important lessons of the masters. Begin to see with your eyes. Become one with the web.

### So What is This About?

There is clearly a need for CSS to be taken seriously by graphic artists. The Zen Garden aims to excite, inspire, and educate. When you load the style sheet into this very page. The code remains the same, the only thing that has changed is the style.

CSS allows complete and total control over the style of a hypertext document. The only way this can be illustrated is by placing it in the hands of those able to create beauty from structure. To date, most examples of neat tricks and hacks



# CSS Zen Garden



## Css Zen Garden

*the beauty of css design.*

*A demonstration of what can be accomplished visually through CSS-based design. Select any style sheet from the list to load it into this page.*

 [DOWNLOAD THE SAMPLE HTML FILE AND CSS FILE](#)




### *The Road To Enlightenment*

Littering a dark and dreary road lay the past relics of browser-specific tags, incompatible DOMs, and broken CSS support.

Today, we must clear the mind of past practices. Web enlightenment has been achieved thanks to the tireless efforts of folk like the W3C,

SELECT A DESIGN:

 [Under the Sea!](#)  
by Eric Stoltz

 [Make 'em Proud](#)  
by Michael McAghon and  
Scotty Reif snyder



Consideratii generale

# Aplicatii



# Aplicatii

★ Favorites BCC e-SMART

BANCA COMERCIALA CARPATICA BCC e-SMART internet banking inteligent

Conturi Plati Depozite Rapoarte Setari

Rulare raport Vizualizare rapoarte

**ATENTIE!**  
Va reamintim ca BCC nu solicita informatii confidentiale (user, parola, numar de card, data expirarii cardului, codul PIN) prin e-mail. Aceste informatii nu trebuie divulgate nimanei, sub niciun motiv.  
Pentru alte lamuriri, puteti apela 0800.807.807 (numar accesibil din retea Romtelecom).  
**Aveti posibilitatea sa alegeti procesarea in regim de urgenta a platilor. Aceasta optiune se comisioneaza suplimentar.**

Rulare raport

Raport

Ruleaza raportul

☒ imediat

☐ la data 03.03.2010 ora 23:59

Ruleaza

top

surati activitate pe Internet, va rugam sa consultati periodic documentul [SECURITATE INTERNET](#) \*\*\* BCC informeaza ca SWIFT poate furniza autor



# Aplicatii

Internet Explorer browser window showing the BCR (Banca Comerciala Romana) website. The address bar displays [www.bcr.ro](http://www.bcr.ro).

The website header includes navigation links: Home, Contact, English, Contact center, Go, Cauta, Go.

The main navigation menu lists: CLICK 24Banking, 24 Banking, Persoane fizice, Private banking, Timeri, PFA, Micro, Corporatii, IMM, Municipalitati, Despre noi, Cariere, Presa.

The sub-navigation menu shows: Lista de conturi, **Conturi curente**, Economisire, Finantare.

The left sidebar contains a "Favorite" section with a dropdown menu and a list of links:

- Ordin de Plata
- Istoricul tranzactiilor
- Lista ordine de plata
- Sabloane
- Plata repetitiva
- Schimb Valutar
- Cumpara produse**
- Deschidere cont curent
- Constituire depozite la termen
- Deschidere cont de economii
- Cumparare CDD
- Ataseaza card de debit
- Aplica pentru un credit
- Curs valutar
- Mesaje(4)
- Contul meu de CLICK 24Banking (Favorite)
- Demo Click 24 Banking

The main content area displays the "Ordin de Plata - Creare" (Create Payment Order) form. The form includes a table with the following data:

Stare cont	Tip	Numar cont	Sold disponibil	Valuta
Activ	Conturi curente	[Redacted]	[Redacted]	RON

Below the table, there is a "Detalii" section with dropdown menus for "Sablon personal" and "Sablon furnizor", and a text input field for "IBAN beneficiar". A "Verificare IBAN" button is also present.

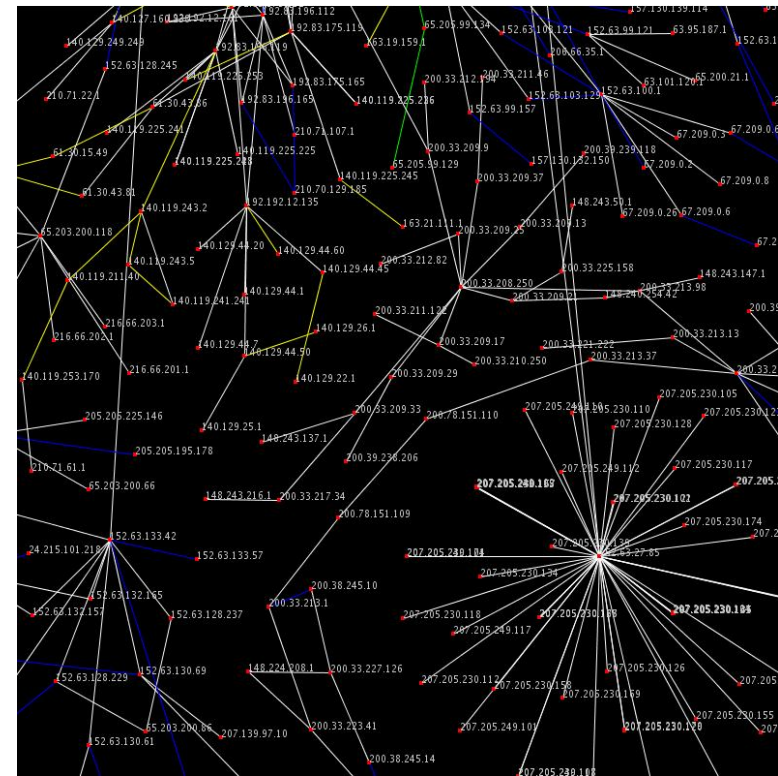
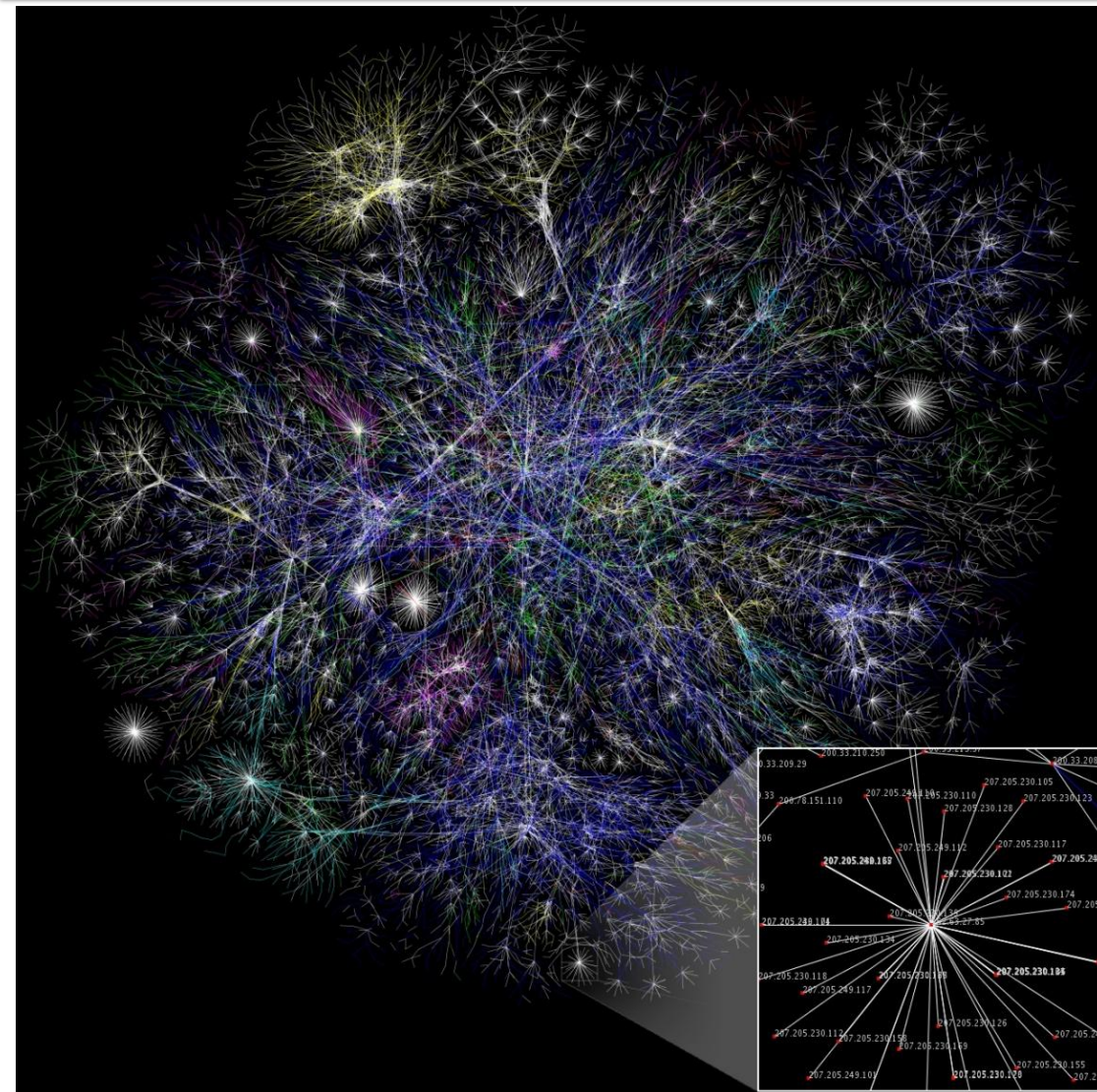
A note at the bottom of the form states: "Nota: Pentru a ordona o plata, va rugam fie sa introduceti IBAN beneficiar, fie sa selectati un sablon personal sau pentru furnizori. Atentie: Transferurile se pot efectua doar catre conturi deschise in aceeași valuta!"

The footer contains several promotional tiles: "Tarife si comisioane", "Intrebari si Raspunsuri", "24 Banking", and "Contact center".

The bottom of the page displays the legal notice: "BANCA COMERCIALA ROMANA - SOCIETATE ADMINISTRATA IN SISTEM DUALIST, Bucuresti, B-dul Regina Elisabeta nr.5, Sector 3 | mentiuni legale - © 2008 BCR SA - Toate drepturile rezervate | site map |"

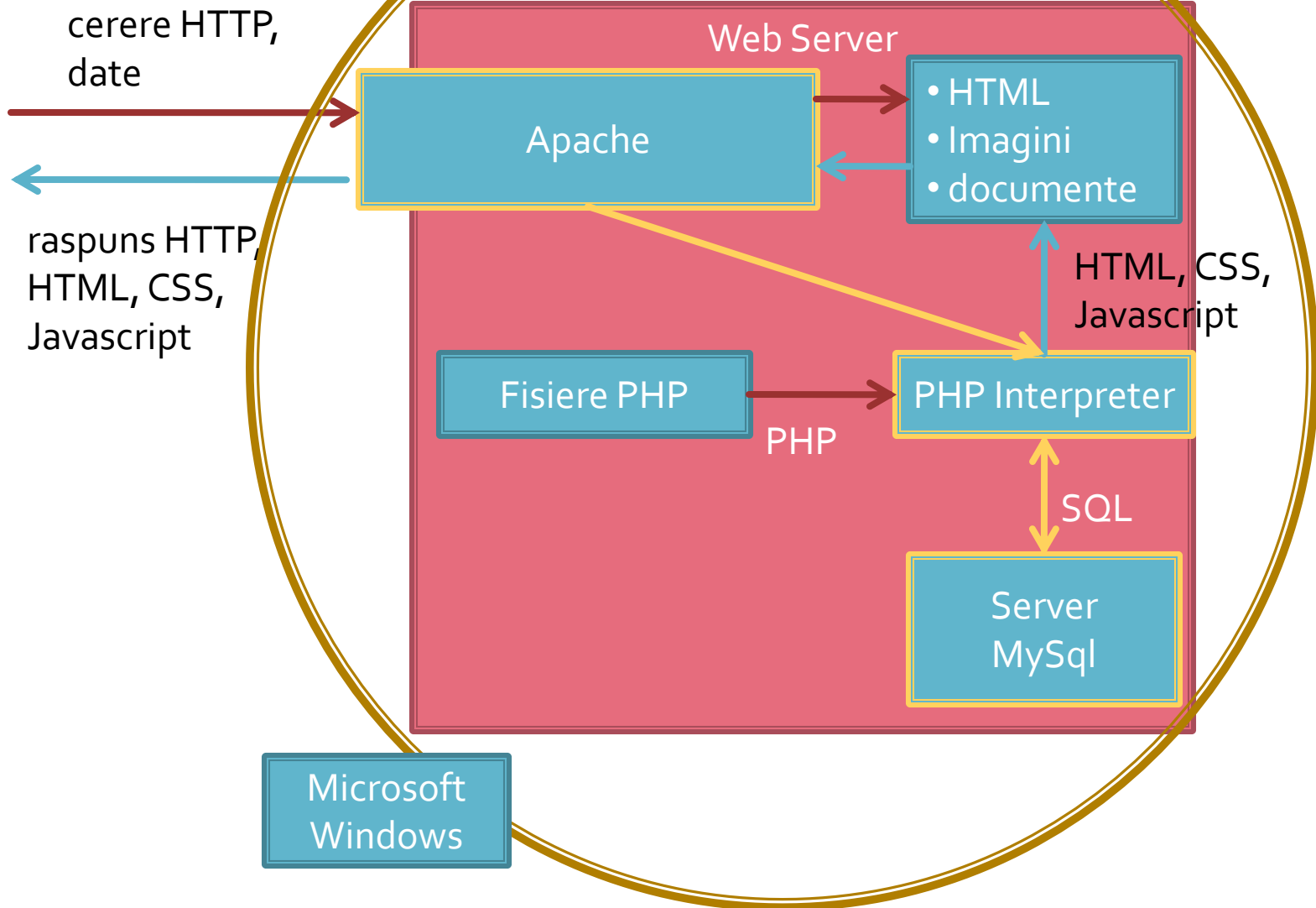


# Esmplo reale



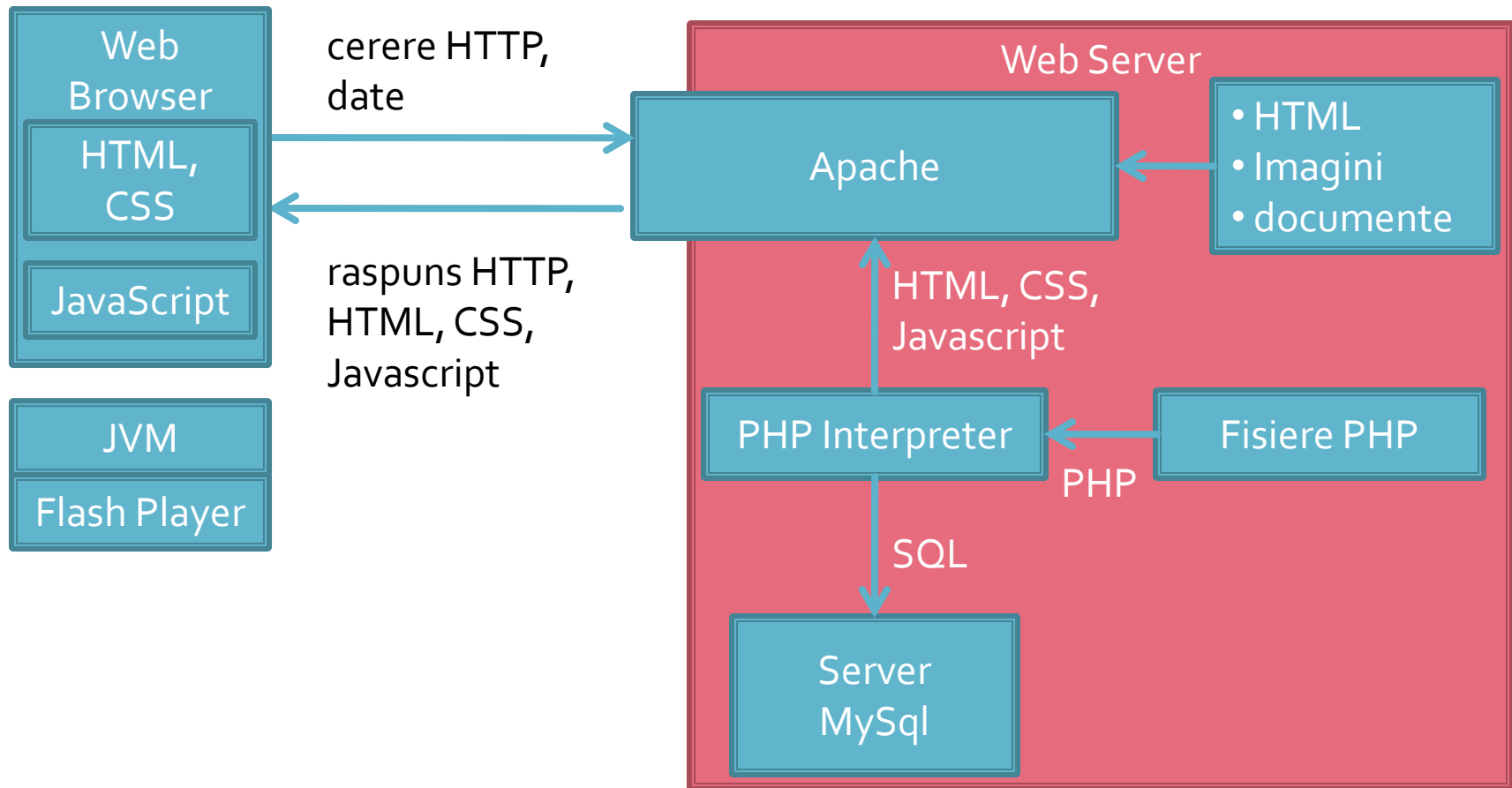


# WAMP





# Client/Server Scripting



client  
side  
scripting

server  
side  
scripting



# Exemple reale

- View Source (sau echivalent) ofera acces **TOTAL** la surse:
  - HTML
  - CSS
  - Javascript
- numai pentru observatorul “avizat”
- Firefox/Chrome beneficiaza de cateva extensii extrem de utile pentru web designer
  - Web Developer
  - Firebug
  - Dom Inspector (implicit pana la 3.0)



# Exemple reale

- Nu e valabil pentru sursele PHP/MySQL care nu ajung pe calculatorul client decat in caz de eroare
- Flash si Java ajung de asemenea in forma binara, compilata
- cateodata apar artificii de “ascundere” a codului: se ingreuneaza citirea de un utilizator uman



# Aplicatie Web

- presupune prelucrarea unor date si oferirea unui document personalizat (rezultat al datelor respective)
- datele pot fi obtinute:
  - de la utilizator
  - o sursa externa (baze de date)
  - **combinatie** utilizator/baze de date



# Forme in HTML

- necesare pentru ca utilizatorul sa poate trimite date server-ului
- `<form>...</form>`
- Attribute specifice:
  - action: adresa documentului care preia datele
    - `<form action="<?php echo $_SERVER['PHP_SELF'];?>">`
    - `<form action="actiuni/fisier2.html">`
  - method: modalitatea de transmitere a datelor: post sau get
    - `<form method="post" action= ... >`



# Metode de transmitere

- **post** datele sunt transmise in bloc
- **get** datele sunt atasate adresei documentului de procesare : <results.php?prob=81&an=2009>
- **get** trebuie folosit numai cand datele sunt “idempotente”,
  - nu cauzeaza efecte colaterale
  - nu modifica starea server-ului (baze date, etc)
- se poate simula realizarea unei forme (**get**) prin scrierea corespunzatoare a link-urilor



# Elemente de interactiune cu utilizatorul

- in interiorul etichetei `<form>...</form>`
  - `input`
  - `select/option`
  - `textarea`
- toate elementele vor avea un nume
  - atribut: `name=""`
  - numele va fi intalnit in uri-ul generat prin `get`, sau in numele variabilei trimisa prin `post`
- trimiterea datelor se face prin intermediul unui buton cu tipul `type="submit"`



# INPUT

- `<input .../>`
- Attribute:
  - type: text | password | checkbox | radio | submit | reset | file | hidden | image | button
  - name: numele variabilei
  - value: valoarea trimisa server-ului la selectie (valoarea initiala in anumite cazuri)
  - checked/src/size/maxlength in functie de tip



# Example

```
<input name="textfield" type="text" value="ceva" />
```

```
<input name="Ok" type="submit" value="Trimite" />
```

```
<label><input name="check" type="checkbox" value="5" checked />check1</label>
```

```
<label><input name="RG1" type="radio" value="a" checked="checked" />but1</label>
```

```
<label><input type="radio" name="RG1" value="b" />but2</label>
```

```
<input name="hid" type="hidden" value="6" />
```

ceva

Trimite



check1



but1



but2

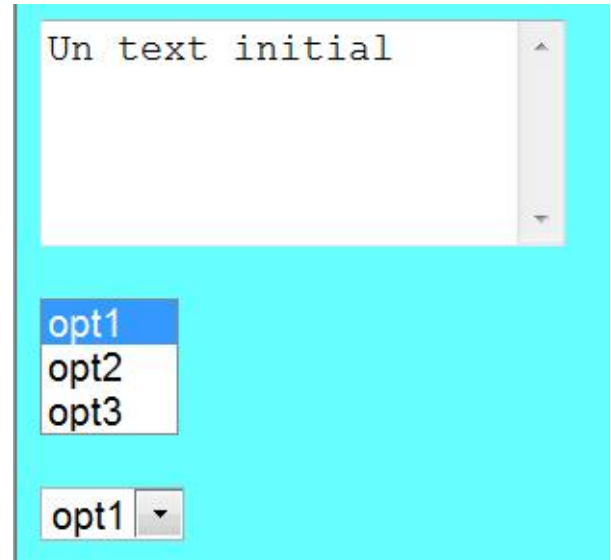


# TEXTAREA/SELECT

```
<textarea name="textarea" cols="20" rows="5">Un text  
initial</textarea><br /><br />
```

```
<select name="select." size="3">  
  <option value="1" selected="selected">opt1</option>  
  <option value="2">opt2</option>  
  <option value="3">opt3</option>  
</select><br /><br />
```

```
<select name="select...">  
  <option value="1" selected="selected">opt1</option>  
  <option value="2">opt2</option>  
  <option value="3">opt3</option>  
</select>
```



The image shows a visual rendering of the HTML code. It features a text area with the text "Un text initial" and two select boxes. The first select box is a list box showing three options: "opt1", "opt2", and "opt3", with "opt1" selected. The second select box is a dropdown menu showing "opt1" as the selected option.



# Exemplu – forma

- Mic magazin online
- Formular de comanda cu procesarea comenzii

```
<html>
<head>
<title>Magazin online XXX SRL</title>
</head>
<body>
<h1>Magazin online XXX SRL</h1>
<h2>Realizati comanda</h2>
<form action="rezultat.html" method="post">
<table border="0">
<tr bgcolor="#cccccc"><td width="150">Produs</td><td width="15">Cantitate</td></tr>
<tr><td>Carti</td><td align="center"><input type="text" name="carti_cant" size="3" maxlength="3" /></td></tr>
<tr><td>Caiete</td><td align="center"><input type="text" name="caiete_cant" size="3" maxlength="3" /></td></tr>
<tr><td>Penare</td><td align="center"><input type="text" name="penare_cant" size="3" maxlength="3" /></td></tr>
<tr><td colspan="2" align="center"><input type="submit" value="Trimite" /></td></tr>
</table>
</form>
</body>
</html>
```

**Magazin online XXX SRL**

**Realizati comanda**

Produs	Cantitate
Carti	<input type="text" value="1"/>
Caiete	<input type="text" value="2"/>
Penare	<input type="text" value="3"/>



# Exemplu – raspuns static

- fisier html
- fisierele HTML sunt doar “servite” de server
- in aparenta a existat o procesare, real **nu**

```
<html>
<head>
<title>Magazin online XXX SRL</title>
</head>
<body>
<h1>Magazin online XXX SRL</h1>
<h2>Rezultate comanda</h2>
<p>Comanda receptionata</p>
</body>
</html>
```

**Magazin online XXX SRL**

**Rezultate comanda**

Comanda receptionata



# CURS

I.	HTML si XHTML (recapitulare)	1 oră
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V	PHP - HyperText Preprocessor	8 ore
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Hypertext PreProcessor

**PHP**

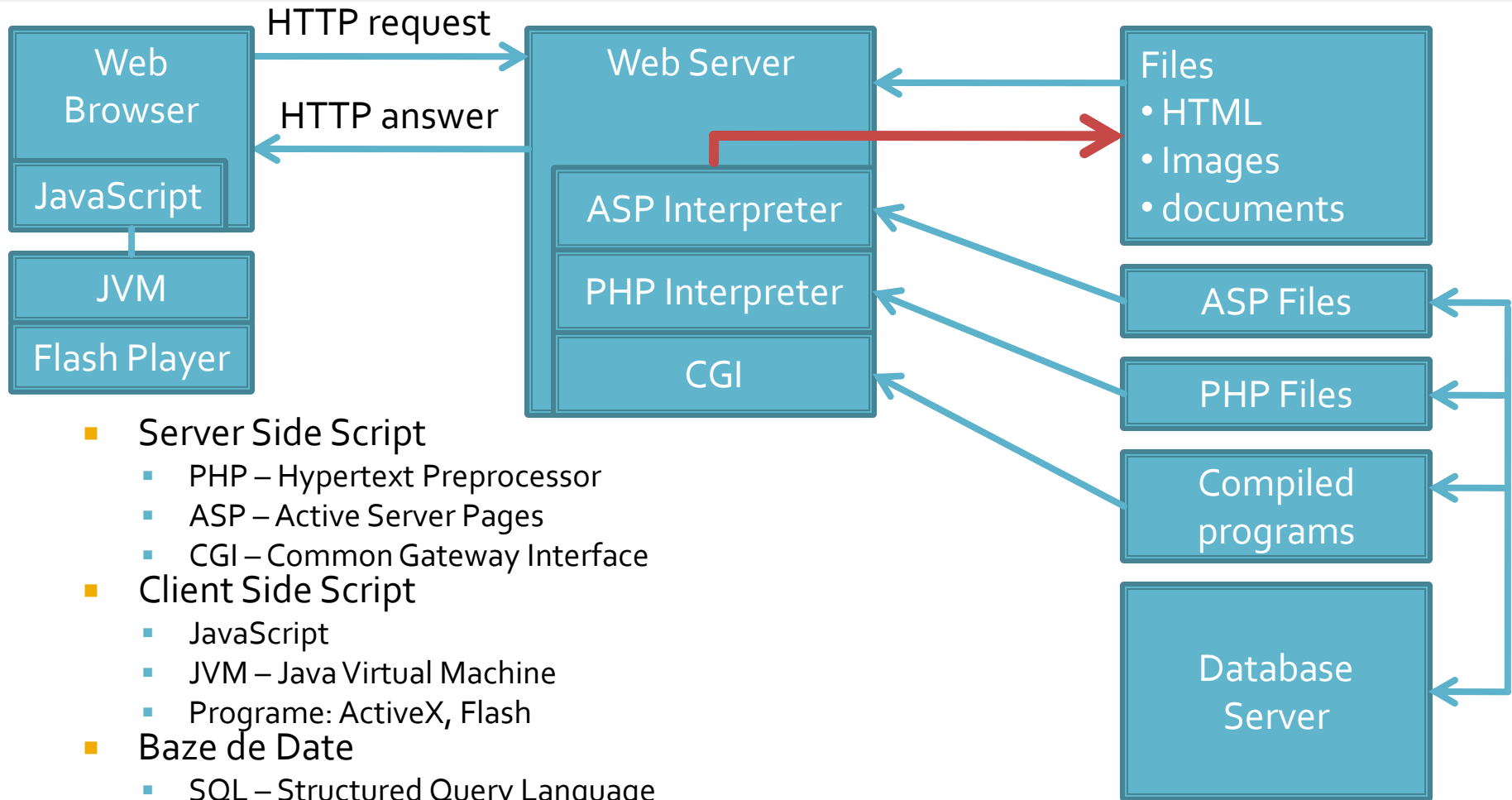


# PHP

- Hypertext PreProcessor - acronim recursiv
  - initial – Personal Home Page / Form Interpreter
  - 1995 – 1.0
- versiune curenta: 5.4.12
  - 2013-02-21
- limbaj de scripting de uz general,
- rulare pe server ([server-side scripting](#))
- open source



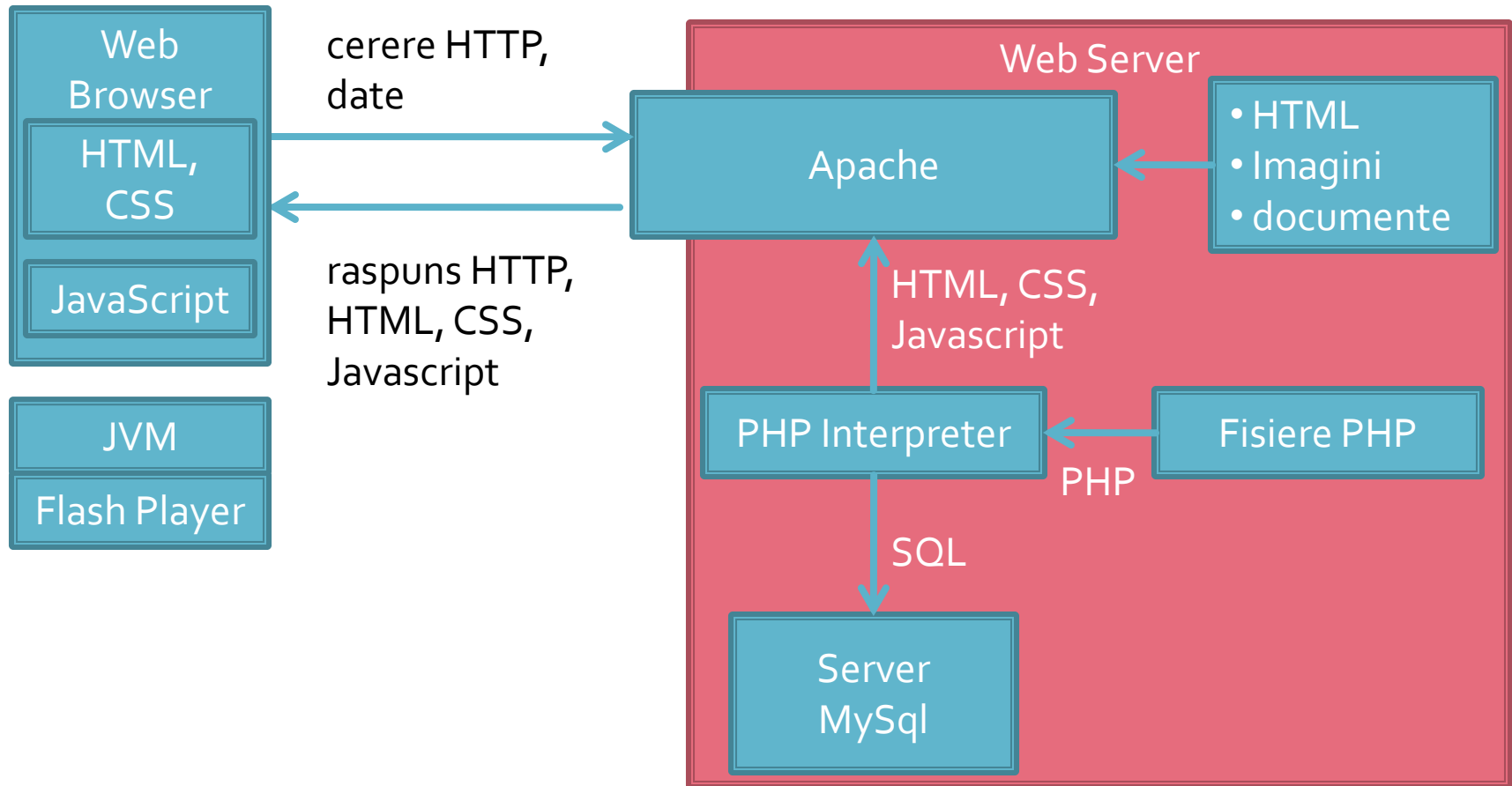
# Web server Technology



- **Server Side Script**
  - PHP – Hypertext Preprocessor
  - ASP – Active Server Pages
  - CGI – Common Gateway Interface
- **Client Side Script**
  - JavaScript
  - JVM – Java Virtual Machine
  - Programme: ActiveX, Flash
- **Base de Date**
  - SQL – Structured Query Language
  - MySql – open Source
  - Microsoft SQL Server
  - Oracle



# Client/Server Scripting



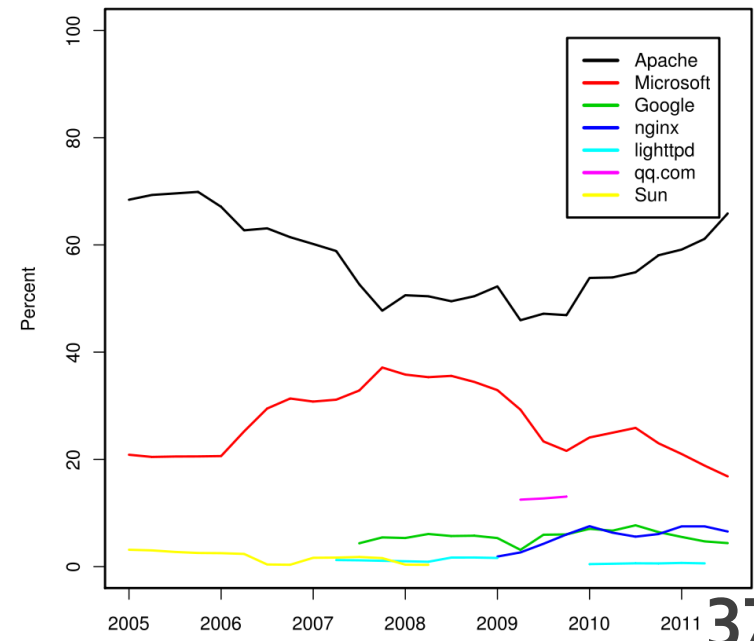
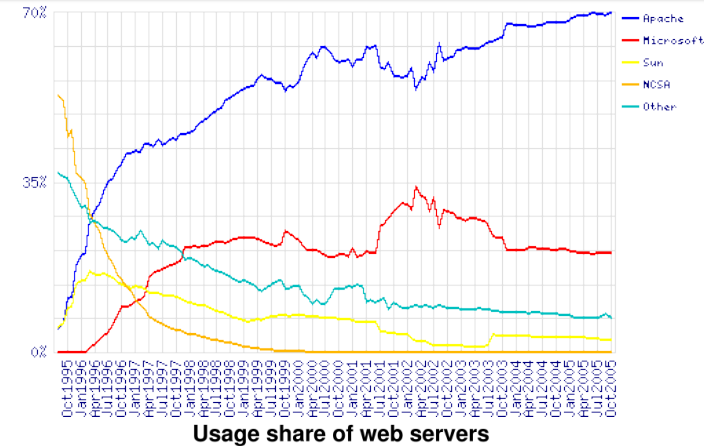
client  
side  
scripting

server  
side  
scripting



# Tehnologia server-elor Web

- PHP – Hypertext Preprocessor
  - initially – Personal Home Page
  - open source
  - C++
  - Apache
- ASP – Active Server Pages
  - Microsoft
  - VBasic
  - IIS
- Java/JavaScript
  - Sun
  - Java Virtual Machine





# TIOBE Programming Community Index for February 2013

Position Feb 2013	Position Feb 2012	Delta in Position	Programming Language	Ratings Feb 2013	Delta Feb 2012	Status
1	1	=	<a href="#">Java</a>	18.387%	+1.34%	A
2	2	=	<a href="#">C</a>	17.080%	+0.56%	A
3	5	↑↑	<a href="#">Objective-C</a>	9.803%	+2.74%	A
4	4	=	<a href="#">C++</a>	8.758%	+0.91%	A
5	3	↓↓	<a href="#">C#</a>	6.680%	-1.97%	A
6	6	=	<a href="#">PHP</a>	5.074%	-0.57%	A
7	8	↑	<a href="#">Python</a>	4.949%	+1.80%	A
8	7	↓	<a href="#">(Visual) Basic</a>	4.648%	+0.33%	A
9	9	=	<a href="#">Perl</a>	2.252%	-0.68%	A
10	12	↑↑	<a href="#">Ruby</a>	1.752%	+0.19%	A



# TIOBE Programming Community Index for March 2010

Position Mar 2010	Position Mar 2009	Delta in Position	Programming Language	Ratings Mar 2010	Delta Mar 2009	Status
1	1	=	<a href="#">Java</a>	17.509%	-2.29%	A
2	2	=	<a href="#">C</a>	17.279%	+1.42%	A
3	4	↑	<a href="#">PHP</a>	9.908%	+0.42%	A
4	3	↓	<a href="#">C++</a>	9.610%	-0.75%	A
5	5	=	<a href="#">(Visual) Basic</a>	6.574%	-1.71%	A
6	7	↑	<a href="#">C#</a>	4.264%	-0.06%	A
7	6	↓	<a href="#">Python</a>	4.230%	-0.95%	A
8	9	↑	<a href="#">Perl</a>	3.821%	+0.40%	A
9	10	↑	<a href="#">Delphi</a>	2.684%	-0.03%	A
10	8	↓↓	<a href="#">JavaScript</a>	2.651%	-0.96%	A



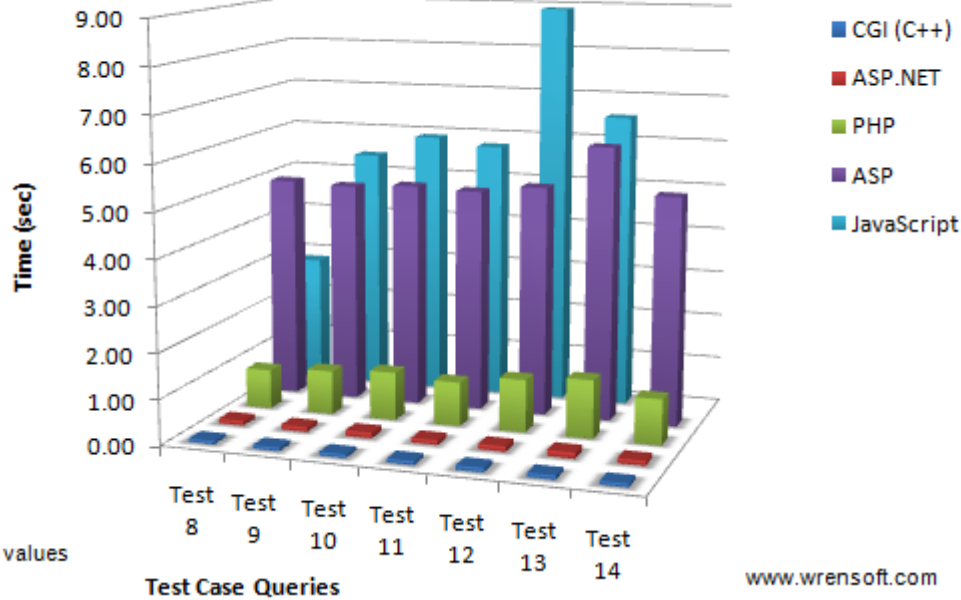
# Avantaje PHP

- Performanta ridicata
- Interfata cu multe sisteme de baze de date
- Costuri reduse
- Biblioteci incluse pentru majoritatea operatiunilor uzuale in aplicatii web
- Usurinta in invatare (C)
- Portabilitate
  - Disponibilitate a codului sursa
- Exemple disponibile in comunitate
- Suport disponibil

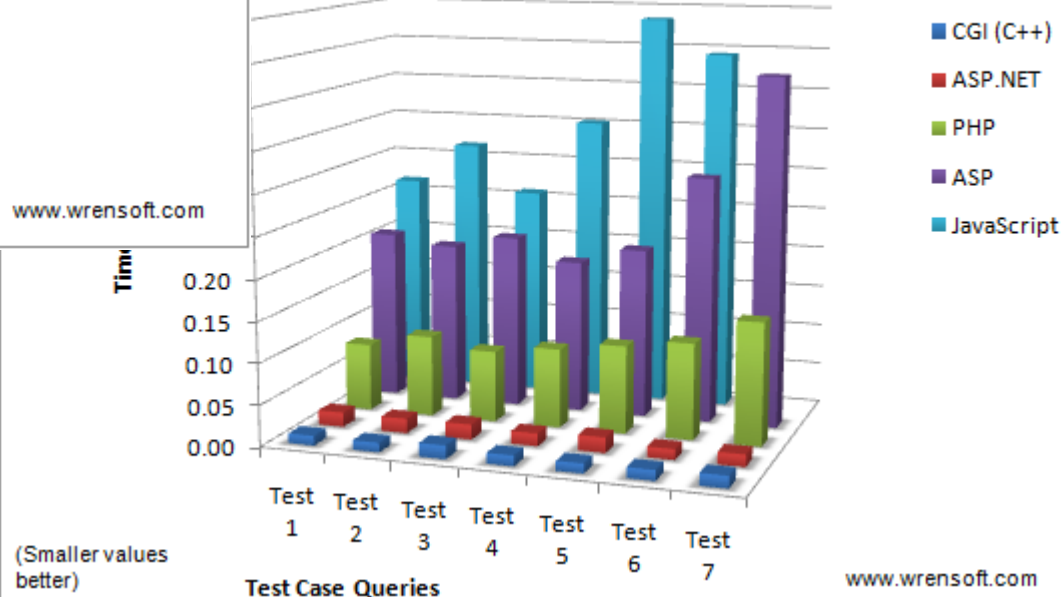


# Performanta

**Zoom search benchmarking**  
(Medium site - 60K pages, 2.5 million words)

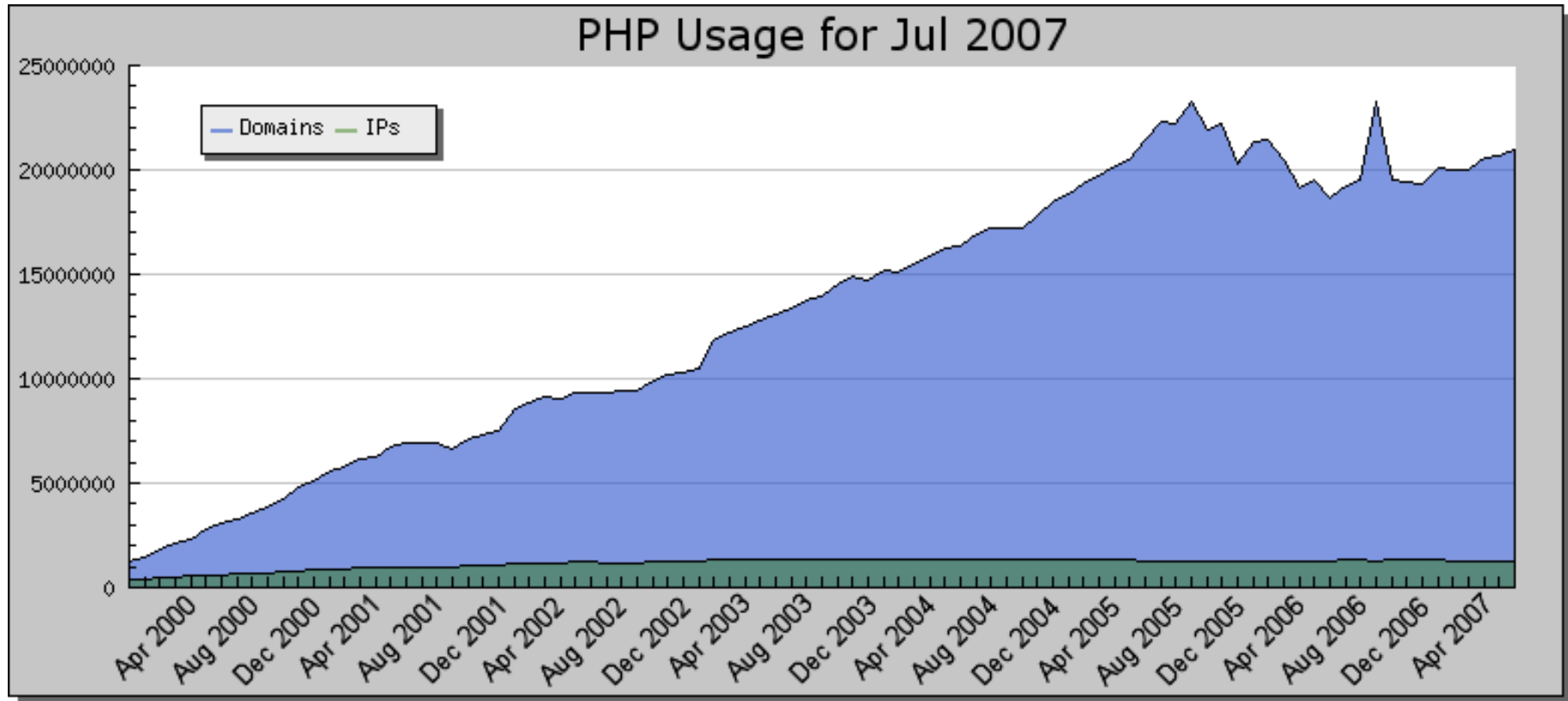


**Zoom search benchmarking**  
(Small site - 400 pages, 266K words)

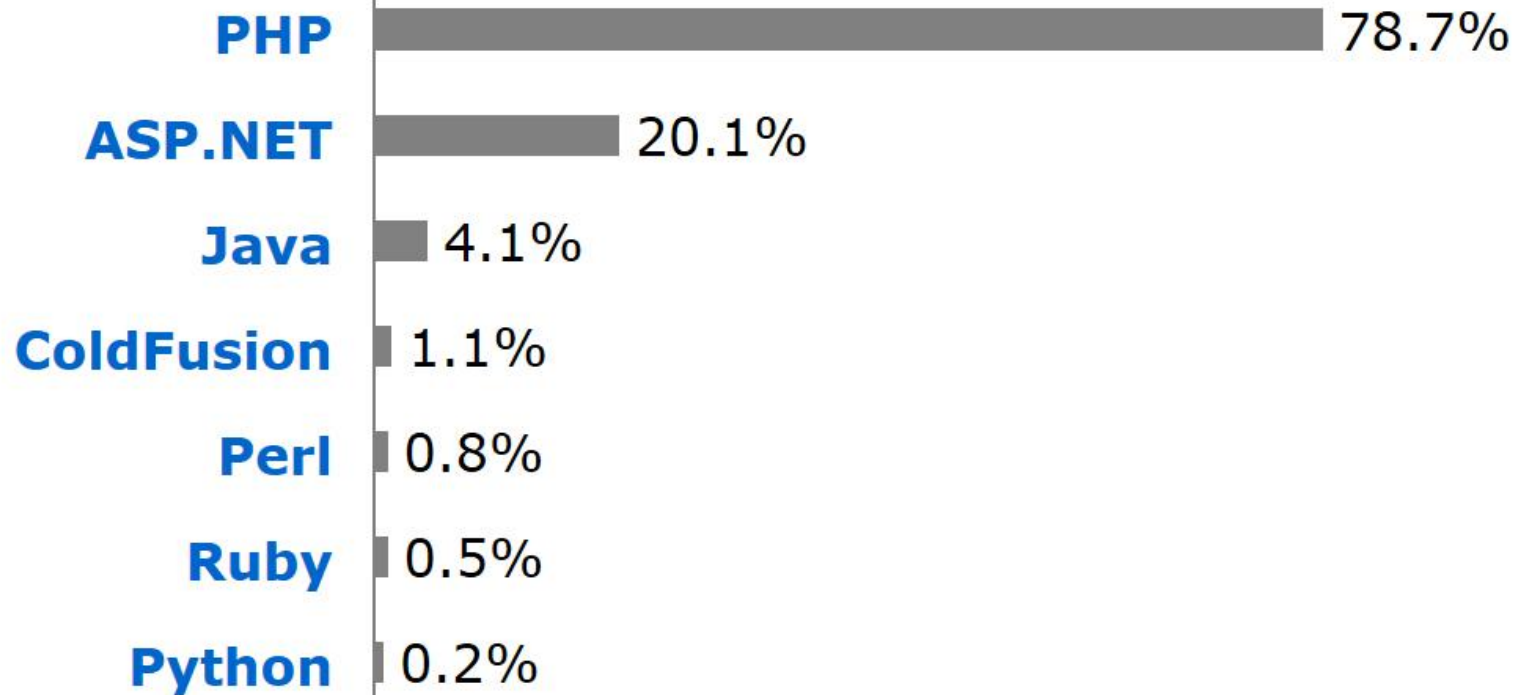




# Rasbandire







W3Techs.com, 6 March 2013

Percentages of websites using various server-side programming languages  
Note: a website may use more than one server-side programming language

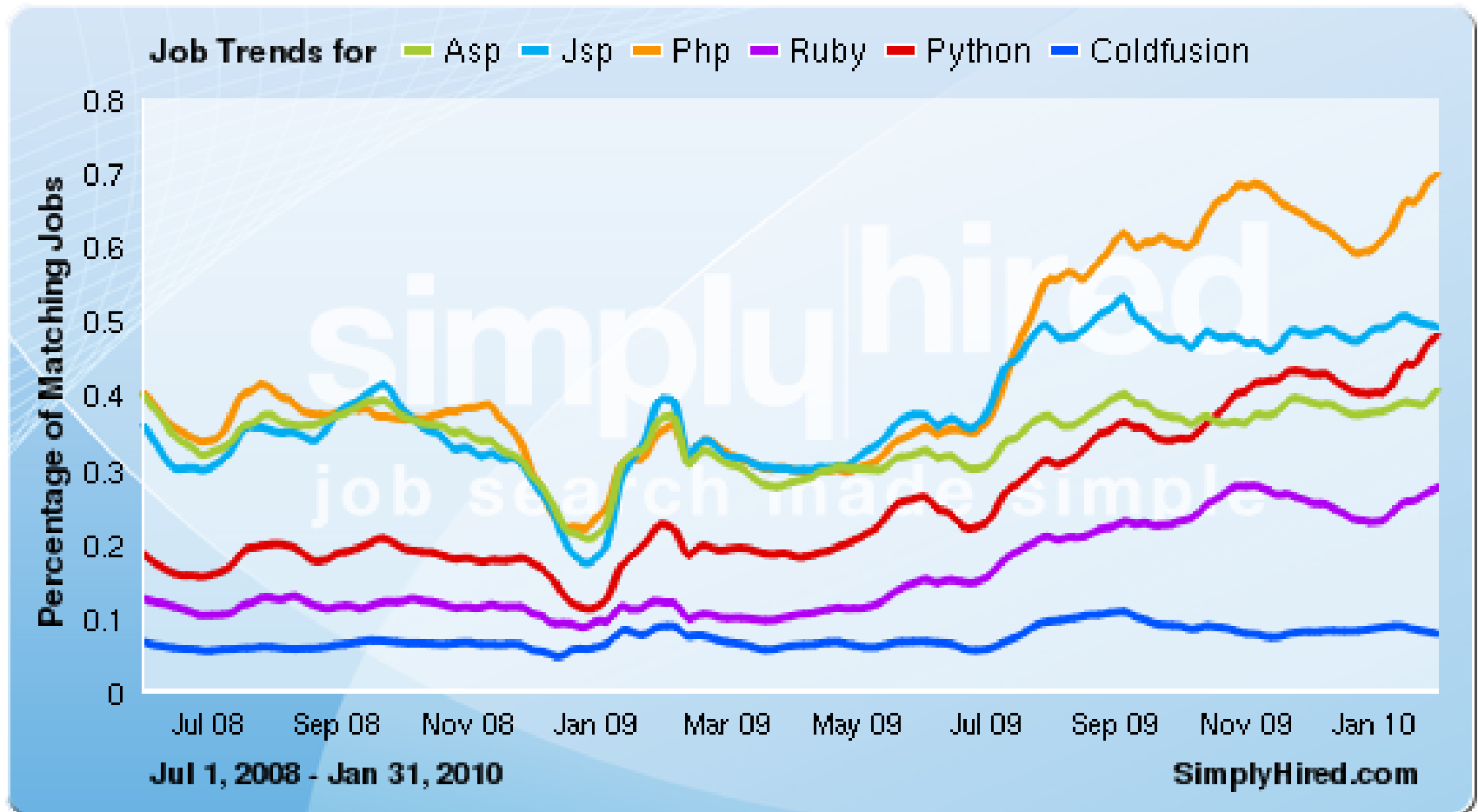


# Sites

- [Facebook.com](https://www.facebook.com)
- [Wikipedia.org](https://www.wikipedia.org)
- [Qq.com](https://www.qq.com)
- [Taobao.com](https://www.taobao.com)
- [Sina.com.cn](https://www.sina.com.cn)
- [Wordpress.com](https://www.wordpress.com)
- [Vk.com](https://www.vk.com)
- [Weibo.com](https://www.weibo.com)
- [Babylon.com](https://www.babylon.com)
- [Mail.ru](https://www.mail.ru)



# Angajare





# PHP - Concepte

- limbaj interpretat – compilat “on the fly” de interpretorul PHP de pe server
- script-urile PHP contin sursele
  - exista posibilitatea pre-compilarii surselor pentru spor de viteza
  - [Hip-Hop for PHP / Facebook](#)
- orientat spre aplicatii web dinamice (biblioteci)
- poate fi integrat in HTML – utilizarea tipica



# Integrare

```
539         <td><?php echo $row['Documente'];?>&nbsp;</td>
540         <td><?php echo $row['user_creat'];?>&nbsp;</td>
541         <td class="smaller"><a href="control_lot.php?id=-<?php echo $row['ID_LOT'];?>">dezactiveaza</a><br /><a href=
"control_lot.php?id=<?php echo $row['ID_LOT'];?>">modifica</a></td>
542     </tr>
543     <?php $index++;
544     } while ( $row = mysql_fetch_assoc($result));?>
545 </table><?php
546 }
547 else
548 {
549     echo "<p>Nu exista loturi active</p>";
550 }
551 ?>
552
553 <p class="title">Loturi inactive</p>
554 <?php
555 $query = "SELECT l.*, c.`nume_user` AS `user_creat`
556         FROM `lot` AS l
557         LEFT JOIN `users` AS c ON (l.`User`=c.`id_user`)
558         WHERE l.`Activ` = 0 ORDER BY l.`ID_LOT` DESC";
559 $result = mysql_query($query);
560 $total=0;
561 if ($result && (mysql_num_rows($result) > 0))
562 {
563     $total=mysql_num_rows($result);
564     $row = mysql_fetch_assoc($result);
565 }
566 if ($total>0)
567 {?>
568 <table align="center">
569     <tr class="lista_titlu">
570         <td align="center">Nr. </td>
```



# Separare cod PHP

- un fisier sursa PHP este un fisier HTML (in general) cu sectiuni de cod PHP
- interpretorul PHP cauta sectiunile pe care trebuie sa le interpreteze si interiorul lor proceseaza instructiuni ca fiind PHP
- ce se gaseste in **exteriorul** acestor sectiuni este trimis spre server-ul web **nemodificat**



# Separare cod PHP

- `<?php ... ?>`
  - stil XML – implicit, disponibil intotdeauna, recomandat
- `<? ... ?>`
  - scurt, este de obicei dezactivat
- `<script language="php"> ... </script>`
  - stil script, disponibil
- `<% ... %>`
  - stil ASP, de obicei dezactivat



# Variante de integrare

- echo .... afiseaza un text la "iesire" (echivalent cu printf() din C)
- poate realiza procesarea datelor
- in exemplu se trimite spre iesire un sir static (echivalent cu puts() din C)
- "iesire" in marea majoritate a cazurilor reprezinta datele trimise clientului de server-ul web



# Variante de integrare

- Toate variantele ofera aceeasi sursa HTML pentru browser
- E **recomandata** cea care lasa structura HTML nemodificata si doar datele dinamice sunt rezultatul procesarii
- Codul HTML + PHP e interpretat mult mai elegant in editoarele WYSIWYG

```
<h2>Rezultate comanda</h2>
<?php echo '<p>Comanda receptionata</p>';?>
```

```
<h2>Rezultate comanda</h2>
<p><?php echo 'Comanda receptionata';?></p>
```

```
<?php echo '<h1>Magazin online XXX SRL</h1>';?>
<?php echo '<h2>Rezultate comanda</h2>';?>
<?php echo '<p>Comanda receptionata</p>';?>
```

```
<?php
echo '<h1>Magazin online XXX SRL</h1>';
echo '<h2>Rezultate comanda</h2>';
echo '<p>Comanda receptionata</p>';
?>
```



# PHP – instructiuni

- instructiunile PHP trebuie sa se termine cu ;
  - exceptie: se poate omite ; la sfarsitul blocului de cod php: ... echo `ceva` ?>
- instructiunile pot sa fie scrise pe acelasi rand (fara trecerea la linia noua)
  - echo `ceva1`; echo `ceva2`; ...
  - nu este in general recomandat



# PHP – comentarii

- comentariile in PHP respecta regulile C si Perl
- la sfarsit de linie:
  - `// echo ceva; //comentariu`
  - `# echo ceva; #comentariu`
- comentariu bloc
  - `/* ... */`
  - `/* un comentariu  
pe mai multe  
linii */`



# PHP – constante

- Ca orice limbaj de programare PHP se bazeaza pe utilizarea
  - constante
  - variabile
  - functii
- Definirea constantelor:
  - `define('PRETCARTE', 100);`
  - "case sensitive"
  - prin conventie, numai cu litere mari
  - `echo PRETCARTE; // 100`



# PHP – variabile

- variabila – semnul \$ urmat de un nume
- numele e “case sensitive”
- o greseala frecventa e uitarea semnului \$
  - PHP Notice: Use of undefined constant an – assumed \$an (sau ‘an’) in D:\\Server\\
- Tipuri de date
  - scalar
  - compus
  - special



# PHP – tipuri de date

- scalar
  - boolean
  - integer
  - float (double)
  - string
- compus
  - array
  - object
- special
  - resource
  - NULL



# PHP – tipuri de date

- tipul de date nu e decis de programator prin declaratia variabilei
- e decis de interpretor in functie de tipul de date stocat in variabila respectiva
- declaratia variabilelor nu e necesara decat cand se declara un domeniu de definitie (variabile globale)
  - `global $a, $b;`  
`$c=$a+$b;`
- eliberarea memoriei nu este necesara, se face automat la terminarea executiei



# PHP – tipuri de date

- tipul de date este in totalitate dependent de ceea ce se stocheaza
- PHP reactualizeaza tipul pentru a putea primi ceea ce se stocheaza

```
<?php
echo $variabila ; // tip Null, neinitializat – valoare NULL (doar)
$variabila = "0"; // $variabila tip string (ASCII 48)
$variabila += 2; // $variabila tip integer (2)
$variabila = $variabila + 1.3; // $variabila tip float (3.3)
$variabila = 5 + "10 obiecte"; // $variabila tip integer (15)
$var2=5; // $var2 tip integer (5)
$variabila=$var2."10 obiecte"; // $variabila tip string "510 obiecte"
?>
```



# PHP – operatori

- In general similari celor din C/C++
- Operatori
  - Aritmetici
  - Atribuire
  - Bit
  - Comparare
  - Incrementare/Decrementare
  - Logici
  - Sir



# PHP – operatori

- Aritmetici
  - $-$a$  – Negare
  - $$a + $b$  – Adunare
  - $$a - $b$  – Scadere
  - $$a * $b$  – Inmultire
  - $$a / $b$  Impartire
  - $$a \% $b$  Modulo (rest)
- Sir
  - $$a.$b$  – Concatenare sir a si sir b



# PHP – operatori

## ■ Atribuire

- `$a=$b`
- `$a+=$b` ( $a=a+b$ )
- `$a-=$b` ( $a=a-b$ )
- `$a/=$b` ( $a=a/b$ )
- `$a*=$b` ( $a=a*b$ )
- `$a%=$b` ( $a=a\%b$ )
- `$a.=$b` ( $a=a$  concatenat  $b$  - siruri)



# PHP – operatori

- Operatori la nivel de bit
  - similari celor din C
  - `~, &, |, ^, <<, >>`
- Operatori logici
  - ofera rezultat boolean true/false
  - similari celor din C
  - `&&, ||, !`
  - suplimentar
    - `and, or, xor` – echivalenti dar de prioritate mai mica
    - `$a=55/0 or die('impartire prin 0');`



# PHP – operatori

- Operatori de comparare
  - ofera rezultat boolean true/false
  - similari celor din C
  - == , != , > , < , <> , >= , <=
  - suplimentar
    - === identic, valoare egala SI de acelasi tip
    - !== “neidentic”, valoare diferita SAU de tipuri diferite



# Precedenta operatorilor

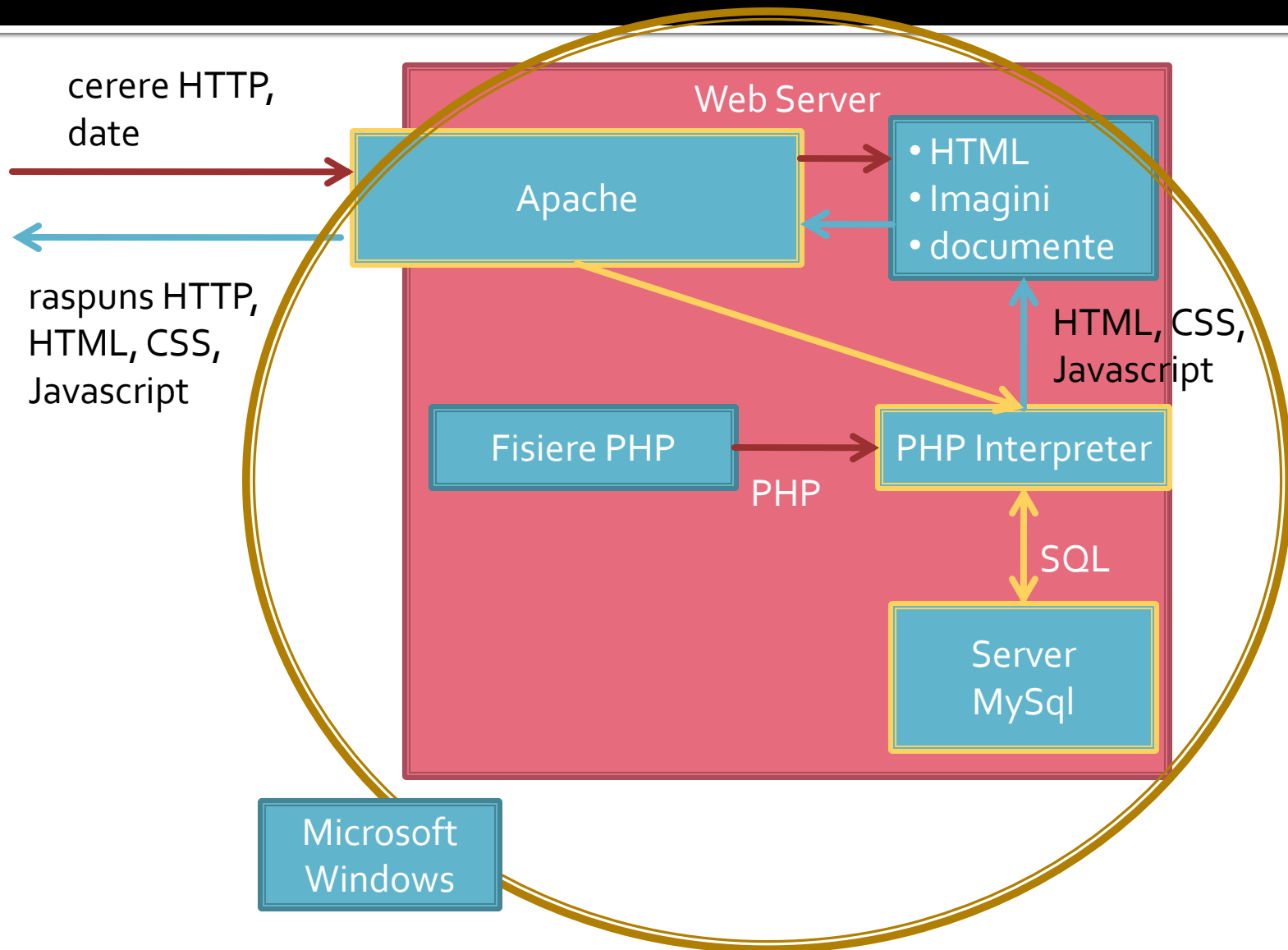
non-associative	clone new	<a href="#">clone</a> and <a href="#">new</a>
left	[	<a href="#">array()</a>
non-associative	++ --	<a href="#">increment/decrement</a>
right	~ - (int) (float) (string) (array) (object) (bool) @	<a href="#">types</a>
non-associative	instanceof	<a href="#">types</a>
right	!	<a href="#">logical</a>
left	* / %	<a href="#">arithmetic</a>
left	+ - .	<a href="#">arithmetic</a> and <a href="#">string</a>
left	<< >>	<a href="#">bitwise</a>
non-associative	< <= > >= <>	<a href="#">comparison</a>
non-associative	== != === !==	<a href="#">comparison</a>
left	&	<a href="#">bitwise</a> and <a href="#">references</a>
left	^	<a href="#">bitwise</a>
left		<a href="#">bitwise</a>
left	&&	<a href="#">logical</a>
left		<a href="#">logical</a>
left	? :	<a href="#">ternary</a>
right	= += -= *= /= .= %= &=  = ^= <<= >>=	<a href="#">assignment</a>
left	and	<a href="#">logical</a>
left	xor	<a href="#">logical</a>
left	or	<a href="#">logical</a>
left	,	many uses



# Laborator 2



# Continuare/finalizare WAMP





# HTML

- se creaza o pagina care sa arate ca in schita alaturata
- forma paginilor:
  - tabel
- Se experimenteaza diversele elemente de interactiune cu utilizatorul

culoare	<b>IMAGINE</b>	culoare
	<b>Continut</b> (cu alta culoare fundal)	



# Suplimentar

- forma din schita alaturata
- forma paginilor:
  - tabel controlat prin CSS

culoare	<b>IMAGINE</b>	culoare
	<b>Continut</b> (cu alta culoare fundal)	
	<b>Copyright</b> (cu alta culoare fundal)	



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