Universitatea Tehnică din Cluj-Napoca
Facultatea de Inginerie Electrică

CURS Master

Tehnologii moderne de proiectare a aplicatiilor multimedia

Curs: TEHNOLOGII MODERNE DE PROIECTARE A APLICATIILOR MULTIMEDIA

CAP.7. LIMBAJUL PHP

CUPRINS

LIMBAJUL PHP

Limbajul PHP (Hypertext Preprocessor): cel mai popular limbaj de script pentru generarea de pagini HTML dinamice. Poate fi integrat în HTML.

Istoric PHP:

❑ conceput in 1994 de Rasmus Lerdorf.

❑ in prezent utilizat de aprox 244M domenii (http://www.php.net/usage.php)

Site oficial: http://www.php.net

LIMBAJUL PHP

Documentatii: manual

- ❑ http://www.php.net/manual/en/
- ❑ http://us2.php.net/manual/en/index.php

Tutoriale:

- ❑ PHP.net tutorial: http://php.net/manual/en/tutorial.php
- ❑ W3schools tutorial:

http://www.w3schools.com/php/default.asp

LIMBAJUL PHP

Apr 2018	Apr 2017	Change	Programming Language	Ratings	Change
1	1		Java	15.777%	+0.21%
2	2		C	13.589%	+6.62%
3	3		C++	7.218%	+2.66%
4	5	⌃	Python	5.803%	+2.35%
5	4	⌄	C#	5.265%	+1.69%
6	7	⌃	Visual Basic .NET	4.947%	+1.70%
7	6	⌄	PHP	4.218%	+0.84%
8	8		JavaScript	3.492%	+0.64%
9	-	⌃⌃	SQL	2.650%	+2.65%

LIMBAJUL PHP

AVANTAJE:

❑ **simplicitate**: usor de invatat, accesibil ne-programatorilor. **Sintaxa similara limbajului C**

❑ **eficienta**: un programator PHP poate folosi **module** scrise de un alt programator fara sa fie nevoit sa cunoasca detalii specifice de implementare a codului.

❑ **cross-platform** : exista implementari ale limbajului pe **diverse sisteme de operare**, cele mai populare fiind cele de pe Linux si Windows. Un cod PHP care ruleaza pe Linux, poate fi ulterior folosit pe un server Windows .

❑ **gratis** : PHP reprezinta un program **Open Source**, oricine poate folosi acest limbaj fara a fi nevoit sa plateasca.

SINTAXA LIMBAJ PHP

❑ scripturile scrise in limbajul PHP **pot fi editate cu orice editor de text**

❑ terminarea unei instructiuni se face obligatoriu cu caracterul **;**

❑ **numele functiilor NU SUNT «case Sensitive»** (nu se face diferenta intre litere mari/mici)

❑ **numele variabilelor SUNT Case Sensitive**

❑ ghilimelele se folosesc pereche "..." sau '...'

❑ **variabilele** sunt precedate de **$**

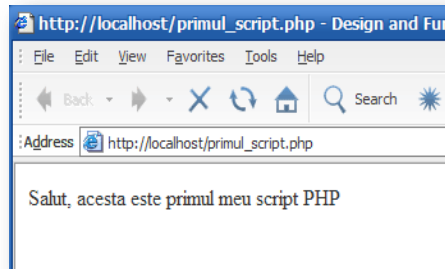## SINTAXA LIMBAJ PHP

Codul PHP poate aparea oriunde in fisierul HTML si este delimitat de 2 seturi de etichete de deschidere si inchidere:

```
<?php            sau      <script language="php"?>
. . .                      . . .
?>                         </script>
```
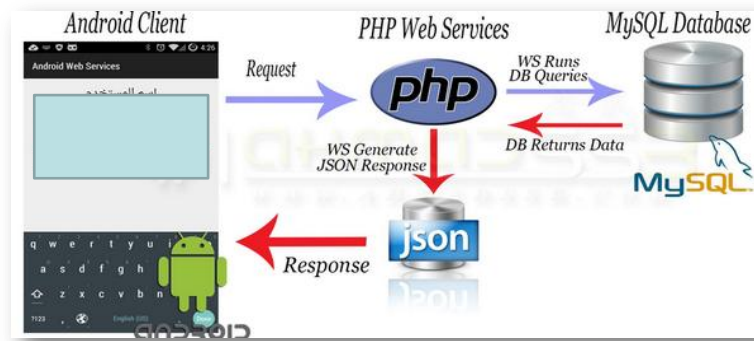
Ex.

```
<?php
echo 'Salut, acesta este primul meu script PHP';
// comentariu PHP
# comentariu PHP
?>
```


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SINTAXA LIMBAJ PHP

http://www.w3schools.com/php/

PHP limbaj foarte puternic:

❑ cel mai mare sistem de blogging web (WordPress) bazat pe PHP

❑ cea mai mare retea sociala (Facebook) bazata pe PHP

❑ apps pentru dispozitive mobile

ELEMENTE LIMBAJ PHP

Elemente limbaj PHP:

PHP Variables   -se definesc cu $

PHP Echo / Print

PHP Data Types

PHP Strings

PHP Constants

PHP Operators

PHP If...Else...Elseif

PHP Switch

PHP While Loops

PHP For Loops

PHP Functions

PHP Arrays

```php
<?php
$txt = "Hello world!";
$x = 5;
$y = 10.5;
?>
```

ELEMENTE LIMBAJ PHP

Elemente limbaj PHP:

PHP Variables
PHP Echo / Print   -afisare date: variabile, constante, expresii
PHP Data Types
PHP Strings
PHP Constants
PHP Operators
PHP If...Else...Elseif
PHP Switch
PHP While Loops
PHP For Loops
PHP Functions
PHP Arrays

```php
<?php
$txt1 = "Learn PHP";
$txt2 = "W3Schools.com";
$x = 5;
$y = 4;

echo "<h2>$txt1</h2>";
echo "Study PHP at $txt2<br>";
echo $x + $y;
?>
```

Learn PHP

Study PHP at W3Schools.com
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ELEMENTE LIMBAJ PHP

Elemente limbaj PHP:

PHP Variables
PHP Echo / Print
PHP Data Types   -Tipuri de date definite in PHP:
PHP Strings
PHP Constants
PHP Operators
PHP If...Else...Elseif
PHP Switch
PHP While Loops
PHP For Loops
PHP Functions
PHP Arrays

- String
- Integer
- Float (floating point numbers - also called double)
- Boolean
- Array
- Object
- NULL -valoare implicita de initializare a variabilelor
- Resource -apelare baza de date

ELEMENTE LIMBAJ PHP

Elemente limbaj PHP:

PHP Variables
PHP Echo / Print
PHP Data Types
PHP Strings -siruri
PHP Constants
PHP Operators
PHP If...Else...Elseif
PHP Switch
PHP While Loops
PHP For Loops
PHP Functions
PHP Arrays

-functie lungime sir

```php
<?php
echo strlen("Hello world!"); // outputs 12
?>
```

-functie nr cuvinte din sir

```php
<?php
echo str_word_count("Hello world!"); // outputs 2
?>
```

-functie inversare sir

```php
<?php
echo strrev("Hello world!"); // outputs !dlrow olleH
?>
```

Lista completa functii siruri: PHP String Reference.

ELEMENTE LIMBAJ PHP

Elemente limbaj PHP:

PHP Variables
PHP Echo / Print
PHP Data Types
PHP Strings
PHP Constants -constante
PHP Operators
PHP If...Else...Elseif
PHP Switch
PHP While Loops
PHP For Loops
PHP Functions
PHP Arrays

Sintaxa:

define(*name, value, case-insensitive*)

unde:
name: nume constanta
value: valoarea constantei
case-insensitive: arata daca nume
constanta este case-insensitive sau
nu.Implicit = false

Welcome to W3Schools.com!

```php
<?php
define("GREETING", "Welcome to W3Schools.com!", true);
echo greeting;
?>
```

ELEMENTE LIMBAJ PHP

Elemente limbaj PHP:

PHP Variables
PHP Echo / Print
PHP Data Types
PHP Strings
PHP Constants
PHP Operators -operatori
PHP If...Else...Elseif
PHP Switch
PHP While Loops
PHP For Loops
PHP Functions
PHP Arrays

- Arithmetic operators
- Assignment operators
- Comparison operators
- Increment/Decrement operators
- Logical operators
- String operators
- Array operators

Operator	Name	Example	Result
+	Addition	$x + $y	Sum of $x and $y
-	Subtraction	$x - $y	Difference of $x and $y
*	Multiplication	$x * $y	Product of $x and $y
/	Division	$x / $y	Quotient of $x and $y
%	Modulus	$x % $y	Remainder of $x divided by $y

ELEMENTE LIMBAJ PHP

Elemente limbaj PHP:

PHP Variables
PHP Echo / Print
PHP Data Types
PHP Strings
PHP Constants
PHP Operators -operatori
PHP If...Else...Elseif
PHP Switch
PHP While Loops
PHP For Loops
PHP Functions
PHP Arrays

- Arithmetic operators
- Assignment operators
- Comparison operators
- Increment/Decrement operators
- Logical operators
- String operators
- Array operators

Assignment	Same as...	Description
x = y	x = y	The left operand gets set to the value of the expression on the right
x += y	x = x + y	Addition
x -= y	x = x - y	Subtraction
x *= y	x = x * y	Multiplication
x /= y	x = x / y	Division
x %= y	x = x % y	Modulus

ELEMENTE LIMBAJ PHP

Elemente limbaj PHP:

PHP Variables
PHP Echo / Print
PHP Data Types
PHP Strings
PHP Constants
PHP Operators -operatori
PHP If...Else...Elseif
PHP Switch
PHP While Loops
PHP For Loops
PHP Functions
PHP Arrays

- Arithmetic operators
- Assignment operators
- **Comparison operators**

Operator	Name	Example	Result
==	Equal	$x == $y	Returns true if $x is equal to $y
===	Identical	$x === $y	Returns true if $x is equal to $y, and they are of the same type
!=	Not equal	$x != $y	Returns true if $x is not equal to $y
<>	Not equal	$x <> $y	Returns true if $x is not equal to $y
!==	Not identical	$x !== $y	Returns true if $x is not equal to $y, or they are not of the same type
>	Greater than	$x > $y	Returns true if $x is greater than $y
<	Less than	$x < $y	Returns true if $x is less than $y
>=	Greater than or equal to	$x >= $y	Returns true if $x is greater than or equal to $y
<=	Less than or equal to	$x <= $y	Returns true if $x is less than or equal to $y

---

ELEMENTE LIMBAJ PHP

Elemente limbaj PHP:

PHP Variables
PHP Echo / Print
PHP Data Types
PHP Strings
PHP Constants
PHP Operators -operatori
PHP If...Else...Elseif
PHP Switch
PHP While Loops
PHP For Loops
PHP Functions
PHP Arrays

- Arithmetic operators
- Assignment operators
- Comparison operators
- **Increment/Decrement operators**
- Logical operators
- String operators
- Array operators

Operator	Name	Description
++$x	Pre-increment	Increments $x by one, then returns $x
$x++	Post-increment	Returns $x, then increments $x by one
--$x	Pre-decrement	Decrements $x by one, then returns $x
$x--	Post-decrement	Returns $x, then decrements $x by one

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ELEMENTE LIMBAJ PHP

Elemente limbaj PHP:

- Arithmetic operators
- Assignment operators
- Comparison operators
- Increment/Decrement operators
- **Logical operators**
- String operators
- Array operators

PHP Variables
PHP Echo / Print
PHP Data Types
PHP Strings
PHP Constants
PHP Operators
PHP If...Else...Elseif
PHP Switch
PHP While Loops
PHP For Loops
PHP Functions
PHP Arrays

Operator	Name	Example	Result
and	And	$x and $y	True if both $x and $y are true
or	Or	$x or $y	True if either $x or $y is true
xor	Xor	$x xor $y	True if either $x or $y is true, but not both
&&	And	$x && $y	True if both $x and $y are true
||	Or	$x || $y	True if either $x or $y is true
!	Not	!$x	True if $x is not true

ELEMENTE LIMBAJ PHP

Elemente limbaj PHP:

- Arithmetic operators
- Assignment operators
- Comparison operators
- Increment/Decrement operators
- Logical operators
- **String operators**
- Array operators

PHP Variables
PHP Echo / Print
PHP Data Types
PHP Strings
PHP Constants
PHP Operators -operatori
PHP If...Else...Elseif
PHP Switch
PHP While Loops
PHP For Loops
PHP Functions
PHP Arrays

Operator	Name	Example	Result
.	Concatenation	$txt1 . $txt2	Concatenation of $txt1 and $txt2
.=	Concatenation assignment	$txt1 .= $txt2	Appends $txt2 to $txt1

Elemente limbaj PHP:

- Arithmetic operators
- Assignment operators
- Comparison operators
- Increment/Decrement operators
- Logical operators
- String operators
- Array operators

PHP Variables
PHP Echo / Print
PHP Data Types
PHP Strings
PHP Constants
PHP Operators
PHP If...Else...Elseif
PHP Switch
PHP While Loops
PHP For Loops
PHP Functions
PHP Arrays

Operator	Name	Example	Result
+	Union	$x + $y	Union of $x and $y
==	Equality	$x == $y	Returns true if $x and $y have the same key/value pairs
===	Identity	$x === $y	Returns true if $x and $y have the same key/value pairs in the same order and of the same types
!=	Inequality	$x != $y	Returns true if $x is not equal to $y
<>	Inequality	$x <> $y	Returns true if $x is not equal to $y
!==	Non-identity	$x !== $y	Returns true if $x is not identical to $y

ELEMENTE LIMBAJ PHP

Elemente limbaj PHP:

PHP Variables
PHP Echo / Print
PHP Data Types
PHP Strings
PHP Constants
PHP Operators
PHP If...Else...Elseif
PHP Switch
PHP While Loops
PHP For Loops
PHP Functions
PHP Arrays

```
if (condition) {
    code to be executed if condition is true;
}
```

```
if (condition) {
    code to be executed if condition is true;
} else {
    code to be executed if condition is false;
}
```

ELEMENTE LIMBAJ PHP

Elemente limbaj PHP:

PHP Variables
PHP Echo / Print
PHP Data Types
PHP Strings
PHP Constants
PHP Operators
PHP If...Else...Elseif
PHP Switch
PHP While Loops
PHP For Loops
PHP Functions
PHP Arrays

```php
switch (n) {
    case lab
        code
        brea
    case lab
        code
        brea
    case lab
        code
        brea
    ...
    default:
        code to be executed if n is different from all labels;
}
```

```php
<?php
$favcolor = "red";

switch ($favcolor) {
    case "red":
        echo "Your favorite color is red!";
        break;
    case "blue":
        echo "Your favorite color is blue!";
        break;
    case "green":
        echo "Your favorite color is green!";
        break;
    default:
        echo "Your favorite color is neither red, blue, nor green!";
}
?>
```

ELEMENTE LIMBAJ PHP

Elemente limbaj PHP:

PHP Variables
PHP Echo / Print
PHP Data Types
PHP Strings
PHP Constants
PHP Operators
PHP If...Else...Elseif
PHP Switch
PHP While Loops
PHP For Loops
PHP Functions
PHP Arrays

```php
while (condition is true) {
    code to be executed;
}
```

```php
do {
    code to be executed;
} while (condition is true);
```

```php
<?php
$x = 1;

while($x <= 5) {
    echo "The number is: $x <br>";
    $x++;
}
?>
```

The number is: 1
The number is: 2
The number is: 3
The number is: 4
The number is: 5

```php
<?php
$x = 1;

do {
    echo "The number is: $x <br>";
    $x++;
} while ($x <= 5);
?>
```

ELEMENTE LIMBAJ PHP

Elemente limbaj PHP:

PHP Variables
PHP Echo / Print
PHP Data Types
PHP Strings
PHP Constants
PHP Operators
PHP If...Else...Elseif
PHP Switch
PHP While Loops
PHP For Loops
PHP Functions
PHP Arrays

```php
for (init counter; test counter; increment counter) {
    code to be executed;
}
```

```php
<?php
for ($x = 0; $x <= 10; $x++) {
    echo "The number is: $x <br>";
}
?>
```

```
The number is: 0
The number is: 1
The number is: 2
The number is: 3
The number is: 4
The number is: 5
The number is: 6
The number is: 7
The number is: 8
The number is: 9
The number is: 10
```

```php
foreach ($array as $value) {
    code to be executed;
}
```

```php
<?php
$colors = array("red", "green", "blue", "yellow");

foreach ($colors as $value) {
    echo "$value <br>";
}
?>
```

```
red
green
blue
yellow
```

ELEMENTE LIMBAJ PHP

Elemente limbaj PHP:

PHP Variables
PHP Echo / Print
PHP Data Types
PHP Strings
PHP Constants
PHP Operators
PHP If...Else...Elseif
PHP Switch
PHP While Loops
PHP For Loops
PHP Functions   -functii utilizator
PHP Arrays

```php
function functionName() {
    code to be executed;
}
```

```php
<?php
function writeMsg() {
    echo "Hello world!";
}

writeMsg(); // call the function
?>
```

```
Hello world!
```

ELEMENTE LIMBAJ PHP

Elemente limbaj PHP:

I like Volvo, BMW and Toyota.

PHP Variables
PHP Echo / Print
PHP Data Types
PHP Strings
PHP Constants
PHP Operators
PHP If...Else...Elseif
PHP Switch
PHP While Loops
PHP For Loops
PHP Functions
PHP Arrays   -enumerari

```php
<?php
$cars = array("Volvo", "BMW", "Toyota");
echo "I like " . $cars[0] . ", " . $cars[1] . " and " . $cars[2] . ".";
?>
```

Functii de sortare enumerari:

- sort() - sort arrays in ascending order
- rsort() - sort arrays in descending order
- asort() - sort associative arrays in ascending order, according to the value
- ksort() - sort associative arrays in ascending order, according to the key
- arsort() - sort associative arrays in descending order, according to the value
- krsort() - sort associative arrays in descending order, according to the key

EXEMPLE PHP: 1. Afisare text simplu

```html
<!DOCTYPE html>
<html>
<body>

<h1>My first PHP page</h1>

<?php
echo "Hello World!";
?>

</body>
</html>
```

My first PHP page

Hello World!

EXEMPLE PHP: 2. Variabile case senzitive

```html
<!DOCTYPE html>
<html>
<body>

<?php
$color = "red";
echo "My car is " . $color . "<br>";
echo "My house is " . $COLOR . "<br>";
echo "My boat is " . $coLOR . "<br>";
?>

</body>
</html>
```

```
My car is red
My house is
My boat is
```

Eroare
pentru ca

Numele variabilei =case sensitive

EXEMPLE PHP: 3.Comentarii+ afisare rezultat expresie

```html
<!DOCTYPE html>
<html>
<body>

<?php
// This is a single-line comment

# This is also a single-line comment

/*
This is a multiple-lines comment block
that spans over multiple
lines
*/

// You can also use comments to leave out parts of a code line
$x = 5 /* + 15 */ + 5;
echo $x;
?>

</body>
</html>
```

```
10
```

15

EXEMPLE PHP: 4.Tiparire cu echo sau print

```php
<!DOCTYPE html>
<html>
<body>

<?php
echo "<h2>PHP is Fun!</h2>";
echo "Hello world!<br>";
echo "I'm about to learn PHP!<br>";
echo "This ", "string ", "was ", "made
", "with multiple parameters.";
?>

</body>
</html>
```

PHP is Fun!

Hello world!
I'm about to learn PHP!
This string was made with multiple parameters.

```php
<!DOCTYPE html>
<html>
<body>

<?php
print "<h2>PHP is Fun!</h2>";
print "Hello world!<br>";
print "I'm about to learn PHP!";
?>

</body>
</html>
```

PHP is Fun!

Hello world!
I'm about to learn PHP!

EXEMPLE PHP: 5.Siruri indexate

```php
<!DOCTYPE html>
<html>
<body>

<?php
echo str_word_count("Hello world!");
?>

</body>
</html>
```

2

```php
<!DOCTYPE html>
<html>
<body>

<?php
$cars = array("Volvo", "BMW", "Toyota");
$arrlength = count($cars);

for($x = 0; $x < $arrlength; $x++) {
    echo $cars[$x];
    echo "<br>";
}
?>

</body>
</html>
```

Volvo
BMW
Toyota

16

EXEMPLE PHP: 6.Siruri asociative

```php
<!DOCTYPE html>
<html>
<body>

<?php
$age = array("Peter"=>"35", "Ben"=>"37", "Joe"=>"43");
echo "Peter is " . $age['Peter'] . " years old.";
?>

</body>
</html>
```

```
Peter is 35 years old.
```

Cum se tiparesc toate valorile asociate elementelor sirului?

```php
<!DOCTYPE html>
<html>
<body>

<?php
$age = array("Peter"=>"35", "Ben"=>"37", "Joe"=>"43");

foreach($age as $x => $x_value) {
    echo "Key=" . $x . ", Value=" . $x_value;
    echo "<br>";
}
?>
```

```
Key=Peter, Value=35
Key=Ben, Value=37
Key=Joe, Value=43
```

EXEMPLE PHP: 7.Data calendaristica sistem

```php
<!DOCTYPE html>
<html>
<body>

<?php
echo "Today is " . date("Y/m/d") . "<br>";
echo "Today is " . date("Y.m.d") . "<br>";
echo "Today is " . date("Y-m-d") . "<br>";
echo "Today is " . date("l");
?>

</body>
</html>
```

```
Today is 2018/04/11
Today is 2018.04.11
Today is 2018-04-11
Today is Wednesday
```

```php
<!DOCTYPE html>
<html>
<body>

<?php
echo "The time is " . date("h:i:sa");
?>

</body>
</html>
```

```
The time is 06:33:15am
```

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LIMBAJUL PHP

Variabile globale – superglobals introduse din versiunea PHP 4.1.0

- $GLOBALS
- $_SERVER
- $_REQUEST
- $_POST
- $_GET

-utilizate pentru formulare on line in HTML5

- $_FILES
- $_ENV
- $_COOKIE
- $_SESSION

FORMULARE ON LINE – METODA HTTP POST

```
<!DOCTYPE HTML>
<html>
<body>

<form action="welcome.php" method="post">
Name: <input type="text" name="name"><br>
E-mail: <input type="text" name="email"><br>
<input type="submit">
</form>

</body>
</html>
```

Name: Laura Grindei
E-mail: Laura.Grindei@et.utcluj.ro
Trimite

Rezultat: datele completate sunt trimise prin metoda HTTP POST in fisierul *welcome.php* si browserul client afiseaza:

Welcome Laura Grindei
Your email address is: Laura.Grindei@et.utcluj.ro

FORMULAR ON LINE – METODA HTTP GET

```html
<!DOCTYPE HTML>
<html>
<body>

<form action="welcome_get.php" method="get">
Name: <input type="text" name="name"><br>
E-mail: <input type="text" name="email"><br>
<input type="submit">
</form>

</body>
</html>
```

Name: Laura Grindei
E-mail: Laura.Grindei@et.utcluj.ro
Trimite

Rezultat: datele completate sunt trimise prin metoda HTTP POST in fisierul *"welcome_get.php"* si browserul client afiseaza:

Welcome Laura Grindei
Your email address is: Laura.Grindei@et.utcluj.ro

FORMULARE ON LINE – ALEGEREA METODEI

Metoda HTTP GET se alege cand :

❑ informațiile trimise dintr-un formular cu metoda GET sunt publice .

❑ informatia trimisa prin formular : maxim 2000 caractere

Observatie: GET nu trebuie utilizat niciodată pentru trimiterea de parole sau alte informații sensibile!

Metoda HTTP POST este metoda mai des utilizata si se alege cand :

❑ informațiile trimise cu metoda POST sunt invizibile pentru alții

❑ informatia depaseste 2000 de caractere (nelimitat)

Observatie: POST e recomandata pentru trimiterea de parole sau alte informații sensibile

FORMULARE ON LINE – Validare formulare PHP

```php
<?php
// define variables and set to empty values
$nameErr = $emailErr = $genderErr = $websiteErr = "";
$name = $email = $gender = $comment = $website = "";

if ($_SERVER["REQUEST_METHOD"] == "POST") {
  if (empty($_POST["name"])) {
    $nameErr = "Name is required";
  } else {
    $name = test_input($_POST["name"]);
  }

  if (empty($_POST["email"])) {
    $emailErr = "Email is required";
  } else {
    $email = test_input($_POST["email"]);
  }

  if (empty($_POST["website"])) {
    $website = "";
  } else {
    $website = test_input($_POST["website"]);
  }

  if (empty($_POST["comment"])) {
    $comment = "";
  } else {
    $comment = test_input($_POST["comment"]);
  }

  if (empty($_POST["gender"])) {
    $genderErr = "Gender is required";
  } else {
    $gender = test_input($_POST["gender"]);
  }
}
```

PHP Form Validation Example

* required field.

Name: [   ] *

E-mail: [   ] *

Website: [   ]

Comment: [   ]

Gender: ○ Female ○ Male *

[Submit]

Includere fisiere in PHP : Include

Ex. 1 Include footer.php

footer.php

```php
<?php
echo "<p>Copyright &copy; 1999-" . date("Y") . " W3Schools.com</p>";
?>
```

index.php

```php
<!DOCTYPE html>
<html>
<body>

<h1>Welcome to my home page!</h1>
<p>Some text.</p>
<p>Some more text.</p>
<?php include 'footer.php';?>

</body>
</html>
```

Welcome to my home page!

Some text.

Some more text.

Copyright © 1999-2017 W3Schools.com

Includere fisiere in PHP : Include

Ex. 2 Include menu.php

menu.php

```php
<?php
echo '<a href="/default.asp">Home</a> -
<a href="/html/default.asp">HTML Tutorial</a> -
<a href="/css/default.asp">CSS Tutorial</a> -
<a href="/js/default.asp">JavaScript Tutorial</a> -
<a href="default.asp">PHP Tutorial</a>';
?>
```

index.php

```html
<!DOCTYPE html>
<html>
<body>

<div class="menu">
<?php include 'menu.php';?>
</div>

<h1>Welcome to my home page!</h1>
<p>Some text.</p>
<p>Some more text.</p>

</body>
</html>
```

Home - HTML Tutorial - CSS Tutorial - JavaScript Tutorial - PHP Tutorial

Welcome to my home page!

Some text.

Some more text.

Includere fisiere in PHP : Include

Ex. 3 Include menu.php, header.php

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Includere fisiere in PHP : Include

Ex. 3 Include menu.php

menu.php

```
<table width="188" border="0" cellpadding="0" cellspacing="0">
  <tbody>
    <tr>
      <td align=right valign="left" bgcolor="#FFFFFF"> </td>
    </tr>
    <tr>
      <td height="21" align=right valign="left" nowrap="nowrap" bgcolor="#E8E8E8"><font face=
"Arial, Helvetica, sans-serif"><strong> <a href="index.php">Home</a> </strong></font></td>
    </tr>
    <tr>
      <td height="21" align="right" valign="left" nowrap="nowrap" bgcolor="#E8E8E8"> </td>
    </tr>
    <tr>
      <td height="21" align="right" valign="left" nowrap="nowrap" bgcolor="#E8E8E8"><strong><font
face="Arial, Helvetica, sans-serif"><a href="descriere.php">Descriere</a></font> </strong></td>
    </tr>
    <tr>
      <td height="21" align="right" valign="left" nowrap="nowrap" bgcolor="#E8E8E8"><strong><font
face="Arial, Helvetica, sans-serif"><a href="obiective.php">Obiective</a></font></strong></td>
    </tr>
    <tr>
      <td height="21" align="right" valign="left" nowrap="nowrap" bgcolor="#E8E8E8"><strong><font
face="Arial, Helvetica, sans-serif"><a href="activitati.php">Activitati</a></font></strong></td>
    </tr>
    <tr>
      <td height="21" align="right" valign="left" nowrap="nowrap" bgcolor="#E8E8E8"><strong><font
face="Arial, Helvetica, sans-serif"><a href="echipa.php">Echipa</a></font></strong></td>
    </tr>
    <tr>
```

Includere fisiere in PHP : Include

Ex. 3 Include header.php , menu.php

index.php

```
<?php include('header.php'); ?>
<TABLE width="99%" border=0 cellPadding=0 cellSpacing=0>
  <TBODY>
    <TR>
      <TD align=center valign="top" bgcolor="#FFFFFF"> <table width="100%" border="0">
        <tr>
          <td height="130" align="center"><img src="imag/siglaheader.JPG" width="1433" height=
"156" /></td>
        </tr>
      </table>
      <div align="center"><font size="2">A</font><font size="2">cest site este
        cofinantat din Fondul Social European prin Programul Operational Sectorial
        de Dezvoltarea Resurselor Umane 2007-2013. </font><font size="1">Pentru
        informatii detaliate despre celelalte programe <br />
        cofinantate de Uniunea
      Europeana , va invitam sa vizitati <a href="http://www.fonduri-ue.ro"><strong><u>
www.fonduri-ue.ro</u></strong></a></font></div></TD>
```

```
        <td width=209 valign=top>
          <?php include('menu.php'); ?>
          <p align="left"><br>
          </p></td>
```

Operatii cu fisiere in PHP : fopen , fread, fclose

Ex. 4 afiseaza text din fisier

webdictionary.txt

```
AJAX = Asynchronous JavaScript and XML
CSS = Cascading Style Sheets
HTML = Hyper Text Markup Language
PHP = PHP Hypertext Preprocessor
SQL = Structured Query Language
SVG = Scalable Vector Graphics
XML = EXtensible Markup Language
```

index.php

```
<!DOCTYPE html>
<html>
<body>

<?php
$myfile = fopen("webdictionary.txt", "r")
or die("Unable to open file!");
echo
fread($myfile,filesize("webdictionary.txt
"));
fclose($myfile);
?>

</body>
</html>
```

AJAX = Asynchronous JavaScript and XML
CSS = Cascading Style Sheets HTML =
Hyper Text Markup Language PHP = PHP
Hypertext Preprocessor SQL = Structured
Query Language SVG = Scalable Vector
Graphics XML = EXtensible Markup
Language

Operatii cu fisiere in PHP : fgets

Ex. 5 afiseaza o singura linie text din fisier cu fgets

webdictionary.txt

```
AJAX = Asynchronous JavaScript and XML
CSS = Cascading Style Sheets
HTML = Hyper Text Markup Language
PHP = PHP Hypertext Preprocessor
SQL = Structured Query Language
SVG = Scalable Vector Graphics
XML = EXtensible Markup Language
```

index.php

```
<!DOCTYPE html>
<html>
<body>

<?php
$myfile = fopen("webdictionary.txt", "r")
or die("Unable to open file!");
echo fgets($myfile);
fclose($myfile);
?>

</body>
</html>
```

AJAX = Asynchronous JavaScript and XML

Operatii cu fisiere in PHP : feof , fgets

Ex. 5 afiseaza continutul unui fisier cu feof() si fgets()

webdictionary.txt

```
AJAX = Asynchronous JavaScript and XML
CSS = Cascading Style Sheets
HTML = Hyper Text Markup Language
PHP = PHP Hypertext Preprocessor
SQL = Structured Query Language
SVG = Scalable Vector Graphics
XML = EXtensible Markup Language
```

index.php

```php
<!DOCTYPE html>
<html>
<body>

<?php
$myfile = fopen("webdictionary.txt", "r")
or die("Unable to open file!");
// Output one line until end-of-file
while(!feof($myfile)) {
  echo fgets($myfile) . "<br>";
}
fclose($myfile);
?>

</body>
</html>
```

```
AJAX = Asynchronous JavaScript and XML
CSS = Cascading Style Sheets
HTML = Hyper Text Markup Language
PHP = PHP Hypertext Preprocessor
SQL = Structured Query Language
SVG = Scalable Vector Graphics
XML = EXtensible Markup Language
```

Operatii cu fisiere in PHP : fgetc

Ex. 6 afiseaza continutul unui fisier caracter cu caracter pana la feof(),cu fgetc()

webdictionary.txt

```
AJAX = Asynchronous JavaScript and XML
CSS = Cascading Style Sheets
HTML = Hyper Text Markup Language
PHP = PHP Hypertext Preprocessor
SQL = Structured Query Language
SVG = Scalable Vector Graphics
XML = EXtensible Markup Language
```

index.php

```php
<!DOCTYPE html>
<html>
<body>

<?php
$myfile = fopen("webdictionary.txt", "r")
or die("Unable to open file!");
// Output one character until end-of-file
while(!feof($myfile)) {
  echo fgetc($myfile);
}
fclose($myfile);
?>

</body>
</html>
```

```
AJAX = Asynchronous JavaScript and
XML CSS = Cascading Style Sheets
HTML = Hyper Text Markup Language
PHP = PHP Hypertext Preprocessor SQL =
Structured Query Language SVG =
Scalable Vector Graphics XML =
EXtensible Markup Language
```

Operatii fisiere in PHP
Ex.7 Citire dintr-un fisier si afisare in pagina web

```
fgetc - Notepad
File  Edit  Format  View  Help
<!DOCTYPE html>
<html>
<body>

<?php
$myfile = fopen("prezenta.txt", "r") or die("Unable to open file!");
// Output one character until end-of-file
while(!feof($myfile)) {
  echo fgetc($myfile)."<br>";

}
fclose($myfile);
?>

</body>
</html>
```

```
prezenta.txt - Notepad
File  Edit  Format  View  Help
Diaconu Andreia
Cioara Iuliana
Rus Ovidiu
Muntean Ileana
Mandrus Catalin
```

Test: http://www.et.utcluj.ro/PHP/fgetc.php

Operatii cu fisiere in PHP : fwrite
Ex. 8 scrie intr-un fisier 2 siruri : fwrite()

index.php

```php
<?php
$myfile = fopen("newfile.txt", "w") or die("Unable to open file!");
$txt = "John Doe\n";
fwrite($myfile, $txt);
$txt = "Jane Doe\n";
fwrite($myfile, $txt);
fclose($myfile);
?>
```

newfile.txt

```
John Doe
Jane Doe
```

Operatii cu fisiere in PHP
Moduri de deschidere fisiere

Modes	Description
r	**Open a file for read only**. File pointer starts at the beginning of the file
w	**Open a file for write only**. Erases the contents of the file or creates a new file if it doesn't exist. File pointer starts at the beginning of the file
a	**Open a file for write only**. The existing data in file is preserved. File pointer starts at the end of the file. Creates a new file if the file doesn't exist
x	**Creates a new file for write only**. Returns FALSE and an error if file already exists
r+	**Open a file for read/write**. File pointer starts at the beginning of the file
w+	**Open a file for read/write**. Erases the contents of the file or creates a new file if it doesn't exist. File pointer starts at the beginning of the file
a+	**Open a file for read/write**. The existing data in file is preserved. File pointer starts at the end of the file. Creates a new file if the file doesn't exist
x+	**Creates a new file for read/write**. Returns FALSE and an error if file already exists

Functii matematice predefinite in PHP

PHP 5 Math Functions

Function	Description
abs()	Returns the absolute (positive) value of a number
acos()	Returns the arc cosine of a number
acosh()	Returns the inverse hyperbolic cosine of a number
asin()	Returns the arc sine of a number
asinh()	Returns the inverse hyperbolic sine of a number
atan()	Returns the arc tangent of a number in radians
atan2()	Returns the arc tangent of two variables x and y
atanh()	Returns the inverse hyperbolic tangent of a number
base_convert()	Converts a number from one number base to another
bindec()	Converts a binary number to a decimal number
ceil()	Rounds a number up to the nearest integer
cos()	Returns the cosine of a number
cosh()	Returns the hyperbolic cosine of a number

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Functii matematice predefinite in PHP

cosh()	Returns the hyperbolic cosine of a number
decbin()	Converts a decimal number to a binary number
dechex()	Converts a decimal number to a hexadecimal number
decoct()	Converts a decimal number to an octal number
deg2rad()	Converts a degree value to a radian value
exp()	Calculates the exponent of e
expm1()	Returns exp(x) - 1
floor()	Rounds a number down to the nearest integer
fmod()	Returns the remainder of x/y
getrandmax()	Returns the largest possible value returned by rand()
hexdec()	Converts a hexadecimal number to a decimal number
hypot()	Calculates the hypotenuse of a right-angle triangle
is_finite()	Checks whether a value is finite or not
is_infinite()	Checks whether a value is infinite or not
is_nan()	Checks whether a value is 'not-a-number'

lcg_value()	Returns a pseudo random number in a range between 0 and 1
log()	Returns the natural logarithm of a number
log10()	Returns the base-10 logarithm of a number
log1p()	Returns log(1+number)
max()	Returns the highest value in an array, or the highest value of several specified values
min()	Returns the lowest value in an array, or the lowest value of several specified values
mt_getrandmax()	Returns the largest possible value returned by mt_rand()
mt_rand()	Generates a random integer using Mersenne Twister algorithm
mt_srand()	Seeds the Mersenne Twister random number generator
octdec()	Converts an octal number to a decimal number
pi()	Returns the value of PI
pow()	Returns x raised to the power of y
rad2deg()	Converts a radian value to a degree value
rand()	Generates a random integer
round()	Rounds a floating-point number
sin()	Returns the sine of a number
sinh()	Returns the hyperbolic sine of a number

Functii matematice predefinite in PHP

sqrt()	Returns the square root of a number
srand()	Seeds the random number generator
tan()	Returns the tangent of a number
tanh()	Returns the hyperbolic tangent of a number

Constante matematice predefinite in PHP

PHP 5 Predefined Math Constants

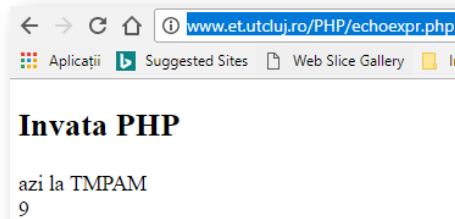| Constant	Value	Description	PHP Version
INF	INF	The infinite	PHP 4
M_E	2.7182818284590452354	Returns e	PHP 4
M_EULER	0.57721566490153286061	Returns Euler constant	PHP 4
M_LNPI	1.14472988584940017414	Returns the natural logarithm of PI: $\log_e(pi)$	PHP 5.2
M_LN2	0.69314718055994530942	Returns the natural logarithm of 2: $\log_e 2$	PHP 4
M_LN10	2.30258509299404568402	Returns the natural logarithm of 10: $\log_e 10$	PHP 4
M_LOG2E	1.4426950408889634074	Returns the base-2 logarithm of E: $\log_2 e$	PHP 4
M_LOG10E	0.43429448190325182765	Returns the base-10 logarithm of E: $\log_{10} e$	PHP 4
M_PI	3.14159265358979323846	Returns Pi	PHP 4
M_PI_2	1.57079632679489661923	Returns Pi/2	PHP 4
M_PI_4	0.78539816339744830962	Returns Pi/4	PHP 4
M_1_PI	0.31830988618379067154	Returns 1/Pi	PHP 4
M_2_PI	0.63661977236758134308	Returns 2/Pi	PHP 4
M_SQRTPI	1.77245385090551602729	Returns the square root of PI: sqrt(pi)	PHP 5.2
M_2_SQRTPI	1.12837916709551257390	Returns 2/square root of PI: 2/sqrt(pi)	PHP 4
M_SQRT1_2	0.70710678118654752440	Returns the square root of 1/2: 1/sqrt(2)	PHP 4
M_SQRT2	1.41421356237309504880	Returns the square root of 2: sqrt(2)	PHP 4

Constanta matematice predefinite in PHP

M_SQRT3	1.73205080756887729352	Returns the square root of 3: sqrt(3)	PHP 5.2
NAN	NAN	Not A Number	PHP 4
PHP_ROUND_HALF_UP	1	Round halves up	PHP 5.3
PHP_ROUND_HALF_DOWN	2	Round halves down	PHP 5.3
PHP_ROUND_HALF_EVEN	3	Round halves to even numbers	PHP 5.3
PHP_ROUND_HALF_ODD	4	Round halves to odd numbers	PHP 5.3

Operatii si expresii matematice in PHP
Afisare expresii


```
echoexpr - Notepad
File  Edit  Format  View  Help
<!DOCTYPE html>
<html>
<body>
<?php
$txt1 = "Invata PHP";
$txt2 = "TMPAM";
$x = 5;
$y = 4;
echo "<h2>" . $txt1 . "</h2>";
echo "azi la " . $txt2 . "<br>";
echo $x + $y;
?>
</body>
</html>
```
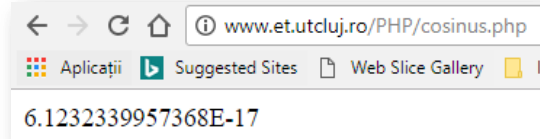
Test: http://www.et.utcluj.ro/PHP/echoexpr.php

Operatii si expresii matematice in PHP
Calcul cos(PI/2)

```
cosinus - Notepad
File  Edit  Format  View  Help
<!DOCTYPE html>
<html>
<body>

<?php
echo(cos(M_PI_2));
?>

</body>
</html>
```

```
← → C ⌂  ⓘ www.et.utcluj.ro/PHP/cosinus.php
▦ Aplicații  ▷ Suggested Sites  🗋 Web Slice Gallery

6.1232339957368E-17
```

Test: http://www.et.utcluj.ro/PHP/cosinus.php

Operatii si expresii matematice in PHP
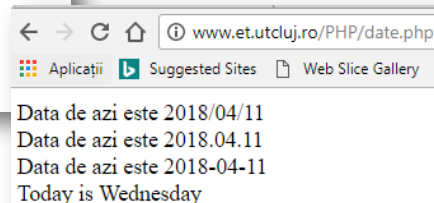### Afisare data calendaristica

```
date - Notepad
File  Edit  Format  View  Help
<!DOCTYPE html>
<html>
<body>

<?php
echo "Data de azi este " . date("Y/m/d") . "<br>";
echo "Data de azi este " . date("Y.m.d") . "<br>";
echo "Data de azi este " . date("Y-m-d") . "<br>";
echo "Today is " . date("l");
?>

</body>
</html>
```

```
← → C ⌂  ⓘ www.et.utcluj.ro/PHP/date.php
▦ Aplicații  ▷ Suggested Sites  🗋 Web Slice Gallery

Data de azi este 2018/04/11
Data de azi este 2018.04.11
Data de azi este 2018-04-11
Today is Wednesday
```

Test: http://www.et.utcluj.ro/PHP/date.php

Operatii si expresii matematice in PHP
Afisare functia exponential

```
exp - Notepad
File Edit Format View Help
<!DOCTYPE html>
<html>
<body>
<?php
echo "exp(0), exp(1), exp(10),exp(4.8).<br>";
echo(exp(0) . "<br>");
echo(exp(1) . "<br>");
echo(exp(10) . "<br>");
echo(exp(4.8));
?>
</body>
</html>
```

```
www.et.utcluj.ro/PHP/exp.php
Aplicații   Suggested Sites   Web Slice Gallery

exp(0), exp(1), exp(10),exp(4.8).
1
2.718281828459
22026.465794807
121.51041751873
```

Test: http://www.et.utcluj.ro/PHP/exp.php

Operatii si expresii matematice in PHP
Afisare maxim siruri

```
maxarray - Notepad
File Edit Format View Help
<!DOCTYPE html>
<html>
<body>

<?php
echo"sir1(2,4,6,8,10), sir2(22,14,68,18,15), sir3(4,6,8,10), sir4(44,16,81,12).<br>";
echo"max sir1:" .max(2,4,6,8,10) . "<br>";
echo"maxsir2:" .max(22,14,68,18,15) . "<br>";
echo"maxsir3:" .max(4,6,8,10) . "<br>";
echo"maxsir4:" .max(44,16,81,12);?>

</body>
</html>
```

```
sir1(2,4,6,8,10), sir2(22,14,68,18,15), sir3(4,6,8,10), sir4(44,16,81,12).
max sir1:10
maxsir2:68
maxsir3:10
maxsir4:81
```

Test: http://www.et.utcluj.ro/PHP/maxarray.php

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Operatii si expresii matematice in PHP
Afisare valori sqrt

```
sqrt - Notepad
File  Edit  Format  View  Help
<!DOCTYPE html>
<html>
<body>
<?php
echo "sqrt(0), sqrt(1), sqrt(9),sqrt(0.64),sqrt(90).<br>";
echo(sqrt(0) . "<br>");
echo(sqrt(1) . "<br>");
echo(sqrt(9) . "<br>");
echo(sqrt(0.64) . "<br>");
echo(sqrt(90));
?>
</body>
</html>
```

www.et.utcluj.ro/PHP/sqrt.php

Aplicatii   Suggested Sites   Web Slice Gallery

sqrt(0), sqrt(1), sqrt(9),sqrt(0.64),sqrt(90).
0
1
3
0.8
9.4868329805051

Test: http://www.et.utcluj.ro/PHP/sqrt.php

Operatii si expresii matematice in PHP
Afisare valoare binara

```
binary - Notepad
File  Edit  Format  View  Help
<!DOCTYPE html>
<html>
<body>
<?php
$x = 2;
echo "2 in binar este:<br>";
echo(decbin($x) . "<br>");

?>
</body>
</html>
```

Securizat https://et.utcluj.ro/PHP/binay.php

Aplicatii   Suggested Sites   Web Slice Gallery   Importate

2 in binar este:
10

Test: http://www.et.utcluj.ro/PHP/binary.php

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Validare cod PHP on line

- PHP Sandbox, test PHP online, PHP tester
- Write Code Online - PHP | start write and run php code online
- eval.in
- Execute PHP Script Online
- Nitrous.IO

Validare cod PHP on line Sandbox

Your script:

```php
1  <?php
2      //Enter your code here, enjoy!
3
4  $array = array("1" => "PHP code tester Sandbox Online",
5              "foo" => "bar", 5 , 5 => 89009,
6              "case" => "Random Stuff: " . rand(100,999),
7              "PHP Version" => phpversion()
8              );
9
10 foreach( $array as $key => $value ){
11     echo $key."\t=>\t".$value."\n";
12 }
13
14
```

Result:

```
1           =>      PHP code tester Sandbox Online
foo         =>      bar
2           =>      5
5           =>      89009
case        =>      Random Stuff: 644
PHP Version =>          7.0.3
```
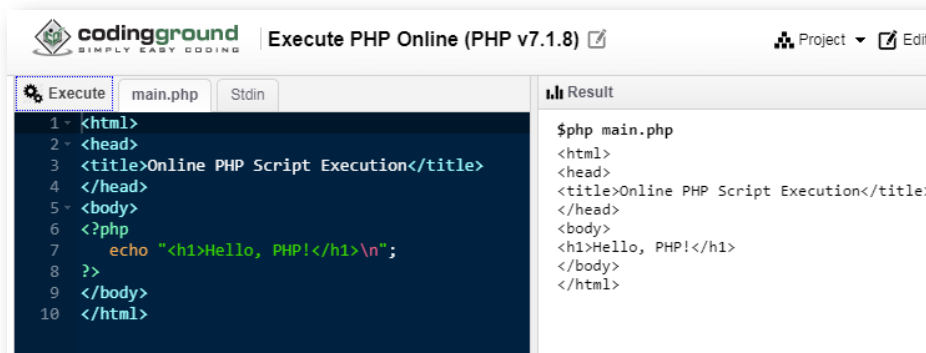
Run on PHP version: 7.0.3 ▼
Output: Textbox ▼

Execute code   Save or share your code

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Validare cod PHP on line: Write php online

Validare cod PHP on line: Codingground

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Aplicatii complexe PHP

1. **E-Commerce**
2. **Graphical User Interface: desktop GUI** applications utilizand **PHP extensions:**
   - PHP GTK - extension populara open source pentru implementare GIMP toolkit (grafica)
   - ZZEE PHP GUI - solutie comerciala care converteste scripturi PHP in aplicatii Windows
3. **Forum de discutii**
   - php BB
   - vBulletin
   - Pun BB
4. **Aplicatii Facebook**
   - Facebook developer's wiki
5. **Liste de email : Mailing Lists**
6. **PHP Photo Gallery**
7. **CMS:**
   - Drupal
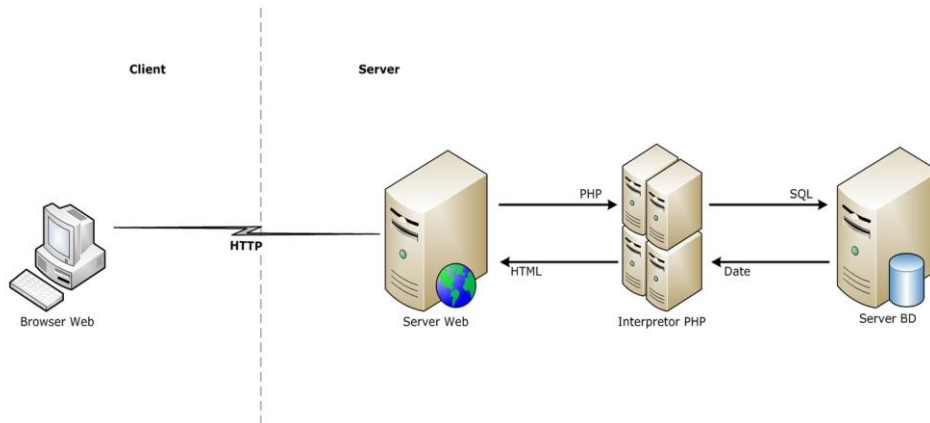   - Wordpress, Joomla
8. **Grafice web: PHPChart**

Aplicatii de SBD cu arhitectura client–server

Arhitectura client-server a SBD: model cu 2 componente distincte:

- **Server (backend):** are instalate SGBD-ul ,BD si server de PHP, etc; proceseaza si returneaza rezultatul cererilor de la clienti

- **Client (frontend):** are instalate programe de aplicatie:

  - un program „dedicat" (specific BD) sau

  - un **browser** (Chrome, Internet Explorer, etc): interacţionează cu BD printr-o interfaţa software (HTML + PHP, ASP, Java, JavaScript, VBScript, etc...)

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Arhitectura client-server & aplicatii web

SGBD cu arhitectura client–server

Clasificare SGBD dupa accesul la BD:

❑ **BD „monolitice":** motorul BD şi interfaţa se află pe acelaşi calculator, sunt BD de talie şi performanţe reduse.
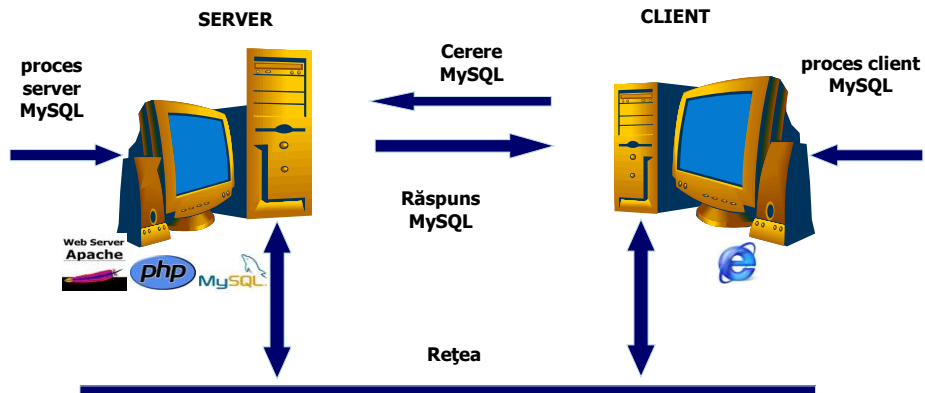
   Ex. Windows: Microsoft Access, Fox Pro, etc.

      Linux: (în general, Open Source) PostgreSQL, etc.

❑ **BD „client – server":** motorul BD şi interfaţa se află pe calculatoare diferite , sunt BD de talie şi performanţe considerabile.

   Ex. MySQL ,ORACLE, Microsoft SQL SERVER, IBM DB2, INFORMIX, etc

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Arhitectură Client – Server
MySQL - PHP

SERVER

CLIENT

proces server MySQL

Cerere MySQL

proces client MySQL

Răspuns MySQL

Web Server Apache **php** **MySQL**

Rețea

Proiectarea paginilor web dinamice

Pagini web dinamice: conţinut dinamic , poate diferi la accesări diferite asigura interactivitatea si interactiunea intre clienti si server

Ex: la acelaşi URL conţinutul paginii poate varia în funcţie de anumiţi parametri cum ar fi locaţia geografică a utilizatorului, ora, paginile vizitate anterior, profilul utilizatorului;

Clasificare pagini web dinamice:

❑ pagini dinamice pe parte de client ("Client Side")

❑ pagini dinamice pe partea de server("Server Side").

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Pagini Web Dinamice "Client Side"

Tehnologii pentru realizarea paginilor dinamice pe partea de client:

❑ **scripturi pe partea de client** ("client side scripts "): asigurara interactivitate : meniuri, formulare, creearea de efecte speciale, efectuarea de calcule, animaţie, etc. Limbaje utilizate: JavaScript, Jscript şi VBScript.

❑ **DHTML (" Dynamic HTML "):** tehnologie dezvoltată de Microsoft care combină HTML, foi de stiluri (CSS) şi script-uri pentru realizarea paginilor web dinamice sau interactive.

❑ **applet-uri Java:** aplicaţii de dimensiune redusă, in limbajul Java (instalare masina virtuala Java).

❑ **controale ActiveX:** componente binare incluse în paginile Web pentru a oferi interactivitate, rulează pe platforma Windows

❑ **elemente multimedia:** realizate in general cu Adobe Flash (instalare plug-in) pentru meniuri, jocuri, animatie
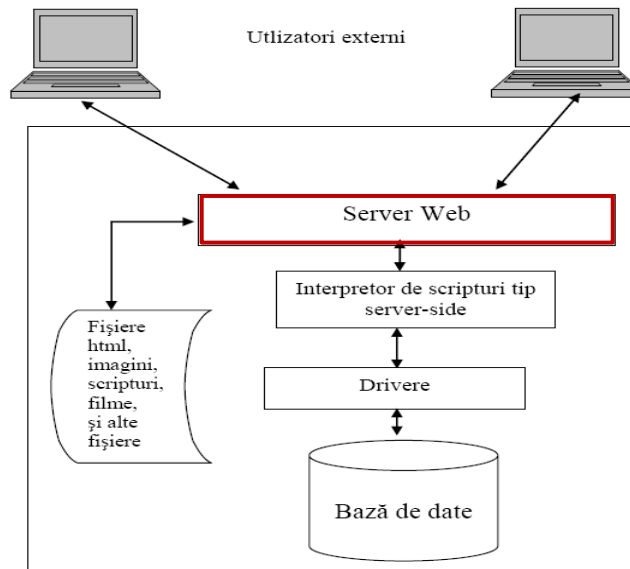
Pagini Web Dinamice "Server Side"

Arhitectura server :

❑ serverul Web,

❑ interpretorul de scripturi tip server-side,

❑ driverele de acces la baza de date,

❑ baza de date şi colecţiile de fişiere.

Arhitectura server Web cu suport de scripting

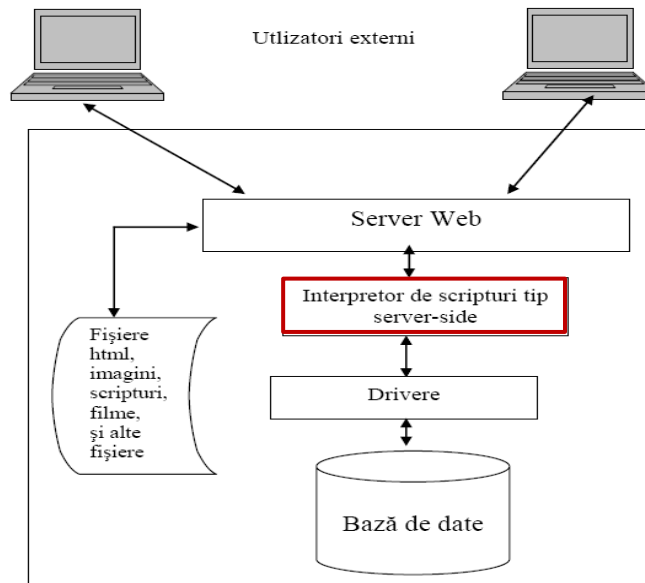## PAGINI WEB DINAMICE "SERVER SIDE"

Server web

Server web: aplicaţie complexă responsabilă pentru comunicarea cu browserele externe.

Informaţiile solicitate de la server = fişiere:
- ❑ Fisiere statice: se transmit mai departe către browsere fără nici o modificare. Ex: imagini, fişiere HTML, filme, fisiere pentru download, animaţii Flash etc.
- ❑ Fisiere script: programe simple executate de către un intepretor, trimiţându-se spre server-ul de Web doar rezultatul execuţiei lor. Tehnica generării dinamice a documentelor de tip HTML face posibilă accesarea bazelor de date pe Internet.

Arhitectura server Web cu suport de scripting

PAGINI WEB DINAMICE "SERVER SIDE"

Interpretor de scripturi tip server-side

Interpretor de scripturi tip server-side: executa scripturi la cererea serverului de Web, preia rezultatul unor interogări la nivelul BD şi trimite spre serverul Web rezultatul execuţiei scripturilor = conţinut HTML pentru afisare in browser.
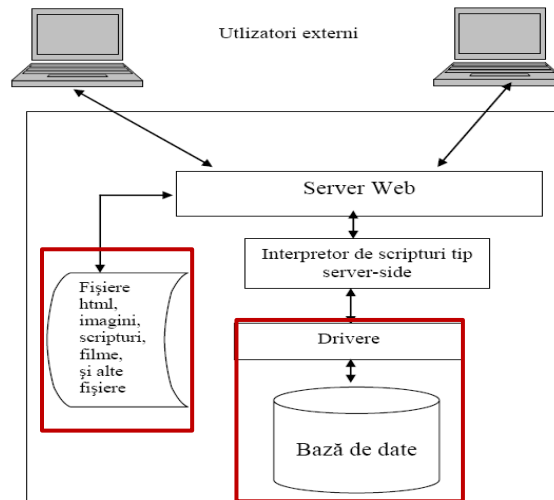
Identificare script: extensia fişierului .

Limbaje server-side scripting:
❑ PHP (Hypertext Preprocessor),
❑ ASP (Active Server Pages), ASP.NET,
❑ JSP (Java Server Pages),
❑ Ruby.

Arhitectura server Web cu suport de scripting

PAGINI WEB DINAMICE "SERVER SIDE"

Drivere. Baza de date

Drivere de acces la BD: intermediaza interacţiunea dintre interpretorul de scripturi şi BD; sunt instrumente software specializate care nu sunt vizibile nici programatorului nici utilizatorului.

Baza de date: constă dintr-un SGBDR instalat fie pe acelasi calculator cu serverul Web, fie este accesibil prin reţea sau Internet.

Ex:

- ❑ MySQL, SQL Server ,Oracle
- ❑ Fox Pro si Access nu se pretează pentru BD web folosite intens.

Fişiere: informaţii cu caracter static trimise utilizatorilor la cerere

SGBD MySQL

MySQL : SGBD foarte rapid si robust permite accesul multi-user si multi-thread (mai multe fire de executie). Utilizeaza limbajul SQL.

Istoric MySQL:
- apare in 1979
- disponibil public din 1996

Adresa web MySQL: http://www.mysql.com

Caracteristici generale:
- gratuit
- Open Source, dar si cu licente comerciale.

Clienti MySQL

AEROSPACE, DEFENSE	EDUCATION	FINANCIAL SERVICES
» Los Alamos National Laboratory	» Ladok	» Wealthfront
» NASA	» College of William & Mary	» Bank of Finland
» US Navy	» Scholastic	» HypoVereinsbank
» MORE	» MORE	» MORE
GOVERNMENT	**HEALTHCARE, PHARMA**	**MEDIA & ENTERTAINMENT**
» WhiteHouse.Gov	» Sahlgrenska University Hospital	» MTV Networks
» United Nations FAO	» UCR	» Big Fish
» US Navy	» Candelis	» Netflix
» MORE	» MORE	» MORE
RETAIL	**SMALL & MEDIUM BUSINESS**	**TECHNOLOGY: HARDWARE**
» Glasses Direct	» Clickability	» Candelis
» The Phone House Telecom GmbH	» thePlatform	» Hitachi Data Systems
» Leader Price	» MORE	» Sandstorm Enterprises
» MORE		» MORE

Clienti MySQL

TECHNOLOGY: OPEN SOURCE PROJECTS
» Glassfish Open Message Queue (OpenMQ)
» Amarok
» FreeRADIUS
» MORE

TECHNOLOGY: SOFTWARE
» DocQ
» EMC
» Intellitactics
» MORE

TELECOM
» The Phone House Telecom GmbH
» Tellme Networks
» Italtel
» MORE

TRAVEL & HOSPITALITY
» LAN AIRLINES S.A.
» Datagest
» Priceline.com (Europe)
» MORE

WEB: ECOMMERCE
» iStockphoto
» Airbnb
» Uber
» MORE

WEB: GAMES
» King Digital Entertainment - Candy Crush
» LeoVegas
» Toto-Lotto Niedersachsen
» MORE

WEB: SAAS, HOSTING
» Clickability
» Magus
» Atos Worldline
» MORE

WEB: SOCIAL NETWORKS
» Tumblr
» LinkedIn
» Facebook
» MORE

PHP si MySQL

PHP 5 (si versiunile ulterioare) se conecteaza cu baze de date MySQL prin:

❑ extensia MySQLi ("i" de la improved): permite conectarea doar cu BD MySQL in 2 moduri:
   ▪ Object Oriented si
   ▪ Procedural)

http://php.net/manual/en/mysqli.installation.php

❑ PDO (PHP Data Objects): permite conectarea cu 12 tipuri diferite de BD

http://php.net/manual/en/pdo.installation.php

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Deschidere conexiune la BD MySQL
cu MySQLi Object-Oriented

```php
<?php
$servername = "localhost";
$username = "username";
$password = "password";

// Create connection
$conn = new mysqli($servername, $username, $password);

// Check connection
if ($conn->connect_error) {
    die("Connection failed: " . $conn->connect_error);
}
echo "Connected successfully";
?>
```

Inchidere conexiune

```php
$conn->close();
```

Deschidere conexiune la BD MySQL cu MySQLi Procedural

```php
<?php
$servername = "localhost";
$username = "username";
$password = "password";

// Create connection
$conn = mysqli_connect($servername, $username, $password);

// Check connection
if (!$conn) {
    die("Connection failed: " . mysqli_connect_error());
}
echo "Connected successfully";
?>
```

Inchidere conexiune

```php
mysqli_close($conn);
```

Deschidere conexiune PHP la BD MySQL cu PDO

```php
<?php
$servername = "localhost";
$username = "username";
$password = "password";

try {
    $conn = new PDO("mysql:host=$servername;dbname=myDB", $username, $password);
    // set the PDO error mode to exception
    $conn->setAttribute(PDO::ATTR_ERRMODE, PDO::ERRMODE_EXCEPTION);
    echo "Connected successfully";
    }
catch(PDOException $e)
    {
    echo "Connection failed: " . $e->getMessage();
    }
?>
```

Inchidere conexiune

```php
$conn = null;
```

Creare BD utilizand PHP si MySQLi Object-oriented

```php
<?php
$servername = "localhost";
$username = "username";
$password = "password";

// Create connection
$conn = new mysqli($servername, $username, $password);
// Check connection
if ($conn->connect_error) {
    die("Connection failed: " . $conn->connect_error);
}

// Create database
$sql = "CREATE DATABASE myDB";
if ($conn->query($sql) === TRUE) {
    echo "Database created successfully";
} else {
    echo "Error creating database: " . $conn->error;
}

$conn->close();
?>
```

Exemplu creare tabel in BD utilizand PHP si MySQLi Object-orien

Se creeaza un tabel "MyGuests", cu 5 coloane:
1. "id",
2. "firstname",
3. "lastname",
4. "email" si
5. "reg_date":

```php
<?php
$servername = "localhost";
$username = "username";
$password = "password";
$dbname = "myDB";

// Create connection
$conn = new mysqli($servername, $username, $password, $dbname);
// Check connection
if ($conn->connect_error) {
    die("Connection failed: " . $conn->connect_error);
}

// sql to create table
$sql = "CREATE TABLE MyGuests (
id INT(6) UNSIGNED AUTO_INCREMENT PRIMARY KEY,
firstname VARCHAR(30) NOT NULL,
lastname VARCHAR(30) NOT NULL,
email VARCHAR(50),
reg_date TIMESTAMP
)";

if ($conn->query($sql) === TRUE) {
    echo "Table MyGuests created successfully";
} else {
    echo "Error creating table: " . $conn->error;
}
```

Exemplu inserare date in BD utilizand PHP si MySQLi Object-oriented

```php
// Create connection
$conn = new mysqli($servername, $username, $password, $dbname);
// Check connection
if ($conn->connect_error) {
    die("Connection failed: " . $conn->connect_error);
}

$sql = "INSERT INTO MyGuests (firstname, lastname, email)
VALUES ('John', 'Doe', 'john@example.com')";

if ($conn->query($sql) === TRUE) {
    echo "New record created successfully";
} else {
    echo "Error: " . $sql . "<br>" . $conn->error;
}
```

Exemplu inserare multipla date in BD utilizand PHP si MySQLi Object-oriented

```php
$sql = "INSERT INTO MyGuests (firstname, lastname, email)
VALUES ('John', 'Doe', 'john@example.com');";
$sql .= "INSERT INTO MyGuests (firstname, lastname, email)
VALUES ('Mary', 'Moe', 'mary@example.com');";
$sql .= "INSERT INTO MyGuests (firstname, lastname, email)
VALUES ('Julie', 'Dooley', 'julie@example.com')";

if ($conn->multi_query($sql) === TRUE) {
    echo "New records created successfully";
} else {
    echo "Error: " . $sql . "<br>" . $conn->error;
}
```

Exemplu interogare date in BD cu SELECT utilizand PHP si MySQLi Object-oriented

Rezultate afisate

id: 1 - Name: John Doe
id: 2 - Name: Mary Moe
id: 3 - Name: Julie Dooley

```php
<?php
$servername = "localhost";
$username = "username";
$password = "password";
$dbname = "myDB";

// Create connection
$conn = new mysqli($servername, $username, $password, $dbname);
// Check connection
if ($conn->connect_error) {
    die("Connection failed: " . $conn->connect_error);
}

$sql = "SELECT id, firstname, lastname FROM MyGuests";
$result = $conn->query($sql);

if ($result->num_rows > 0) {
    // output data of each row
    while($row = $result->fetch_assoc()) {
        echo "id: " . $row["id"]. " - Name: " . $row["firstname"]. " " . $row["lastname"]. "
<br>";
    }
} else {
    echo "0 results";
}
$conn->close();
?>
```

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Exemplu stergere date din BD cu DELETE utilizand PHP si MySQLi Object-oriented

Fie tabelul "MyGuests": se sterge al 3-lea articol/linie

id	firstname	lastname	email	reg_date
1	John	Doe	john@example.com	2014-10-22 14:26:15
2	Mary	Moe	mary@example.com	2014-10-23 10:22:30
3	Julie	Dooley	julie@example.com	2014-10-26 10:48:23

```php
// Create connection
$conn = new mysqli($servername, $username, $password, $dbname);
// Check connection
if ($conn->connect_error) {
    die("Connection failed: " . $conn->connect_error);
}

// sql to delete a record
$sql = "DELETE FROM MyGuests WHERE id=3";

if ($conn->query($sql) === TRUE) {
    echo "Record deleted successfully";
} else {
    echo "Error deleting record: " . $conn->error;
}
```

Exemplu modificare date din BD cu UPDATE utilizand PHP si MySQLi Object-oriented

Fie tabel "MyGuests": se modifica campul lastname pentru articolul 2 in Doe

id	firstname	lastname	email	reg_date
1	John	Doe	john@example.com	2014-10-22 14:26:15
2	Mary	Moe	mary@example.com	2014-10-23 10:22:30

```php
$sql = "UPDATE MyGuests SET lastname='Doe' WHERE id=2";

if ($conn->query($sql) === TRUE) {
    echo "Record updated successfully";
} else {
    echo "Error updating record: " . $conn->error;
}
```

Rezultat

id	firstname	lastname	email	reg_date
1	John	Doe	john@example.com	2014-10-22 14:26:15
2	Mary	Doe	mary@example.com	2014-10-23 10:22:30