

Curs 5

2025/2026

Programarea aplicațiilor web

- Programarea aplicațiilor web
 - An V RC
 - 1.5C/1L/1P

Program

- An V
 - Saptamana 1
 - Luni 17-20 Curs (Intro/HTML/CSS)
 - Saptamanile **2-8**
 - Luni 16:30-18 Curs
 - Luni **18-20 Laborator**
 - Saptamanile **9-14**
 - Luni 16:30-18 Curs
 - Luni **18-20 Proiect**

Orar

- <https://orar.etti.tuiasi.ro/> : C->16:30-18, L/P -> 18

Grupa: 55RC Profesor: Alege un profesor Sala: Alege o sala



FACULTATEA DE ELECTRONICA, TELECOMUNICATII SI TEHNOLOGIA INFORMATIEI

55RC

11111111

	1	2	3	4	5	6	7	8	9	10	11	12
	8:00 - 8:50	9:00 - 9:50	10:00 - 10:50	11:00 - 11:50	12:00 - 12:50	13:00 - 13:50	14:00 - 14:50	15:00 - 15:50	16:00 - 16:50	17:00 - 17:50	18:00 - 18:50	19:00 - 19:50
L										PAW (C)	Damian R.	
										2.13 TC (R)	PAW (L)	Damian R.
Ma										2.13 TC (R)	PAW (P)	Damian R.
										2.13 TC (R)	RCALSC (L)	Mocanu F.
Mi										2.13 TC (R)	RCALSC (L)	
										2.13 TC (R)		
J										3.20 Antene	TEFO (L)	Trifina L.
											3.25 TTI (L)	TEFO (L)
V											3.25 TTI (L)	TEFO (L)
Sâ												

Nota

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

Documentatie

- <https://rf-opto.etti.tuiasi.ro> + WWW

The screenshot shows a web browser window with the address bar displaying 'rf-opto.etti.tuiasi.ro/master_it.php'. The website has a dark blue header with navigation links: Main, Courses, **Master**, Staff, Research, Students, and Admin. Below the header, there is a sub-header with links: Radiocommunication Systems, Microwave IC, Satellite Comm., **Web Design**, and Ethics.

The main content area is titled 'Web Applications Design' and 'Course: PAW (2024-2025)'. It lists the course coordinator as Assoc.P. Dr. Radu-Florin Damian, the code as RC.IA.108, the discipline type as DIMS, and the credits as 5. The enrollment year is 5, and the semester is 10.

Activities

Course: Instructor: Assoc.P. Dr. Radu-Florin Damian, 1.5 Hours/Week, Specialization Section, Timetable:
Laboratory: Instructor: Assoc.P. Dr. Radu-Florin Damian, 1 Hours/Week, Specialization Section, Timetable:
Project: Instructor: Assoc.P. Dr. Radu-Florin Damian, 1 Hours/Week, Specialization Section, Timetable:
Online Exams: Currently active: None

Evaluation

Type: **Exam**

A: 33.33%, (Test/Colloquium)
B: 33.33%, (Seminary/Laboratory/Project Activity)
D: 33.33%, (Homework/Specialty papers)

Previous years

2023-2024	2022-2023	2021-2022	2020-2021	2019-2020	More years...

Acces

- Personalizat (parola), Generic (email)



Student profile page showing a photo, personal details, and a table of grades. A red circle highlights the link "Acceseaza ca acest student" and a red arrow points from it to the login page.

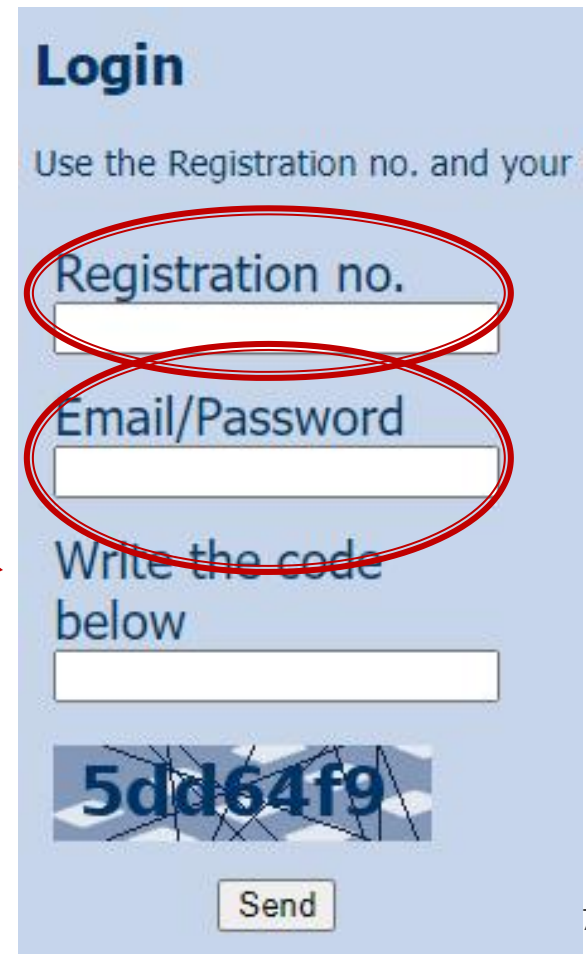
Date:

Grupa	5304 (2015/2016)
Specializarea	Tehnologii si sisteme de telecomunicatii
Marca	5184

[Acceseaza ca acest student](#)

Note obtinute

Disciplina	Tip	Data	Descriere	Nota	Puncte	Obs.
TW			Tehnologii Web			
	N	17/01/2014	Nota finala	10	-	
	A	17/01/2014	Colocviu Tehnologii Web 2013/2014	10	7.55	
	B	17/01/2014	Laborator Tehnologii Web 2013/2014	9	-	
	D	17/01/2014	Tema Tehnologii Web 2013/2014	9	-	



Login page with fields for Registration no., Email/Password, and a CAPTCHA. A red circle highlights the "Registration no." and "Email/Password" fields.

Login

Use the Registration no. and your

Registration no.

Email/Password

Write the code below

5dd64f9

Online – Numar matricol (marca)

- accesul la **examene** necesita **parola** primita prin email

The password is communicated during the lectures. It is necessary to

Password

Registration no.

Name of the student

Proposed email 1

Proposed email 2

Write the code below

6fb6953

Send

RF-OPTO

English | Romana |

Main Courses Master Staff Research **Students**

Login Tutoring

Login

Use the Registration no. and your email or the password received by email

Registration no.

Email/Password

Write the code below

5dd64f9

Send

Parola

■ primita prin email

Important message from RF-OPTO Inbox x



Radu-Florin Damian

to me, POPESCU

🌐 Romanian > English [Translate message](#)



Laboratorul de Microunde si Optoelectronica
Facultatea de Electronica, Telecomunicatii si Tehnologia Informatiei
Universitatea Tehnica "Gh. Asachi" Iasi

In atentia: POPESCU GOPO ION

Parola pentru a accesa examenele pe server-ul **rf-opto** este

Parola: [REDACTED]

Identificati-va pe [server](#), cu parola, cat mai rapid, pentru confirmare.

Memorati acest mesaj intr-un loc sigur, pentru utilizare ulterioara

Attention: POPESCU GOPO ION

The password to access the exams on the **rf-opto** server is

Password: [REDACTED]

Login to the [server](#), with this password, as soon as possible, for confirmation.

Save this message in a safe place for later use

↩ Reply

↩↩ Reply all

➡ Forward

Subject	Correspondents
Important message from RF-OPTO	POPESCU GOPO ION
Validation of MD/CR exam from 02/05/2020	[REDACTED]
[REDACTED]	[REDACTED]

From: Me <rdamian@etti.tuiasi.ro> ★

Subject: Important message from RF-OPTO

To: [REDACTED]

Cc: Me <rdamian@etti.tuiasi.ro> ★



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Attention: POPESCU GOPO ION

The password to access the exams on the **rf-opto** server is

Password: [REDACTED]

Login to the [server](#), with this password, as soon as possible, for confirmation.

Save this message in a safe place for later use

Manual examen online

- Aplicatia de examen online utilizata la:
 - ~~curs (prezenta)~~
 - laborator -> Activitate suplimentara
 - proiect -> Alocare/predare proiect
 - ~~examen~~

Materials

Other data

[Manual examen on-line](#) (pdf, 2.65 MB, ro, 🇷🇴)

[Simulare Examen](#) (video) (mp4, 65.12 MB, ro, 🇷🇴)

Microwave Devices and Circuits (Englis

Examen online

- intotdeauna **contratimp**
 - perioada lunga (proiect, activitate suplimentara)
 - ~~perioada scurta (teste: 15min, examen: 2h)~~

The screenshot shows a web application for online exams. At the top is a navigation bar with links: Start, Didactic, Master, Colectiv, Cercetare, and **Studenti**. Below this is a sub-menu with links: Note, Lista Studenti, **Examene**, and Fotografii. A horizontal timeline of exam stages is displayed, with the first stage, **Anunț 17:28 (29/04/2020)**, highlighted by a red circle. Other stages include Material suport, Subiecte, Rezultate, Finalizare, and Confirmare. To the right of the timeline, a red circle highlights a message: "Urmatorul interval de timp in. 01 m 08 s Reincarca acum". Below the timeline, the section "Anunț" contains the text: "In acest examen se verifica diverse actiuni ale studentilor pentru examen". The "Ora pe server" section shows the server time: "29/04/2020 17:28:51", which is also circled in red.

Anunț	Material suport	Subiecte	Rezultate	Finalizare	Confirmare
17:28 (29/04/2020)	17:30 (29/04/2020)	17:32 (29/04/2020)	17:35 (29/04/2020)	17:45 (29/04/2020)	17:45 (30/04/2020)

Anunț

In acest examen se verifica diverse actiuni ale studentilor pentru examen

Ora pe server

roate examenele sunt bazate pe fusul orar al server-ului (ar putea sa fie diferit de timpul local). Pentru referinta ora pe server este acum:

29/04/2020 17:28:51

Urmatorul interval de timp in.
01 m 08 s
[Reincarca acum](#)

Nota

- An V
 - 33% E
 - 33% L
 - 33% P
- Laborator - Prezenta
 - 1pz = 1p ($p > 5 \leftrightarrow$ Curs)
- Examen
 - Prezenta la curs: 3pz = 0.5p
 - Asemanator cu materia de **proiect**
- Activitate suplimentara
 - Dupa terminarea activitatii la laborator
 - +2p la E/L

Recapitulare

HTML

Forme

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 – <form>

- in interiorul etichetei <form>...</form>
 - input
 - select/option
 - textarea
 - button
- **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 name="RG1" type="radio" value="b" />but2</label>
```

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

ceva

Trimite



check1



but1



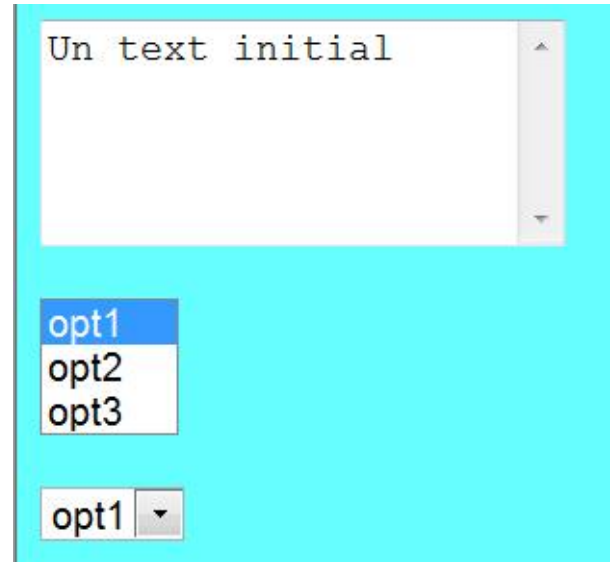
but2

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>
```



Un text initial

opt1
opt2
opt3

opt1 ▼

BUTTON

```
<button type="button" onClick="do ( );">Click Here</button>
```

```
<button type="submit" value="infoOnly">Request Info</button>
```

```
<button type="reset">Clear</button>
```

```
<button type="submit" id="sender"  
value="infoOnly">Request<br />Info<br /></button>
```

```
<button type="submit" id="sender"  
value="infoOnly"><p>Request</p><p><b><i>Info</i></b></p>  
</button>
```

- introdus pentru a oferi posibilitatea introducerii de continut mai complex (text formatat, imagini) in interiorul butoanelor de pe forma

Click Here

Request Info 

 Clear

Request
Info



Request

Info



HTML 5 – Validare input

- `<input type="email">`
- `<input type="number">`
- `<input type="search">`
- `<input type="tel">`
- `<input type="url">`

HTML 5 – Validare input

```
<label for="email">Email:</label>
<input type="email" id="email" name="email">
<br /><br />
<label for="can">Cantitate (1 - 5):</label>
<input type="number" id="can" name="can" min="1" max="5">
<br /><br />
<label for="gsearch">Cautare Google:</label>
<input type="search" id="gsearch" name="gsearch">
<br /><br />
<label for="phone">Telefon:</label>
<input type="tel" id="phone" name="phone"
placeholder="0123.456.789" pattern="[0-9]{4}.[0-9]{3}.[0-9]{3}"
required>
<br /><br />
<label for="server">Server:</label>
<input type="url" id="server" name="server">
```

Email:

Cantitate (1 - 5):

Cautare Google:

Telefon:

Server:

HTML 5 – Validare input

Email:

Please include an '@' in the email address. 'ceva' is missing an '@'.

ceva@server

Cantitate (1 - 5):

Telefon:



Please match the requested format.

Server:



Please enter a URL.

Email:



Please include an '@' in the email address. 'ceva' is missing an '@'.

Telefon:

Server:



Please fill out this field.

Telefon:



Please match the requested format.

Server:

HTML 5 – Interfata nativa browser

- `<input type="color">`
- `<input type="date">`
- `<input type="datetime-local">`
- `<input type="month">`
- `<input type="range">`
- `<input type="time">`
- `<input type="week">`

HTML 5 – Interfata nativa browser

```
<label for="culoare">Culoare:</label>
<input type="color" id="culoare" name="culoare" value="#ff0000">
<br /><br />
<label for="nastere">Data nastere:</label>
<input type="date" id="nastere" name="nastere">
<br /><br />
<label for="examen">Examen (data si ora):</label>
<input type="datetime-local" id="examen" name="examen">
<br /><br />
<label for="fin">Finalizare (luna si an):</label>
<input type="month" id="fin" name="fin">
<br /><br />
<label for="vol">Volum (0 - 50):</label>
<input type="range" id="vol" name="vol" min="0" max="50">
<br /><br />
<label for="ora">Ora intalnire:</label>
<input type="time" id="ora" name="ora">
<br /><br />
<label for="sap">Saptamana:</label>
<input type="week" id="sap" name="sap">
```

Culoare:

Data nastere:

Examen (data si ora):

Finalizare (luna si an):

Volum (0 - 50):

Ora intalnire:

Saptamana:

HTML 5 – Interfata nativa browser

Culoare:

Data nast

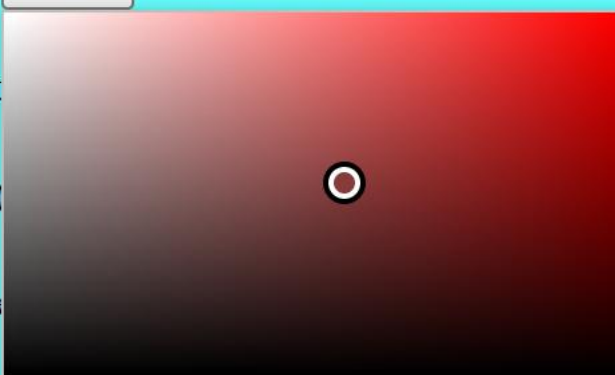
Examen (

Finalizare

Volum (0

Ora intal

Saptamar



The image shows a native browser color picker. It features a large rectangular color gradient area transitioning from dark red at the bottom to light red at the top. A small circular crosshair is positioned in the center of this area. Below the gradient area, there is a circular color swatch showing the current selected color (dark red), followed by a horizontal rainbow color bar. At the bottom, there are three input fields for the RGB color model, containing the values 135, 59, and 59, with labels R, G, and B respectively.

135 59 59

R G B

Culoare:

Data nastere: 03/06/2023

Examen (data

Finalizare (lu

Volum (0 - 50

Ora intalnire:

March 2023

Su	Mo	Tu	We	Th	Fr	Sa
26	27	28	1	2	3	4
5	6	7	8	9	10	11
12	13	14	15	16	17	18

The image shows a native browser date picker. It displays a calendar for March 2023. The calendar grid shows days of the week (Su, Mo, Tu, We, Th, Fr, Sa) and dates. The date 6 is highlighted in blue, and the date 8 is also highlighted in blue. The date 13 is highlighted in white. The date 15 is highlighted in white. The date 16 is highlighted in white. The date 17 is highlighted in white. The date 18 is highlighted in white. The date 19 is highlighted in white. The date 20 is highlighted in white. The date 21 is highlighted in white. The date 22 is highlighted in white. The date 23 is highlighted in white. The date 24 is highlighted in white. The date 25 is highlighted in white. The date 26 is highlighted in white. The date 27 is highlighted in white. The date 28 is highlighted in white. The date 29 is highlighted in white. The date 30 is highlighted in white. The date 31 is highlighted in white.

HTML 5 – Interfata nativa browser

Examen (data si ora):

Finalizare (luna si an): **March 2023** ↑ ↓

Volum (0 - 50):

Ora intalnire:

Saptamana: Week --,

Su	Mo	Tu	We	Th	Fr	Sa
26	27	28	1	2	3	4
5	6	7	8	9	10	11
12	13	14	15	16	17	18
19	20	21	22	23	24	25
26	27	28	29	30	31	1
2	3	4	5	6	7	8

[Clear](#) [Today](#)

02	21	PM
03	22	AM
04	23	
05	24	
06	25	
07	26	
08		

Finalizare (luna si an):

Volum (0 - 50):

Ora intalnire:

Saptamana: Week --,

2023

Jan	Feb	Mar	Apr
May	Jun	Jul	Aug
Sep	Oct	Nov	Dec

[Clear](#)

[This month](#)

HTML 5 – Interfata nativa browser

Volum (0 - 50):



Ora intalnire: 05:30 PM

Saptamana: W

Trimite

02	25	PM
03	26	AM
04	27	
05	28	
06	29	
07	30	
08	31	

Saptamana: Week 13, 2023

Trimite

March 2023



Week	Su	Mo	Tu	We	Th	Fr	Sa
9	26	27	28	1	2	3	4
10	5	6	7	8	9	10	11
11	12	13	14	15	16	17	18
12	19	20	21	22	23	24	25
13	26	27	28	29	30	31	1
14	2	3	4	5	6	7	8

Clear

This week

CURS

I.	HTML si XHTML (recapitulare)	1 oră
II	CSS	2 ore
III	Baze de date, punct de vedere practic	1 oră
IV	Limbajul de interogare SQL	4 ore
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

LABORATOR

I.	Implementarea unui sistem de dezvoltare a aplicatiilor Web, instalare PHP, MySql, Apache si legaturile dintre ele	2 ore
II	Design web avansat folosind CSS	2 ore
III	Interogarea unei baze de date. Exercitii SQL	2 ore
IV	Utilizare PHP I	2 ore
V	Utilizare PHP II	2 ore
VI	Utilizare PHP pentru accesul la o baza de date	2 ore
VII	Aplicatie distribuita complexa	2 ore
	Total	14 ore

Hypertext PreProcessor

PHP

PHP

- Hypertext PreProcessor - acronim recursiv
 - initial – Personal Home Page / Form Interpreter
 - 1995 – 1.0
- versiune curenta: 8.5.3
 - 2026-02-12
- versiune curenta: 8.4.18
 - 2026-02-12
- limbaj de scripting de uz general,
- rulare pe server ([server-side scripting](#))
- open source

Integrare

```
E:\Documents\Pagini Web\Safir dep\lista_lot.php - Notepad++
File Edit Search View Encoding Language Settings Tools Macro Run Plugins Window ?
logfile.php lista_lot.php
539 <?php }?>
540
541 <div id="maincontent"><!-- InstanceBeginEditable name="Continut" -->
542 <p><span class="title">Adauga</span><br/>
543 <a href="control_lot.php?id=0">Lot nou</a></p>
544 <p class="title">Loturi active</p>
545 <?php
546 $query = "SELECT l.*, c.`nume_user` AS `user_creat`
547 FROM `lot` AS l
548 LEFT JOIN `users` AS c ON (l.`User`=c.`id_user`)
549 WHERE l.`Activ` <> 0 ORDER BY l.`ID_LOT` DESC";
550 $result = mysql_query($query);
551 $total=0;
552 if ($result && (mysql_num_rows($result) > 0))
553 {
554 $total=mysql_num_rows($result);
555 $row = mysql_fetch_assoc($result);
556 }
557 if ($total>0)
558 {?>
559 <table align="center">
560 <tr class="lista_titlu">
561 <td align="center">Nr.</td>
562 <td>Numar</td>
563 <td>Data</td>
564 <td>Nr. pui</td>
565 <td>Gr. pui</td>
566 <td>Nr. pui morti</td>
567 <td>Gr. pui morti</td>
568 <td>Ferma</td>
569 <td>Documente</td>
570 <td>Creat</td>
571 <td>Comenzi</td>
572 </tr>
573 <?php $index=1;
574 do { ?>
575 <tr class="<?php if ($index%2) echo "lista_impar"; else echo "lista_p
576 <td align="center"><?php echo $index; ?>&nbsp;</td>
577 <td><?php echo $row['Numar']; ?>&nbsp;</td>
578 <td><?php echo date("d/m/Y", strtotime($row['Data'])); ?>&nbsp;</td>
579 <td><?php echo $row['Pui']; ?>&nbsp;</td>
580 <td><?php echo $row['Greutate']; ?>&nbsp;</td>
581 <td><?php echo $row['Pui_Morti']; ?>&nbsp;</td>
582 <td><?php echo $row['Greutate_Morti']; ?>&nbsp;</td>
583 <td><?php echo $row['Ferma']; ?>&nbsp;</td>
584 <td><?php echo $row['Documente']; ?>&nbsp;</td>
```

Separare cod PHP

- un fisier sursa PHP **este** un fisier HTML (in general) cu sectiuni de cod PHP **in interior**
- interpretorul PHP cauta sectiunile pe care trebuie sa le interpreteze si in interiorul lor proceseaza instructiunile ca fiind PHP
- ce se gaseste in **exteriorul** acestor sectiuni este trimis spre server-ul web **nemodificat**
- de cele mai multe ori rezultatul procesarii este un "fisier text" virtual continand cod **HTML** (strict) (+CSS/Javascript) transmis(e) server-ului web pentru distribuire

Separare cod PHP

- `<?php ... ?>`
 - stil XML – implicit, disponibil intotdeauna, recomandat
- `<? ... ?>`
 - scurt, este de obicei dezactivat
 - lipsa in PHP 7,8
- `<script language="php"> ... </script>`
 - stil script, disponibil (?)
- `<% ... %>`
 - stil ASP, de obicei dezactivat
 - lipsa in PHP 7,8

Variante de integrare

- echo afiseaza un text la "iesire" (echivalent cu puts() 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
- "iesire" poate fi considerata de obicei:
 - documentul curent
 - pozitia curenta (a scriptului in fisierul HTML curent)

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>';  
?>
```

Variante de integrare

```
test.php x
1 <h2>Rezultate comanda</h2>
2 <p><?php echo 'Comanda receptionata';?></p>
3
4 <?php
5 echo '<h1>Magazin online XXX SRL</h1>';
6 echo '<h2>Rezultate comanda</h2>';
7 echo '<p>Comanda receptionata</p>';
8 ?>
9
```

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 – 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

- **declararea** 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

```
$var = expresie
```

- Controlul variabilelor se face automat, “on the fly”
 - Daca \$var nu era definita anterior, in urma atribuirii se defineste de tipul dat de rezultatul expresiei
 - Daca \$var era definita, de un anumit tip (oarecare), in urma atribuirii devine de tipul dat de rezultatul expresiei
 - La finalizarea executiei script-ului se elimina variabila din memorie (automat)
 - Numele de variabile sunt "case-sensitive" (\$age si \$AGE sunt doua variabile diferite)

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 PHP8

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

Exemplu de separare cod php

Raspuns dinamic

- `<form action="rezultat.php" method="post">`

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

Magazin online XXX SRL

Rezultate comanda

Comanda receptionata

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

PHP – Functii

- conceptual similare celor din C/C++
- functiile nu trebuie declarate inainte de a fi folosite
- numele functiilor este “case-insensitive”
- un mare numar de functii cu utilitate directa in aplicatiile web exista in bibliotecile PHP
- unele biblioteci trebuie activate in momentul configurarii PHP
 - `extension=php_gd2.dll` (linia 639) // pentru functii de procesare grafica de exemplu
 - `extension=php_mysql.dll` (linia 651) // pentru functii de acces la baze de date MySql
 - `extension=php_mysqli.dll` (linia 652) // pentru functii de acces la baze de date MySql (**obligatoriu** de la PHP 5.6)

Utilizarea functiilor PHP

- `<form action="rezultat.php" method="post">`

```
<p>Comanda receptionata la data:  
<?php echo date('d/m/Y')." ora ".date('H:i');?></p>
```

Magazin online XXX SRL

Rezultate comanda

Comanda receptionata la data: 10/03/2010 ora 13:36

```
<body>  
<h1>Magazin online XXX SRL</h1>  
<h2>Rezultate comanda</h2>  
<p>Comanda receptionata la data:  
10/03/2010 ora 13:36</p>  
</body>
```

Elemente de control

- majoritatea notiunilor si sintaxei sunt similare celor din C/C++
- instructiune compusa: separata de acolade {...}
- if / else / elseif – executie conditionata

```
<?php
if ($a > $b) {
    echo "a mai mare ca b";
} elseif ($a == $b) {
    echo "a egal cu b";
} else {
    echo "a mai mic ca b";
}
?>
```

Elemente de control

- while
- do-while
- for
- switch
- return
- break
- goto
- Similare cu echivalentele C/C++

```
$i = 1;  
while ($i <= 10) {  
    echo $i++;  
}
```

```
$i = 10;  
do {  
    echo $i--;  
} while ($i > 0);
```

```
for ($i = 1; $i <= 10; $i++) {  
    echo $i;  
}
```

```
switch ($i) {  
    case 0:  
        echo "i este 0";  
        break;  
    case 1:  
        echo "i este 1";  
        break;  
    default:  
        echo "i nici 1 nici 0";  
        break;  
}
```

Elemente de control

- `include()`
- `require()`
- `include_once()`
- `require_once()`

- pentru inserarea **SI** evaluarea fisierului folosit ca parametru
- folosite pentru a nu multiplica sectiunile de cod comune
- `require` opreste executia script-ului curent daca fisierul parametru nu este gasit
- `..._once()` verifica daca respectivul fisier a mai fost introdus si **nu** il mai introduce inca o data

Variabile globale

Variabile globale

- Variabilele globale (predefinite)
 - accesibile script-urilor PHP prin conlucrarea cu server-ul
 - Exemple:
 - `$_SERVER` — Server and execution environment information
 - `$_GET` — HTTP GET variables
 - `$_POST` — HTTP POST variables
 - `$_FILES` — HTTP File Upload variables
 - `$_REQUEST` — HTTP Request variables
 - `$_SESSION` — Session variables
 - `$_ENV` — Environment variables
 - `$_COOKIE` — HTTP Cookies

Interactiunea cu utilizatorul

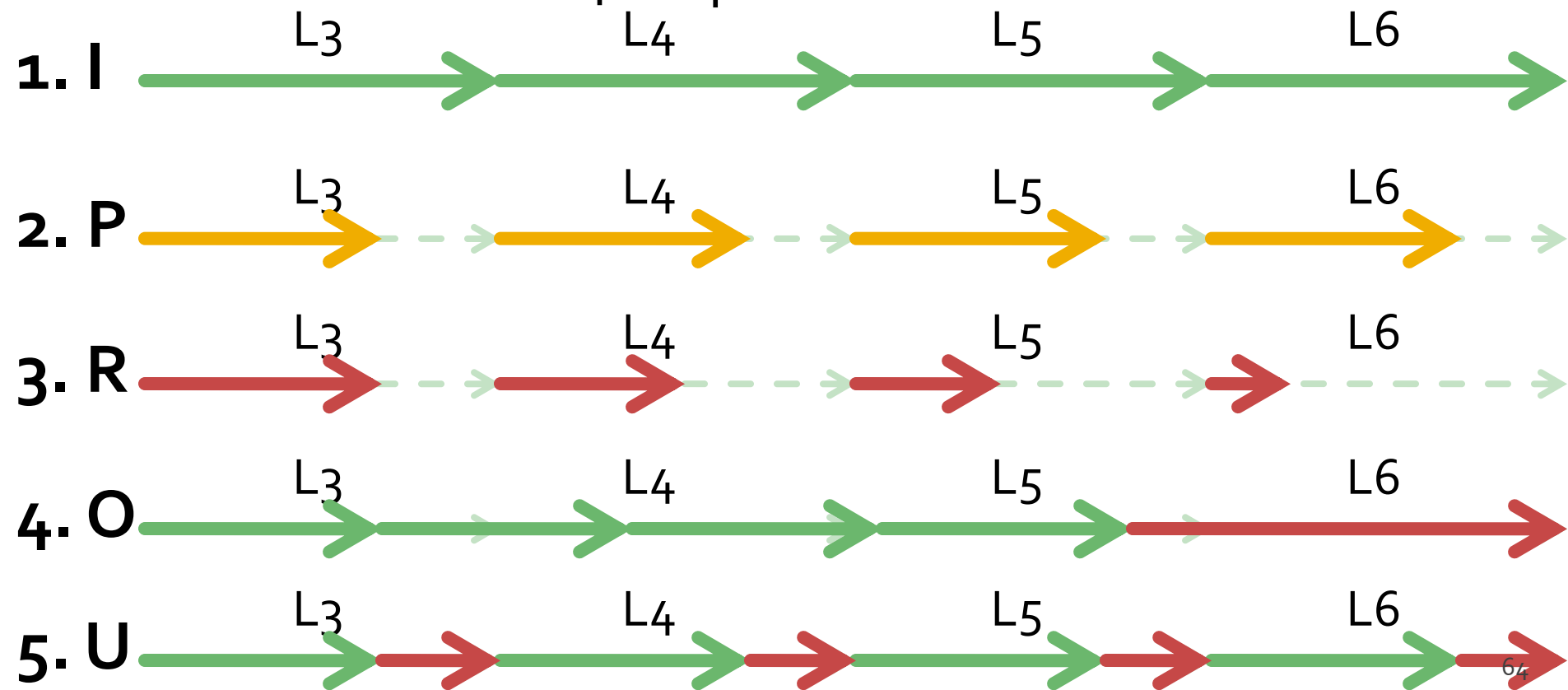
- Datele introduse de utilizator in forme se regasesc (in functie de metoda aleasa pentru forma, in script-ul indicat ca **tinta** in formular: **action**="...") in una din variabilele:
 - \$_POST – method="post"
 - \$_GET – method="get"
 - \$_REQUEST – ambele metode
- variabilele sunt **tablouri** cu **cheia** data de atributul **name** din forma HTML
 - <input type="text" name="**carti_cant**" size="3" maxlength="3" />
 - \$_POST['**carti_cant**'] contine valoarea introdusa de utilizator

Continuare

! Important

- Laborator **asincron!**

- recomandat – 4 = Optim



Laborator 3

Laborator L3

- Sa se creeze un magazin simplu virtual care:
 - sa prezinte utilizatorului o lista de produse si preturi (constanta – maxim 5 produse)
 - sa preia de la acesta numarul de produse dorit
 - sa calculeze suma totala
 - sa adauge TVA 21%
 - sa prezinte un raport care sa contina:
 - total de plata
 - ora comenzii

Laborator L3 - continuare

- se creaza macar 3 pagini:
 - lista produse
 - formular comanda
 - rezultat
- forma paginilor:
 - tabel/CSS
- metoda
 - post
 - get

culoare	IMAGINE	culoare
	Continut (cu alta culoare fundal)	

Laborator – L3 - rezultat

Magazin online Firma X SRL

Lista Produse

Nr.	Produs	Pret
1	Carti	100
2	Caiete	50
3	Penare	150
4	Stilouri	125
5	Creioane	25
Comanda		

Magazin online Firma X SRL

Realizati comanda

Nr.	Produs	Pret	Cantitate
1	Carti	100	1
2	Caiete	50	2
3	Penare	150	1
4	Stilouri	125	0
5	Creioane	25	0
Trimite			

Magazin online Firma X SRL

Rezultate comanda

Pret total (fara TVA): 350

Pret total (cu TVA): 416.5

Comanda receptionata la data: 17/03/2010 ora 08:24

Laborator 4

Laborator 4

- Sa se continue magazinul virtual:
 - pentru usurinta modificarilor ulterioare aplicatia lucreaza cu tablouri
 - sa prezinte utilizatorului o lista de produse si preturi
 - se preia comanda si se calculeaza suma totala

Laborator – L4 – rezultat (~=L3)

Magazin online Firma X SRL

Lista Produse

Nr.	Produs	Pret
1	Carti	100
2	Caiete	50
3	Penare	150
4	Stilouri	125
5	Creioane	25
Comanda		

Magazin online Firma X SRL

Realizati comanda

Nr.	Produs	Pret	Cantitate
1	Carti	100	1
2	Caiete	50	2
3	Penare	150	1
4	Stilouri	125	0
5	Creioane	25	0
Trimite			

Magazin online Firma X SRL

Rezultate comanda

Pret total (fara TVA): 350

Pret total (cu TVA): 416.5

Comanda receptionata la data: 17/03/2010 ora 08:24

Variable tip string

PHP – tipuri de date

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

Variabile tip string

- Scopul final al PHP e popularea cu date (sub forma de text) a campurilor existente intr-un schelet HTML
- Ca urmare datele de tip sir de caractere (string) sunt tratate mai complex decat echivalentul C/C++
 - mai multe modalitati de definire
 - mai multe modalitati de interpretare
 - **mult** mai multe functii

Variabile tip string

- definire variabila de tip string
 - utilizare apostrof ` `
 - utilizare ghilimele " "
 - definiri tip bloc

Variabile tip string ` `

- apostroful `' '` e utilizat pentru definirea sirurilor primare de caractere
 - se defineste o suita de caractere
 - prelucrarile in interiorul sirului sunt reduse
 - `\'` reprezinta caracterul apostrof
 - `\\` si `\` reprezinta caracterul backslash
 - doar atat!!!

Variabile tip string " "

- ghilimelele " " sunt utilizate pentru definirea sirurilor de caractere complexe
 - prelucrările în interiorul sirului sunt mai complexe decât echivalentul C/C++
 - caracterele ASCII speciale, identice cu C++: \n, \r, \t, \\\, \v, \e, \f, \x, \u
 - \" caracterul ghilimele
 - \\$ caracterul \$
 - se interpretează **variabile** în interiorul sirului !!!

Variabile tip string `` ``

- caracterul \$ indica faptul ca urmeaza un nume de variabila
 - interpretorul foloseste toate caracterele care pot genera nume de variabile valide (\$x, \$x->y, \$x[y])
 - daca e nevoie de exprimare mai complexa a variabilelor (de exemplu matrici cu 2 indici x[y][z] sau cu indici neintregi) se foloseste sintaxa complexa: **{ }**

Variabile tip string ""

- sintaxa **simpla** pentru interpretarea variabilelor in interiorul sirurilor

```
<?php
$juice = "apple";

echo "He drank some $juice juice.";
// He drank some apple juice.
echo "He drank some juice made of $juices.";
// He drank some juice made of . //s character valid pentru variabile

?>
```

Variabile tip string ""

- sintaxa **simpla** pentru interpretarea variabilelor in interiorul sirurilor

```
<?php
$juices = array("apple", "orange", "koolaid1" => "purple");
class people {
    public $john = "John Smith";
}

$people = new people();
echo "$people->john drank some $juices[o] juice.";
// John Smith drank some apple juice.
?>
```

Variabile tip string `` ``

- sintaxa **complexa** pentru interpretarea variabilelor in interiorul sirurilor **{ }**

```
<?php
$juice = "apple";

echo "He drank some juice made of $juices.";
// He drank some juice made of . //s character valid pentru variabile
echo "He drank some juice made of ${juice}s."
// He drank some juice made of apples. // {} arata unde se incheie
numele variabilei
?>
```

Variabile tip string `` ``

- sintaxa **complexa** pentru interpretarea variabilelor in interiorul sirurilor **{ }**

```
<?php
$juices = array(array("apple", "orange"), "koolaid1" => "purple");
class people {
    public $name = "John Smith";
}

$obj->values[3] = new people();
echo "$obj->values[3]->name drank some $juices[0][1] juice.";
// drank some juice.
echo "{$obj->values[3]->name} drank some {$juices[0][1]} juice.";
// John Smith drank some apple juice.
?>
```

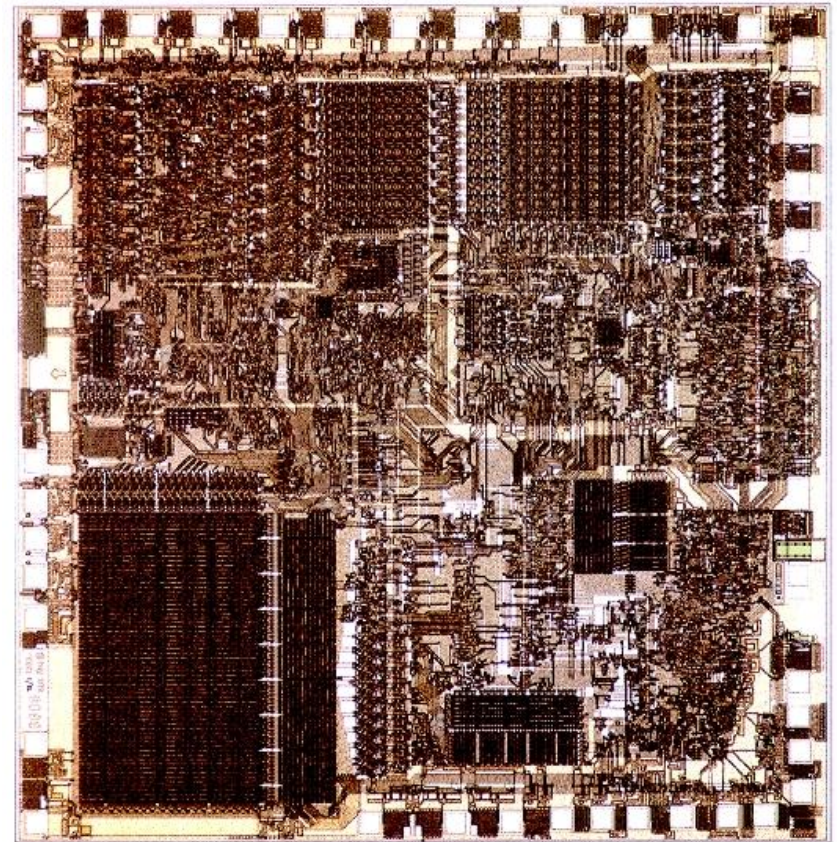
Variabile tip string

- definire variabila de tip string
 - utilizare apostrof ` `
 - utilizare ghilimele " "
 - definiri tip bloc
 - heredoc <<< "X"
 - echo <<<END
a
b
c
END;
 - nowdoc <<<'X' (PHP>5.3.0)

Structuri repetitive – tablouri

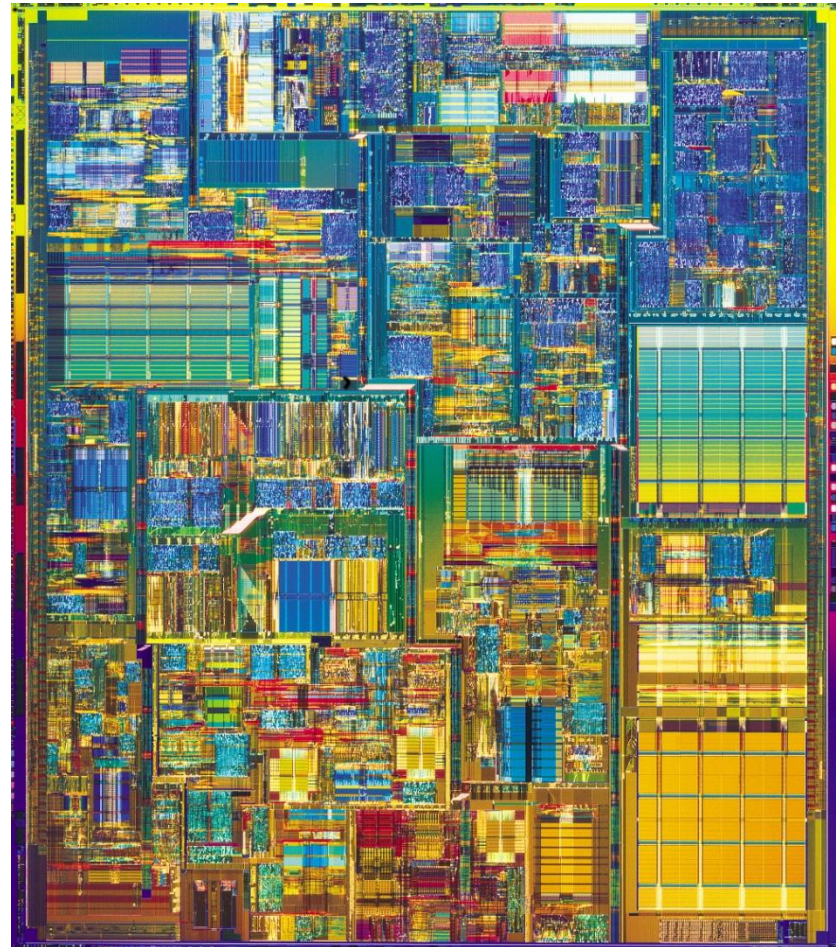
Impresionant?

- Intel® 8086
- 29.000 tranzistoare pe CPU
- 1978
- 1 MB date
- 4.7 MHz



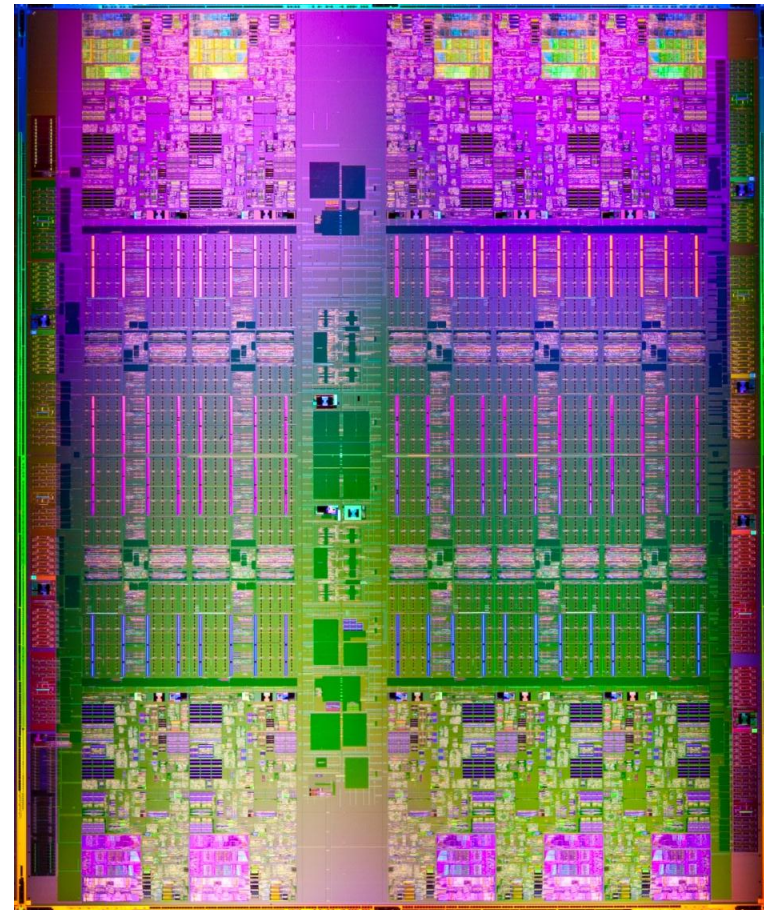
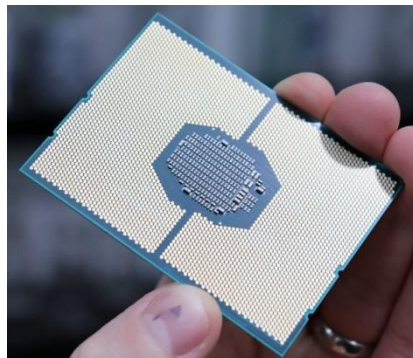
Impresionant?

- Intel® Itanium® processors (Tukwila)
- 2009
- 2 miliarde tranzistoare pe CPU
- 16 EB date (16 G GB)
- > 3 GHz



Impresionant?

- Intel® Xeon® Platinum 8380 Processor
- 2021
- ~8 miliarde tranzistoare pe CPU
- 40 nuclee (80 fire de executie)
- Sisteme cu 8 microprocesoare (224/448)
- 2.3-3.4 GHz



Concepte

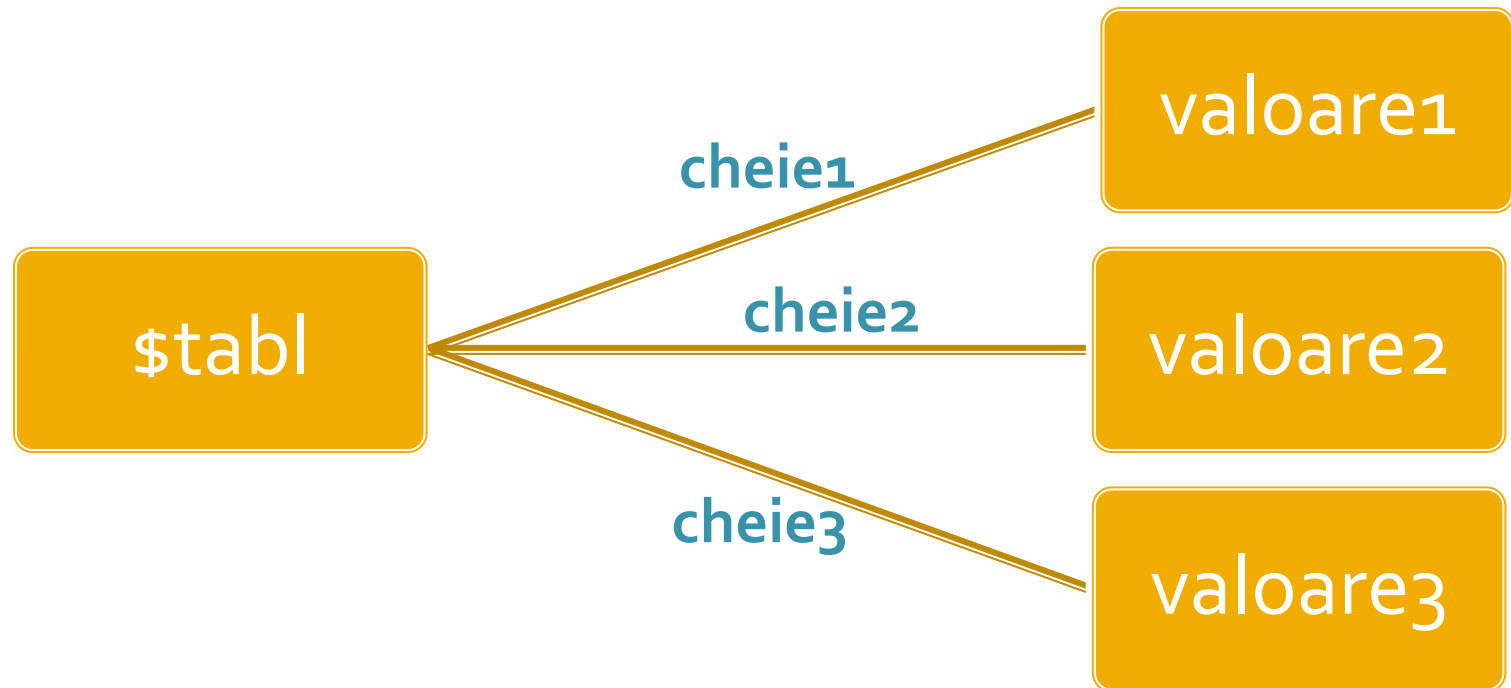
- Efectuare foarte rapida a unui numar **mic** de instructiuni, de **complexitate redusa**, repetate de un numar foarte mare de ori
- Programare: coborarea rationamentului la nivelul de **complexitate redusa**, cu obtinerea performantei prin structuri repetitive simple efectuate rapid.
- Operatii repetitive / date repetitive

Tablouri in PHP

- tabloul este tipul de variabila care asociaza **valori** unor **chei**
- spre deosebire de C, Basic, **cheile nu sunt** obligatoriu numere **intregi**, pot fi si **siruri**
- implicit cheile sunt intregi succesivi (pentru fiecare element adaugat) si primul element este 0.
- definirea unei perechi cheie / valoare
 - cheie => valoare
- definirea unui tablou
 - \$matr = array("definirea perechilor chei/valori")
 - pereche: cheie => valoare, ...

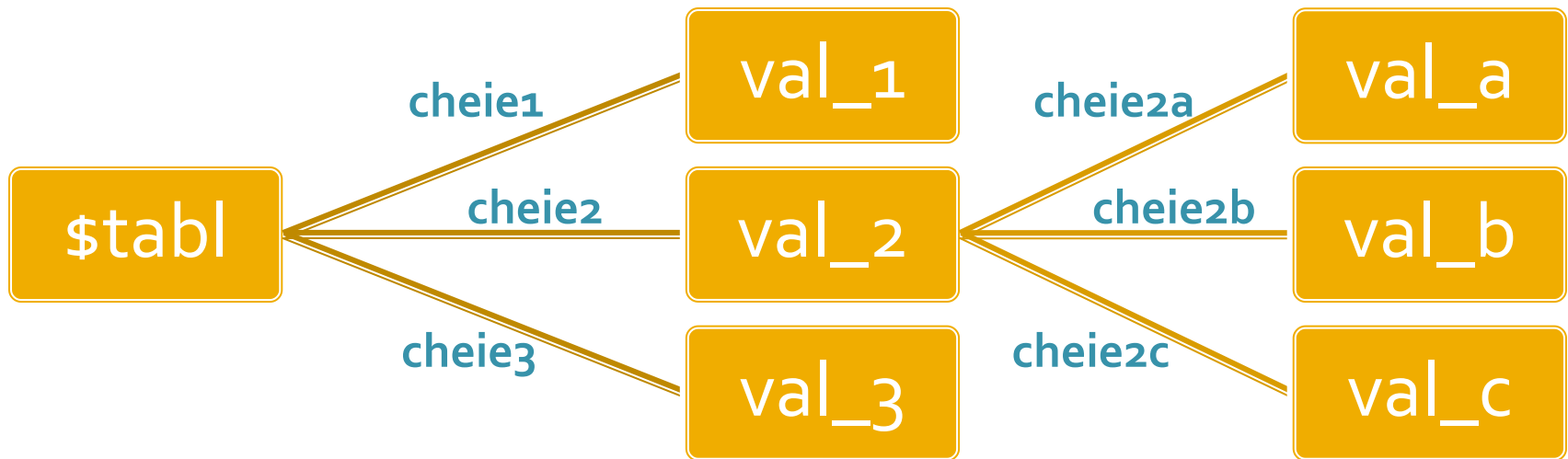
Tablou = Arbore

- `$tabl = array(cheie1 => valoarea1, cheie2 => valoarea2, cheie3 => valoarea3)`



Tablou = Arbore

- In particular, una sau mai multe dintre din valori poate fi la randul ei tablou, ducand la **ramificarea** arborelui
- `$tabl = array(cheie1 => val_1, cheie2 => array(cheie2a => val_a, cheie2b => val_b, cheie2c => val_c), cheie3 => val_3)`



Tablouri in PHP

```
$matr = array(1, 2, 3, 4, 5);
```

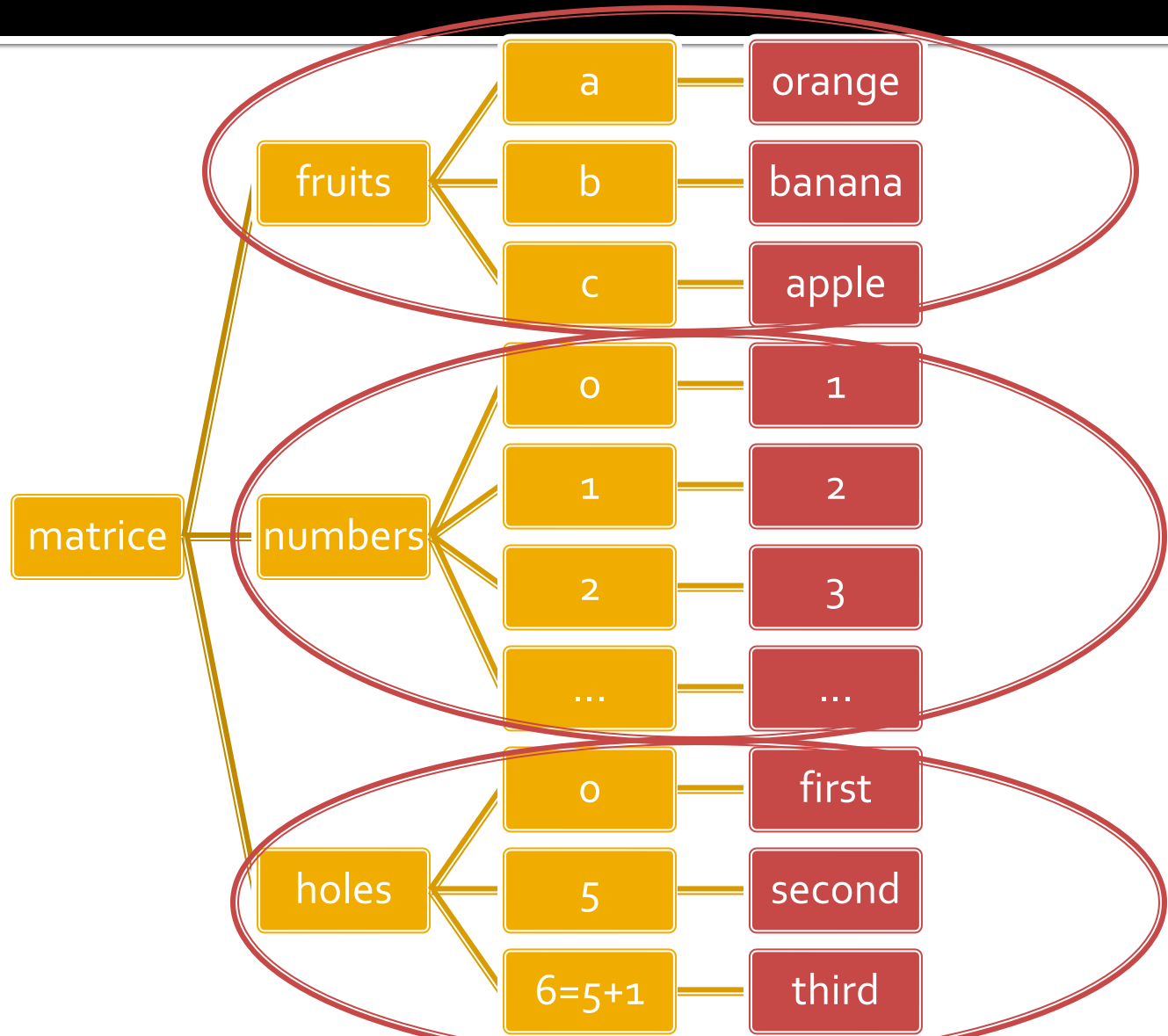
```
$matr[0]=1  
$matr[1]=2  
$matr[2]=3  
$matr[3]=4  
$matr[4]=5
```

```
$matr = array('a' => 1, 'b' => 2, 3, 4, 5);
```

```
$matr['a']=1  
$matr['b']=2  
$matr[0]=3  
$matr[1]=4  
$matr[2]=5
```

```
$matrice= array (  
    "fruits" => array("a" => "orange", "b" => "banana", "c" => "apple"),  
    "numbers" => array(1, 2, 3, 4, 5, 6),  
    "holes"  => array("first", 5 => "second", "third")  
);
```

Tablou = arbore



Afisarea tablourilor

```
echo "<pre>";  
print_r ($matr);  
echo "</pre>";
```

```
$matr= array (  
"fruits" =>  
array("a" => "orange", "b" => "banana", "c" => "apple",  
"ultim"),  
"numbers" =>  
array(1, 2, 3, 4, 5, 6),  
"holes" =>  
array("first", 5 => "second", "third")  
);  
echo $matr;  
echo "<pre>";  
print_r ($matr);  
echo "</pre>";
```

```
Array  
  
Array  
(  
    [fruits] => Array  
        (  
            [a] => orange  
            [b] => banana  
            [c] => apple  
            [0] => ultim  
        )  
    [numbers] => Array  
        (  
            [0] => 1  
            [1] => 2  
            [2] => 3  
            [3] => 4  
            [4] => 5  
            [5] => 6  
        )  
    [holes] => Array  
        (  
            [0] => first  
            [5] => second  
            [6] => third  
        )  
)
```

Chei

- Chei numerice
 - implicite
 - similare celorlalte limbaje de programare
 - dificil de utilizat (trebuie retinuta valoarea logica a unei anumite chei numerice)
- Chei sir
 - claritate mai mare
 - eficienta numerica mai mica
 - tablourile au un index numeric intern, implicit ascuns, accesibil prin functii :
index => cheie => valoare

Elemente de control

- **for** – util daca la definirea tablourilor sunt folosite cheile numerice implicite (numere intregi)
- **do ... while** si **while** se pot folosi impreuna cu functii specifice caracteristice tablourilor `next()`, `prev()`, `end()`, `reset()`, `current()`, `each()`
- **foreach** - elementul de control al iteratiilor cel mai potrivit pentru chei alfanumerice

Elemente de control – foreach

- `foreach (array_expression as $key => $value) statement`
- `foreach (array_expression as $value) statement`
- iterarea prin **fiecare** element al tabloului
- la fiecare element variabila declarata in instructiune variabila locala `$key` ofera acces la cheia curenta iar variabila locala `$value` ofera acces la valoarea asociata
- `foreach()` lucreaza cu o **copie** a tabloului deci tabloul original nu va fi modificat prin schimbarea continutului variabilelor `$key` si `$value`

Elemente de control – foreach

```
$matr = array (  
    "fruits" => array("a" => "orange", "b" => "banana", "c" => "apple", "ultim"),  
    "numbers" => "in loc de numere",  
    "holes"  => "in loc de ce era"  
);  
foreach ($matr as $scheie => $continut)  
    echo "matr[".$scheie."]=".$continut."<br />";
```

```
matr[fruits]=Array  
matr[numbers]=in loc de numere  
matr[holes]=in loc de ce era
```

Tablouri – functii utile, index

- `current ($matr)` – returneaza elementul indicat de indicele intern al tabloului (`~v[i]`)
- `next ($matr)` – incrementeaza indicele intern si returneaza valoarea stocata acolo (`~v[++i]`)
- `prev ($matr)` – decrementeaza indicele intern si returneaza valoarea stocata acolo (`~v[--i]`)
- `end($matr)` – muta indicele intern la ultimul element si returneaza valoarea stocata acolo (`~i=N-1;v[i]`)
- `reset($matr)` – muta indicele intern la primul element si returneaza valoarea stocata acolo (`~i=0;v[i]`)

Tablouri – functii utile

- `sort($matr)` – ordoneaza in ordine crescatoare a **valorilor** un tablou, cheile sunt sterse si recreate
 - `$fruits = array("lemon", "orange", "banana", "apple");`
`sort($fruits);`
 - `fruits[0] = apple, fruits[1] = banana, fruits[2] = lemon, fruits[3] = orange`
- `rsort($matr)` – similar, descrescator

Tablouri – functii utile

- `asort($matr)` ordoneaza in ordine crescatoare a **valorilor** un tablou, cheile sunt pastrate, inclusiv asocierea cheie => valoare
 - `$fruits = array("d" => "lemon", "a" => "orange", "b" => "banana", "c" => "apple");`
`asort($fruits);`
 - `c = apple, b = banana, d = lemon, a = orange`
- `arsort($matr)` – similar, descrescator

Tablouri – functii utile

- `ksort($matr)` ordoneaza in ordine crescatoare a **cheilor** un tablou, cheile sunt pastrate, inclusiv asocierea cheie => valoare
 - `$fruits = array("d" => "lemon", "a" => "orange", "b" => "banana", "c" => "apple");`
`ksort($fruits);`
 - a = orange, b = banana, c = apple , d = lemon
- `krsort($matr)` – similar, descrescator

Variabile globale

Variabile globale

- Variabilele globale (predefinite)
 - accesibile script-urilor PHP prin conlucrarea cu server-ul
 - Exemple:
 - `$_SERVER` — Server and execution environment information
 - `$_GET` — HTTP GET variables
 - `$_POST` — HTTP POST variables
 - `$_FILES` — HTTP File Upload variables
 - `$_REQUEST` — HTTP Request variables
 - `$_SESSION` — Session variables
 - `$_ENV` — Environment variables
 - `$_COOKIE` — HTTP Cookies

Interactiunea cu utilizatorul

- Datele introduse de utilizator in forme se regasesc (in functie de metoda aleasa pentru forma) in una din variabilele:
 - `$_POST` – method="post"
 - `$_GET` – method="get"
 - `$_REQUEST` – ambele metode
- variabilele sunt **tablouri** cu **cheia** data de atributul **name** din forma HTML
 - `<input type="text" name="carti_cant" size="3" maxlength="3" />`
 - `$_POST['carti_cant']` contine valoarea introdusa de utilizator

Subdivizare \$_POST

- atributul **name** in forma devine **cheie** in tabloul global \$_POST
 - `<input type="text" name="carti_cant" size="3" maxlength="3" />`
 - `$_POST['carti_cant']` contine valoarea introdusa
- realizand atributul **name** ca tablou, se obtine in \$_POST un "subtablou" (ramificare locala a arborelui) care grupeaza elementele input
 - `<input type="text" name="cant[carti]" size="3" maxlength="3" />`
 - `$_POST['cant']['carti']` contine valoarea introdusa

Subdivizare \$_POST

- realizand atributul **name** ca tablou, se obtine in \$_POST un "subtablou" (ramificare locala a arborelui) care grupeaza elementele input
 - `<input type="text" name="cant[carti]" size="3" maxlength="3" />`
 - `$_POST ['cant'] ['carti']` contine valoarea introdusa
- Este necesar pentru a grupa elementele similare pe care sa le prelucram la receptie cu **foreach**
- \$_POST contine si alte elemente pe care le dorim eventual tratate separat
 - numele (name) si valoarea butonului "submit" apar in \$_POST de exemplu

Exemplu utilizare tablouri

Analiza critica

■ ~~design?~~

- ~~■ in aplicatiile web forma este importanta~~
- ~~■ nu trebuie sa fie inovativa ci familiara~~
- ~~■ "Don't make me think!"~~

■ capacitatea de extindere?

- mai multe produse
- schimbare de pret

Exemplu

- In exemplul anterior utilizarea tablourilor va aduce urmatoarele avantaje:
 - codul va fi mai concis
 - codul va fi mai general (valabil si pentru 5 produse si pentru 1000)
 - scalabilitate crescuta (se pot adauga usor produse)

Exemplu

- fiecare produs e caracterizat de:
 - nume
 - pret
 - (eventual) descriere
 - cantitate comandata
- putem folosi unul din attribute ca si cheie (numele in exemplu)
- se poate controla (prin atributul name = "") structura variabilei globale \$_POST

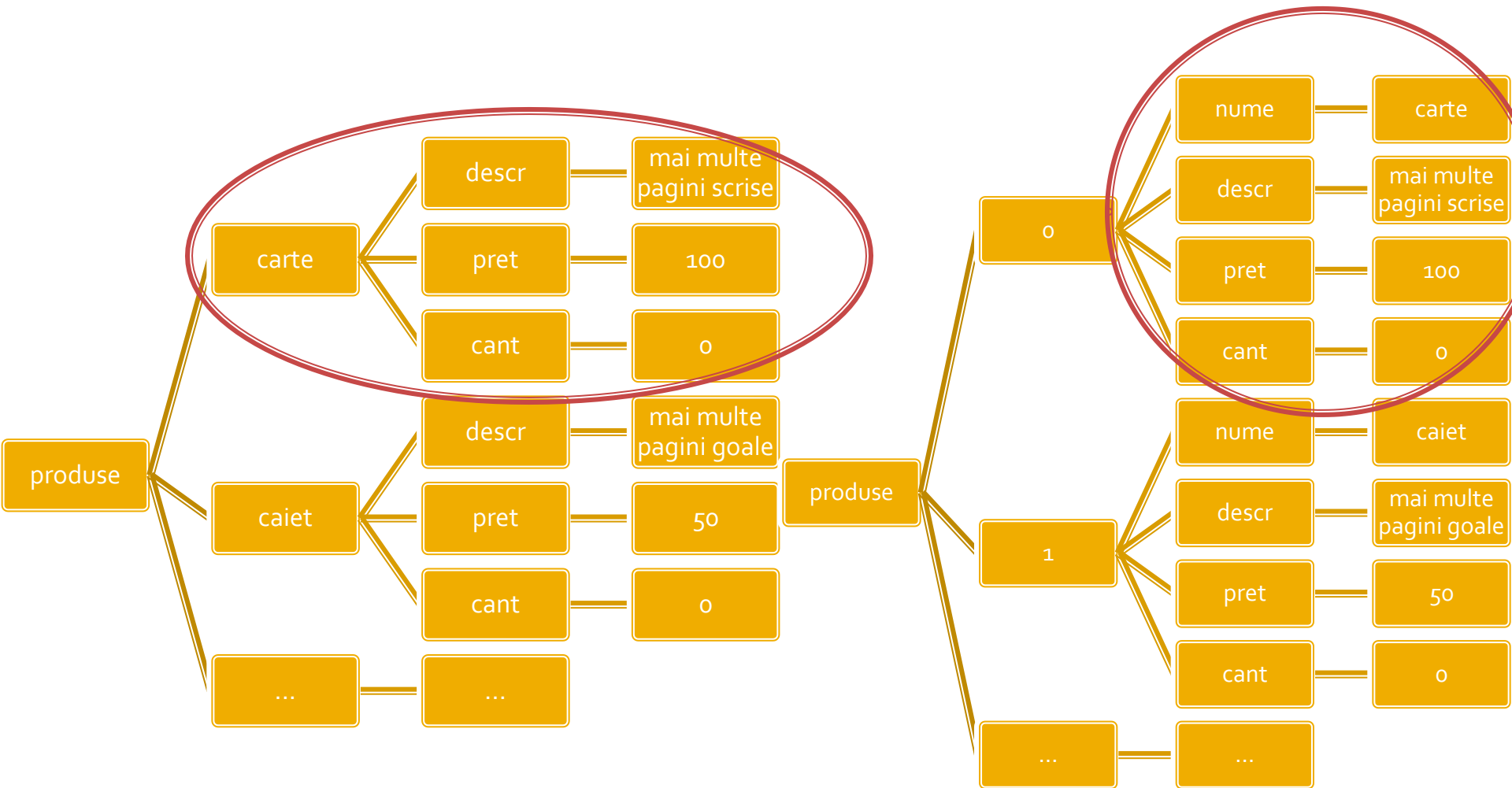
Tablou produse

- una din structurile posibile

```
$produse = array ( 'carte' => array ("descr" => "mai multe pagini scrise", "pret" => 100, "cant" => 0),  
                  'caiet' => array ("descr" => "mai multe pagini goale", "pret" => 50, "cant" => 0),  
                  'penar' => array ("descr" => "loc de depozitat instrumente", "pret" => 150, "cant" => 0),  
                  'stilou' => array ("descr" => "instrument de scris albastru", "pret" => 125, "cant" => 0),  
                  'creion' => array ("descr" => "instrument de scris gri", "pret" => 25, "cant" => 0)  
                );
```

- se urmareste obtinerea unei structuri clare
 - usor de modificat/adaugat date
 - usor de utilizat
- daca definitia se introduce in fisierul antet va fi accesibila in toate fisierele individuale

Tablou produse



Laborator – L3 – sursa 1

```
<?php
define('PRET_CARTE',100);
define('PRET_CALET',50);
define('PRET_PENAR',150);
define('PRET_STILOU',125);
define('PRET_CREION',25);
?><h1>Magazin online Firma X SRL</h1>
<h2>Realizati comanda</h2>
<form action="rezultat.php" method="post">
<table border="0">
<tr bgcolor="#cccccc"><td>Nr.</td><td width="150">Produs</td><td width="50">Pret</td><td
width="15">Cantitate</td></tr>
<tr><td>1</td><td>Carti</td><td align="center"><?php echo PRET_CARTE;?></td><td align="center"><input
name="carte_cant" type="text" value="0" size="3" maxlength="3" /></td></tr>
<tr><td>2</td><td>Caiete</td><td align="center"><?php echo PRET_CALET;?></td><td align="center"><input
name="caiet_cant" type="text" value="0" size="3" maxlength="3" /></td></tr>
<tr><td>3</td><td>Penare</td><td align="center"><?php echo PRET_PENAR;?></td><td align="center"><input
name="penar_cant" type="text" value="0" size="3" maxlength="3" /></td></tr>
<tr><td>4</td><td>Stilouri</td><td align="center"><?php echo PRET_STILOU;?></td><td align="center"><input
name="stilou_cant" type="text" value="0" size="3" maxlength="3" /></td></tr>
<tr><td>5</td><td>Creioane</td><td align="center"><?php echo PRET_CREION;?></td><td align="center"><input
name="creion_cant" type="text" value="0" size="3" maxlength="3" /></td></tr>
<tr>
<td colspan="4" align="center"><input type="submit" value="Trimite" /></td></tr>
</table>
</form>
```

Crearea listei de produse

```
<h2>Lista Produse</h2>
<table border="1">
<tr bgcolor="#cccccc"><td>Nr.</td><td width="150">Produs</td><td width="150">Descriere</td><td
width="50">Pret</td></tr>
<?php
$index=1;
foreach ($produse as $prod => $detalii)
{
    echo "<tr><td>". $index."</td><td>".ucfirst(strtolower($prod))."</td><td>". $detalii['descr']."</td><td
align='center'>". $detalii['pret']."</td></tr>";
    $index++;
}
?>
<?php
$index=1;
foreach ($produse as $prod => $detalii)
{?>
<tr><td><?php echo $index;?></td><td><?php echo ucfirst(strtolower($prod));?></td><td><?php echo
$detalii['descr'];?></td><td align="center"><?php echo $detalii['pret'];?></td></tr>
<?php $index++;
} ?>
<tr><td colspan="4" align="center"><a href="formular.php">Comanda</a></td></tr></table>
```



Crearea listei de produse

Magazin

Firma X SRL

Magazin online Firma X SRL

Lista Produse

Nr.	Produs	Descriere	Pret
1	Carte	mai multe pagini scrise legate	100
2	Caiet	mai multe pagini goale legate	50
3	Penar	loc de depozitat instrumente de scris	150
4	Stilou	instrument de scris albastru	125
5	Creion	instrument de scris gri	25
1	Carte	mai multe pagini scrise legate	100
2	Caiet	mai multe pagini goale legate	50
3	Penar	loc de depozitat instrumente de scris	150
4	Stilou	instrument de scris albastru	125
5	Creion	instrument de scris gri	25
Comanda			

Subdivizare \$_POST

- realizand atributul **name** ca tablou, se obtine in \$_POST un "subtablou" (ramificare locala a arborelui) care grupeaza elementele input
 - `<input type="text" name="cant[carti]" size="3" maxlength="3" />`
 - `$_POST ['cant'] ['carti']` contine valoarea introdusa
- Este necesar pentru a grupa elementele similare pe care sa le prelucram la receptie cu **foreach**
- \$_POST contine si alte elemente pe care le dorim eventual tratate separat
 - numele (name) si valoarea butonului "submit" apar in \$_POST de exemplu

Crearea formei de comanda

```
<h2>Realizati comanda</h2>
<form action="rezultat.php" method="post">
<table border="0">
<tr bgcolor="#cccccc"><td>Nr.</td><td width="150">Produs</td><td width="50">Pret</td><td
width="15">Cantitate</td></tr>
<?php
$index=1;
foreach ($produse as $prod => $detalii)
    {?>
<tr><td><?php echo $index;?></td><td><?php echo ucfirst(strtolower($prod));?></td><td
align="center"><?php echo $detalii['pret'];?></td><td><input name="<?php echo
"cant[".$prod."];?>" type="text" value="0" size="3" maxlength="3" /></td></tr>
<?php $index++;
    } ?>
<tr><td colspan="4" align="center"><input type="submit" value="Trimite" /></td></tr>
</table>
</form>
```

Crearea listei de produse

Magazin **Firma X SRL**

Magazin online Firma X SRL

Realizati comanda

Nr.	Produs	Pret	Cantitate
1	Carte	100	0
2	Caiet	50	0
3	Penar	150	0
4	Stilou	125	0
5	Creion	25	0

Trimite

Prelucrarea comenzii

```
<h2>Rezultate comanda</h2>
<p>Pret total (fara TVA):
<?php
$pret=0;
$afis="";
foreach ($_POST['cant'] as $prod => $cant)
    {
        $pret += $cant*$produse[$prod]['pret'];
        $afis .= "+".$cant."x".$produse[$prod]['pret'];
    }
echo $pret;
?>
<p>Obtinut astfel: <?php echo $afis;?></p>
<p>Pret total (cu TVA): <?php echo $pret*1.19;?></p>
<p><?php
echo "<pre>";
print_r ($_POST);
echo "</pre>";
?>
</p>
<p>Comanda receptionata la data: <?php echo date('d/m/Y')." ora ".date('H:i');?></p>
```

Prelucrarea comenzii

Magazin

Firma X SRL

Magazin online Firma X SRL

Rezultate comanda

Pret total (fara TVA): 600

Obtinut astfel: $+2 \times 100 + 2 \times 50 + 2 \times 150 + 0 \times 125 + 0 \times 25$

Pret total (cu TVA): 714

```
Array
(
    [cant] => Array
        (
            [carte] => 2
            [caiet] => 2
            [penar] => 2
            [stilou] => 0
            [creion] => 0
        )
)
```

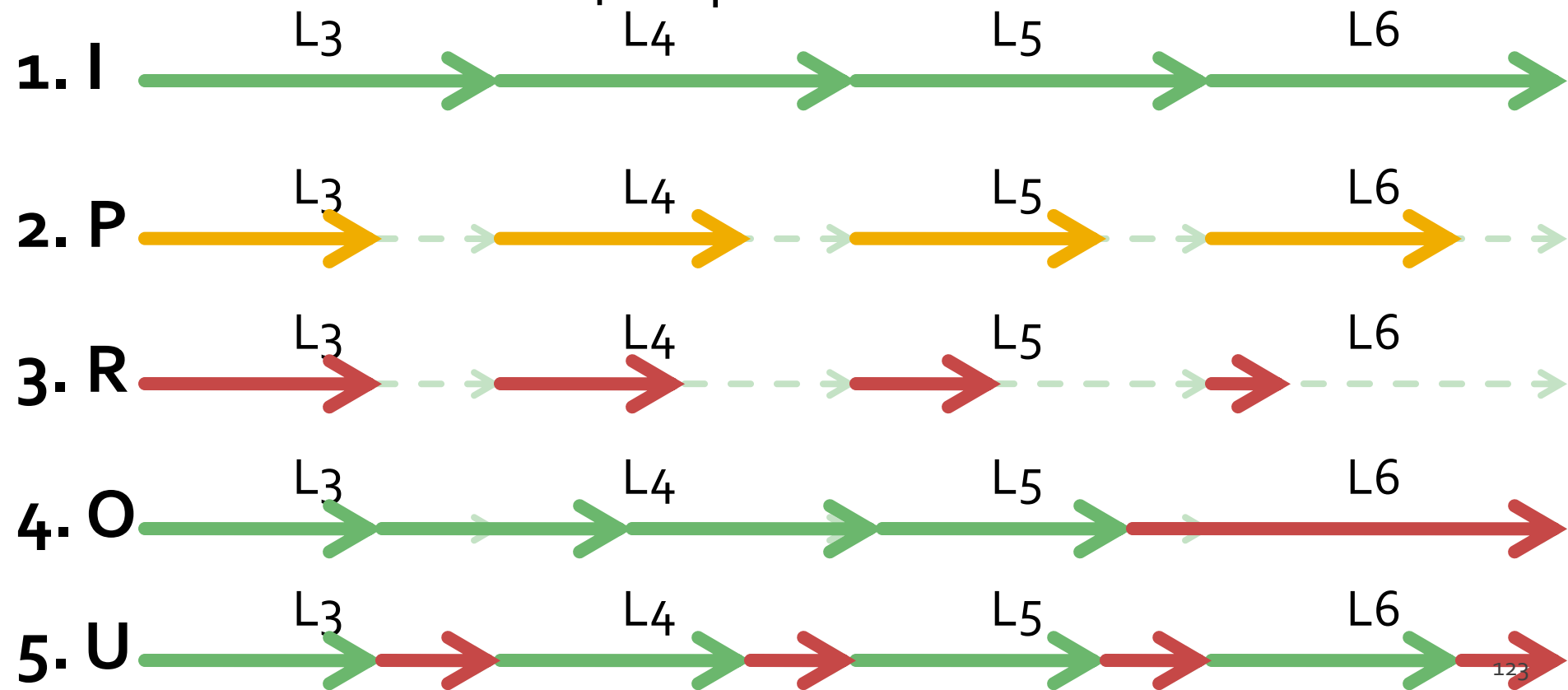
Comanda receptionata la data: 17/03/2010 ora 13:55

Laborator 4

! Important

- Laborator **asincron!**

- recomandat – 4 = Optim

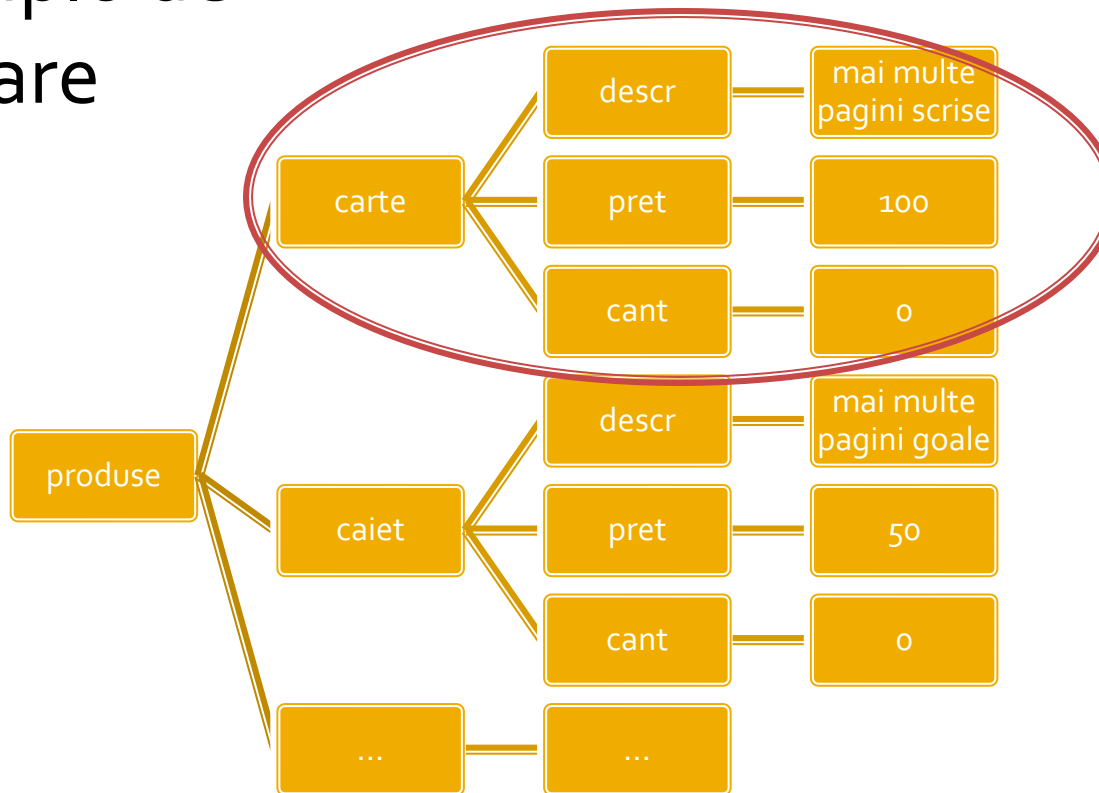


Laborator 4

- Sa se continue magazinul virtual:
 - pentru usurinta modificarilor ulterioare aplicatia lucreaza cu tablouri (S106-121)
 - sa prezinte utilizatorului o lista de produse si preturi
 - se preia comanda si se calculeaza suma totala

Laborator 4 – Tablou produse

- exemplu de grupare



Laborator – L4 – rezultat (~=L3)

Magazin online Firma X SRL

Lista Produse

Nr.	Produs	Pret
1	Carti	100
2	Caiete	50
3	Penare	150
4	Stilouri	125
5	Creioane	25
Comanda		

Magazin online Firma X SRL

Realizati comanda

Nr.	Produs	Pret	Cantitate
1	Carti	100	1
2	Caiete	50	2
3	Penare	150	1
4	Stilouri	125	0
5	Creioane	25	0
Trimite			

Magazin online Firma X SRL

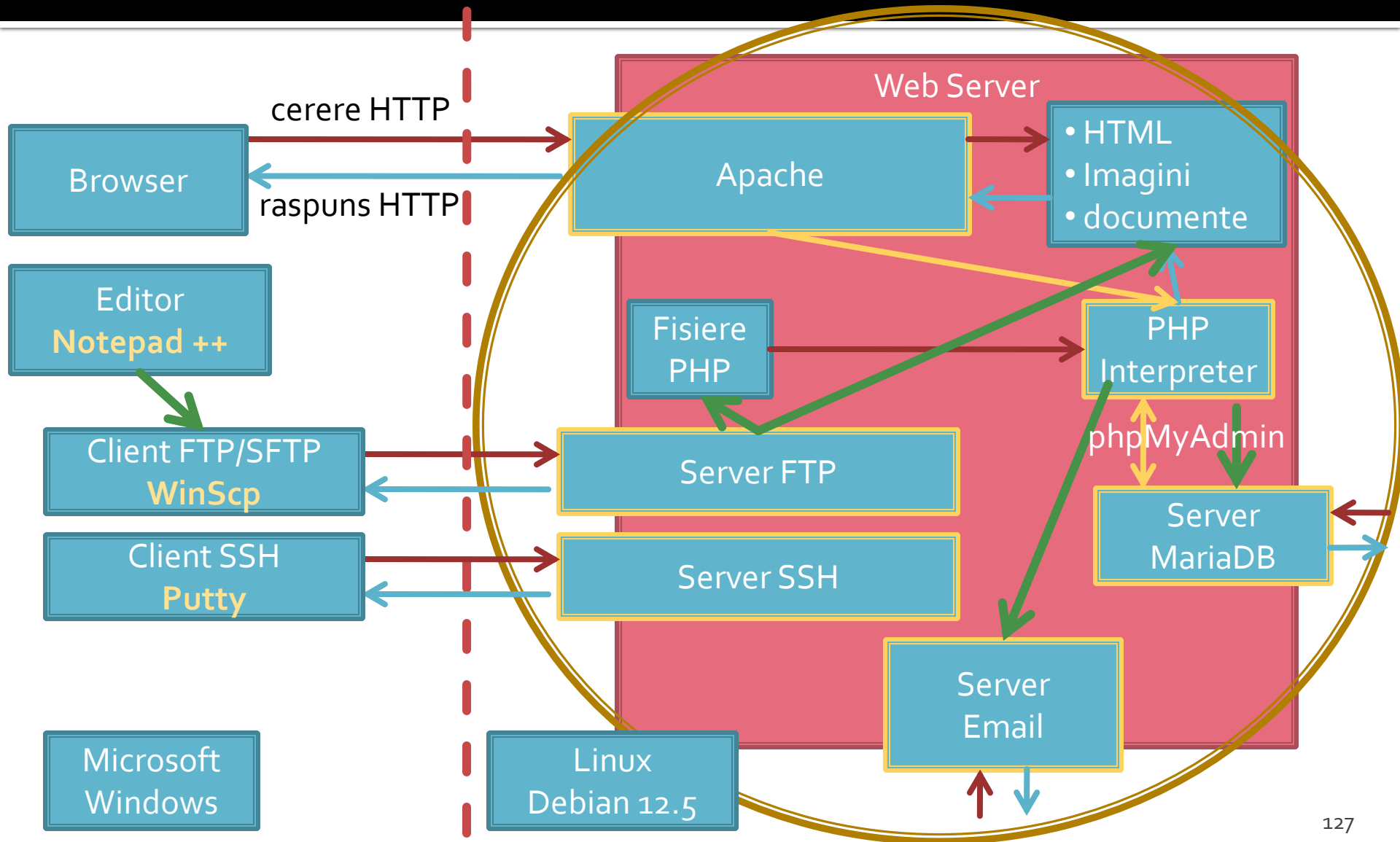
Rezultate comanda

Pret total (fara TVA): 350

Pret total (cu TVA): 416.5

Comanda receptionata la data: 17/03/2010 ora 08:24

Utilizare LAMP



Utilizare LAMP

Magazin online Firma X SRL

Lista Produse

Nr.	Produs	Pret
1	Carti	100
2	Caiete	50
3	Penare	150
4	Stilouri	125
5	Creioane	25

Magazin online Firma X SRL

Realizati comanda

Nr.	Produs	Pret	Cantitate
1	Carti	100	1
2	Caiete	50	2
3	Penare	150	1
4	Stilouri	125	0
5	Creioane	25	0

Magazin online Firma X SRL

Rezultate comanda

Pret total (fara TVA): 350

Pret total (cu TVA): 416.5

Comanda receptionata la data: 17/03/2010 ora 08:24

<input name="x" ..

\$_POST['x']

\$_GET['x']

Web Server

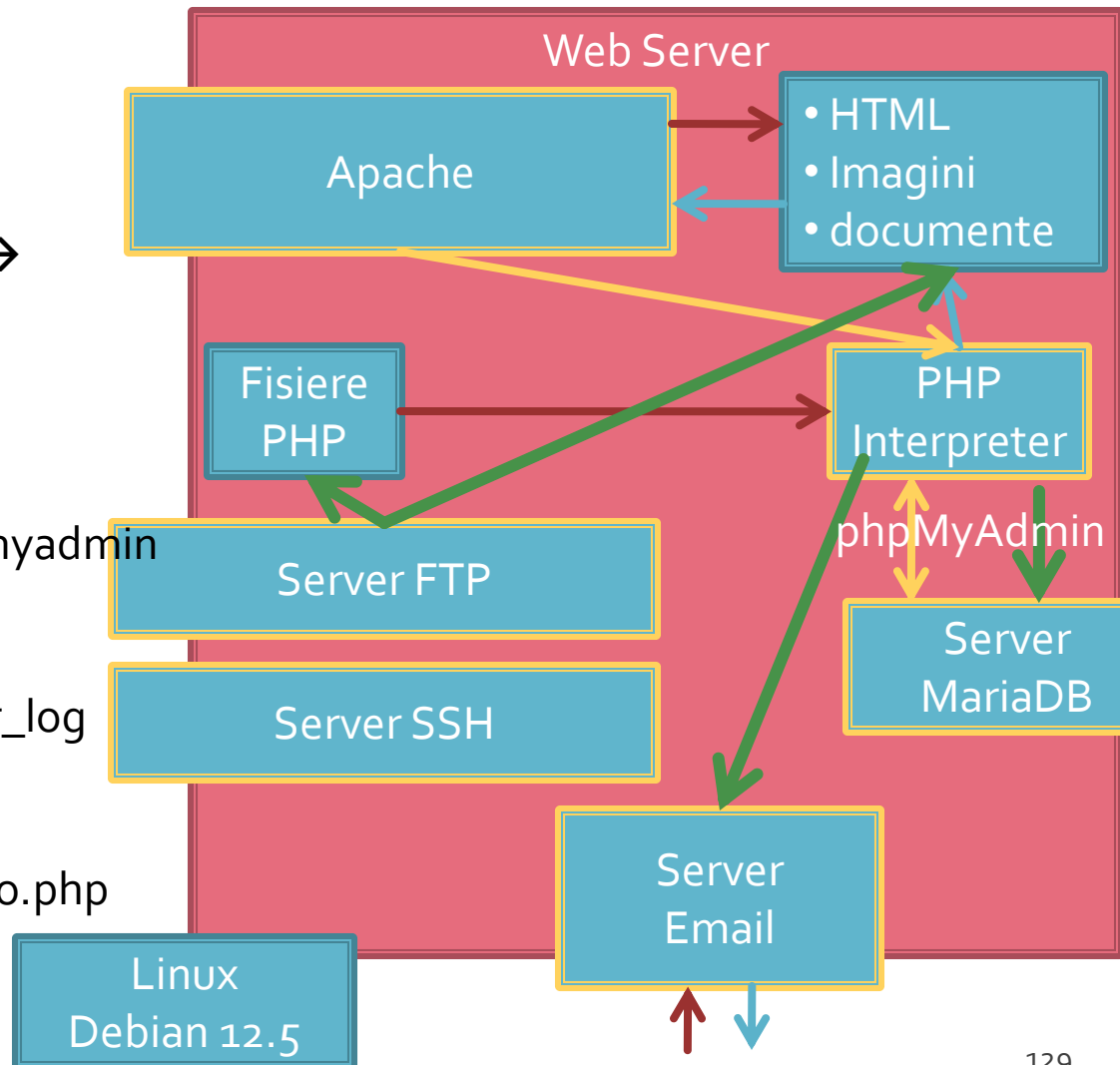
Apache

Server FTP

Server SSH

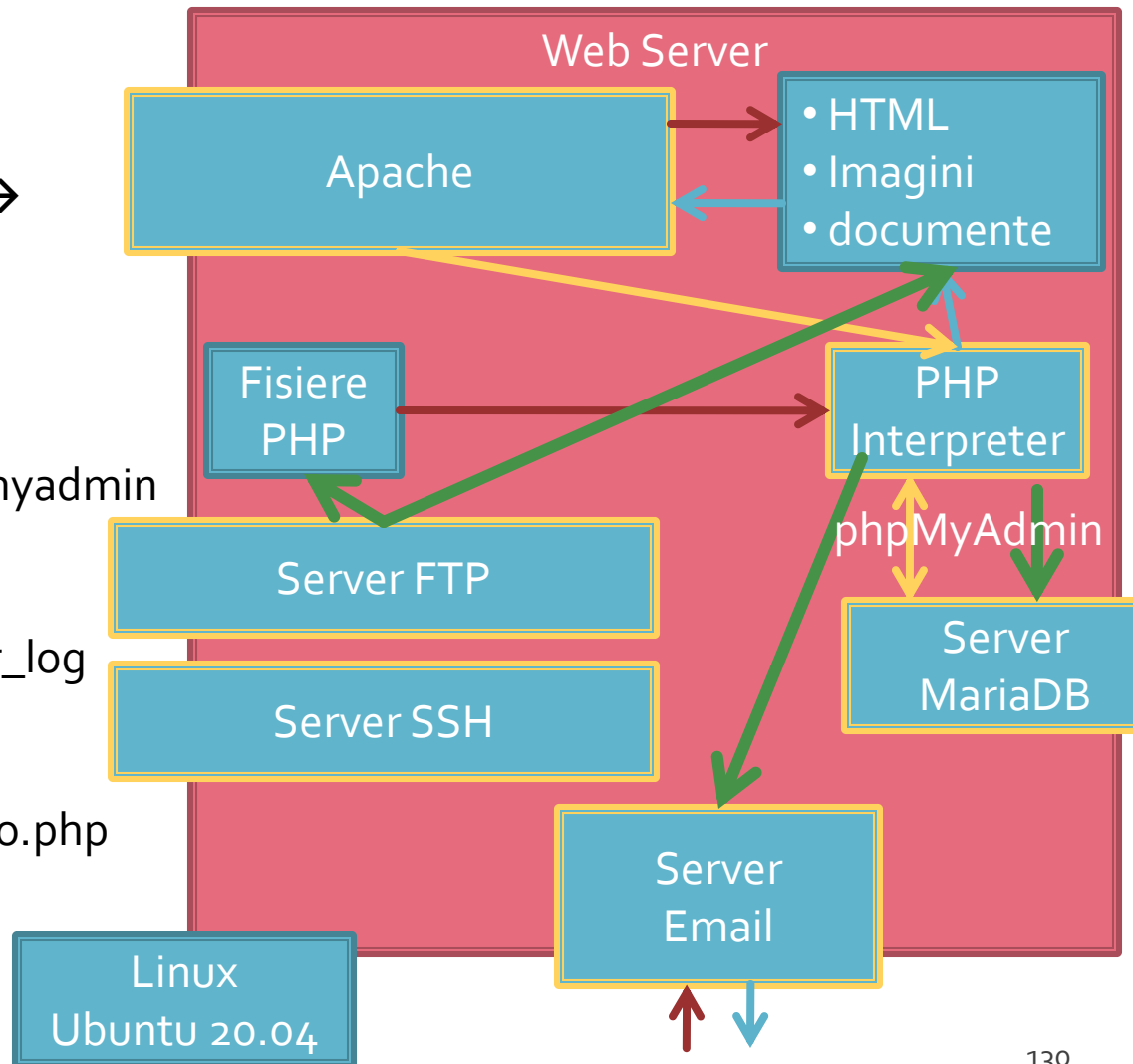
Utilizzare LAMP

1. login → paw:masteretti
2. su - → root:masteretti
2. ifconfig → 192.168.30.5
3. putty.exe → 192.168.30.5 → SSH → root:masteretti (remote login)
4. [alte comenzi linux dorate]
5. FTP → Winscp → SFTP → student:masterrc@192.168.30.5
6. MySql → http://192.168.30.5/phpmyadmin → root:masteretti
7. Apache Error Log →
 - 7a. putty → nano /var/log/httpd/error_log
 - 7b. http://192.168.30.5/logfile.php (nonstandard)
8. PHP info → http://192.168.30.5/info.php



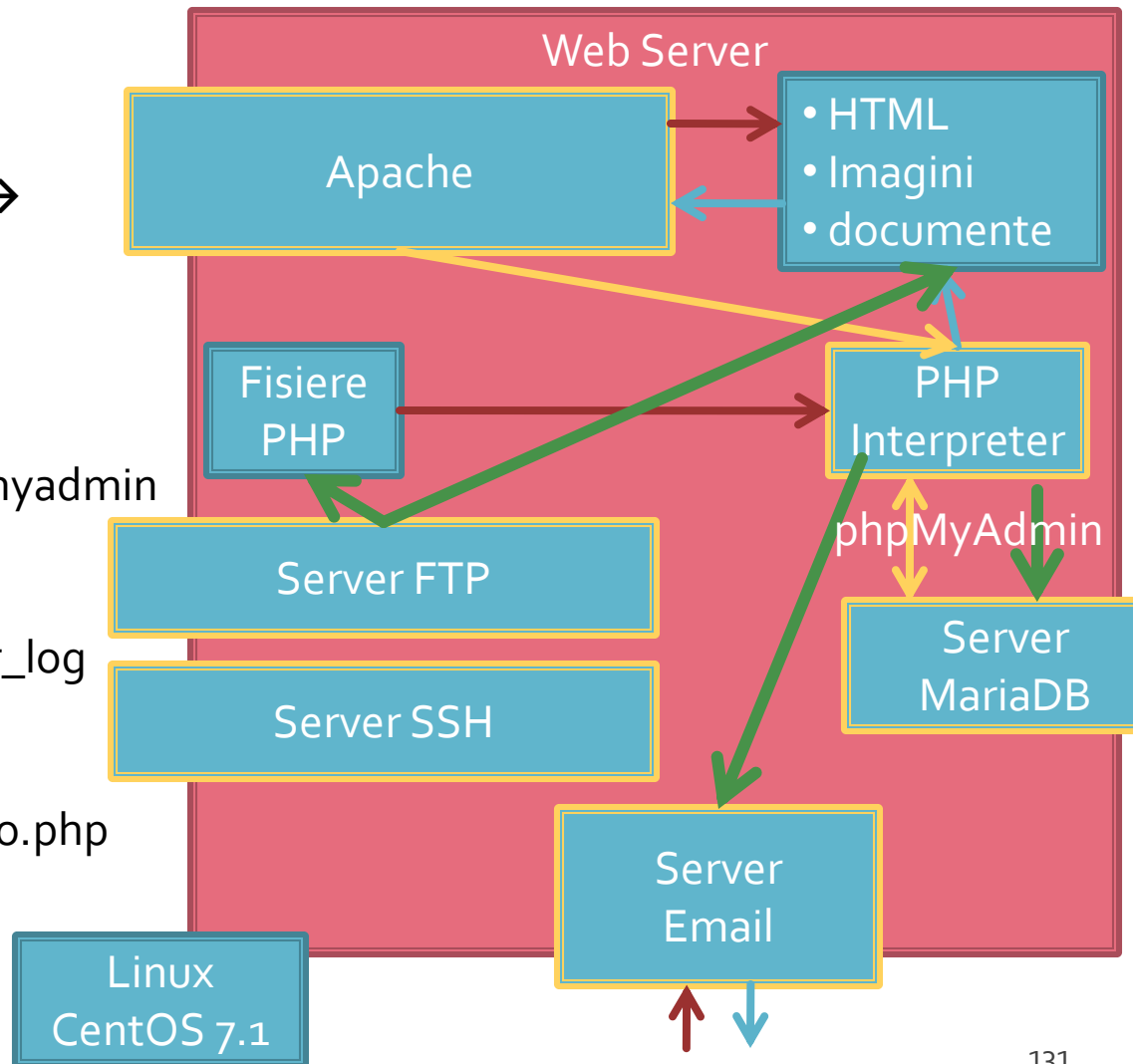
Utilizzare LAMP

1. login → root:masteretti
2. ifconfig → 192.168.30.5
3. putty.exe → 192.168.30.5 → SSH → root:masteretti (remote login)
4. [alte comenzi linux dorite]
5. FTP → Winscp → SFTP → student:masterrc@192.168.30.5
6. MySql → http://192.168.30.5/phpmyadmin → root:masteretti
7. Apache Error Log →
 - 7a. putty → nano /var/log/httpd/error_log
 - 7b. http://192.168.30.5/logfile.php (nonstandard)
8. PHP info → http://192.168.30.5/info.php

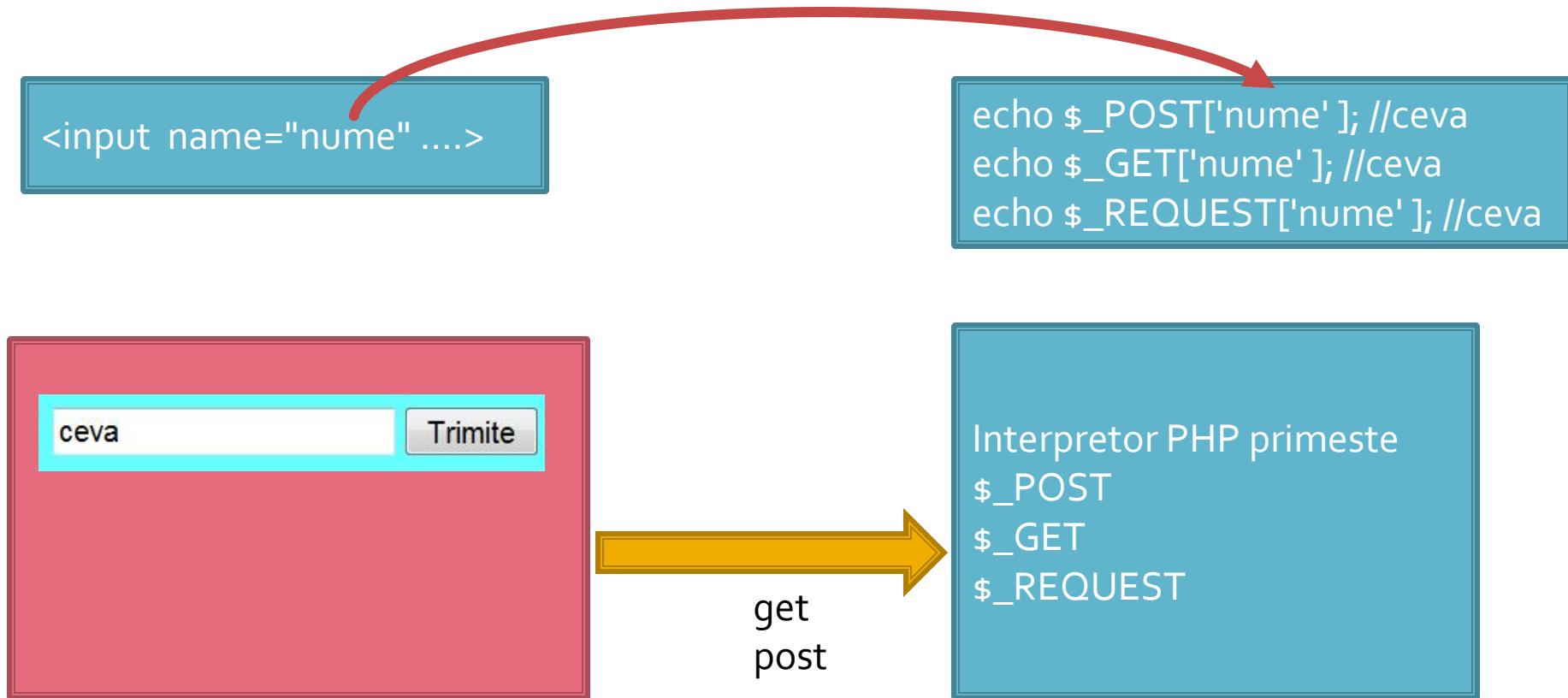


Utilizare LAMP

1. login → root:masterrc
2. ifconfig → 192.168.30.5
3. putty.exe → 192.168.30.5 → SSH → root:masterrc (remote login)
4. [alte comenzi linux dorite]
5. FTP → Winscp → SFTP → student:masterrc@192.168.30.5
6. MySql → http://192.168.30.5/phpmyadmin → root:masterrc
7. Apache Error Log →
 - 7a. putty → nano /var/log/httpd/error_log
 - 7b. http://192.168.30.5/logfile.php (nonstandard)
8. PHP info → http://192.168.30.5/info.php



Client / Server



Depanare

```
echo "<pre>";  
print_r($_POST);  
echo "</pre>";
```

```
<p>temp <?php echo  
"a=";echo $a; ?> </p>
```

Anexa

Server referinta LAMP 2026

- 3 variante acceptate
 - CentOS 7.1
 - Ubuntu 20.04
 - Debian 12.5

Server referinta LAMP

- Centos 7.1
 - PHP 5.4.16
 - MariaDB 5.5.44 / root:masterrc
 - Apache 2.4.6
 - PhpMyAdmin/4.4.15
 - **root**/student:masterrc
 - Python 2.7.5
 - creat: Workstation Player 12.x (**12**)

Server referinta LAMP

- Ubuntu 20.04
 - PHP 7.4.3
 - MariaDB 10.3.31 / root:masteretti
 - Apache 2.4.41
 - **paw**/student:masteretti
 - necesar suplimentar pentru **acces FTP user paw**:
 - `sudo usermod -a -G upload paw`
 - `sudo chmod -R 775 /var/www`
 - Python 3.8.10
 - creat: Workstation Player 15.x (**16**)

Server referinta LAMP

- Debian 12.5
 - PHP 8.2.7
 - MariaDB 10.11.6 / root:masteretti
 - Apache 2.4.57
 - PhpMyAdmin/5.2.1 deb
 - **root**/paw/student:masteretti
 - Python 3.11.2
 - creat: Workstation Player 17.5 (**21**)

Server referinta

- rf-opto.etti.tuiasi.ro > Master > Web Design

Project/Design

~~[Teme proiect 2020 \(pdf, 874.95 KB, ro, 🇷🇴\)](#)~~

[Sevrer CentOS pentru VMWare Player \(cloud\)](#) (link, 0 Bytes, ro, 🇷🇴)

~~[Realizare Server CentOS \(pdf, 1.4 MB, en, 🇸🇪\)](#)~~

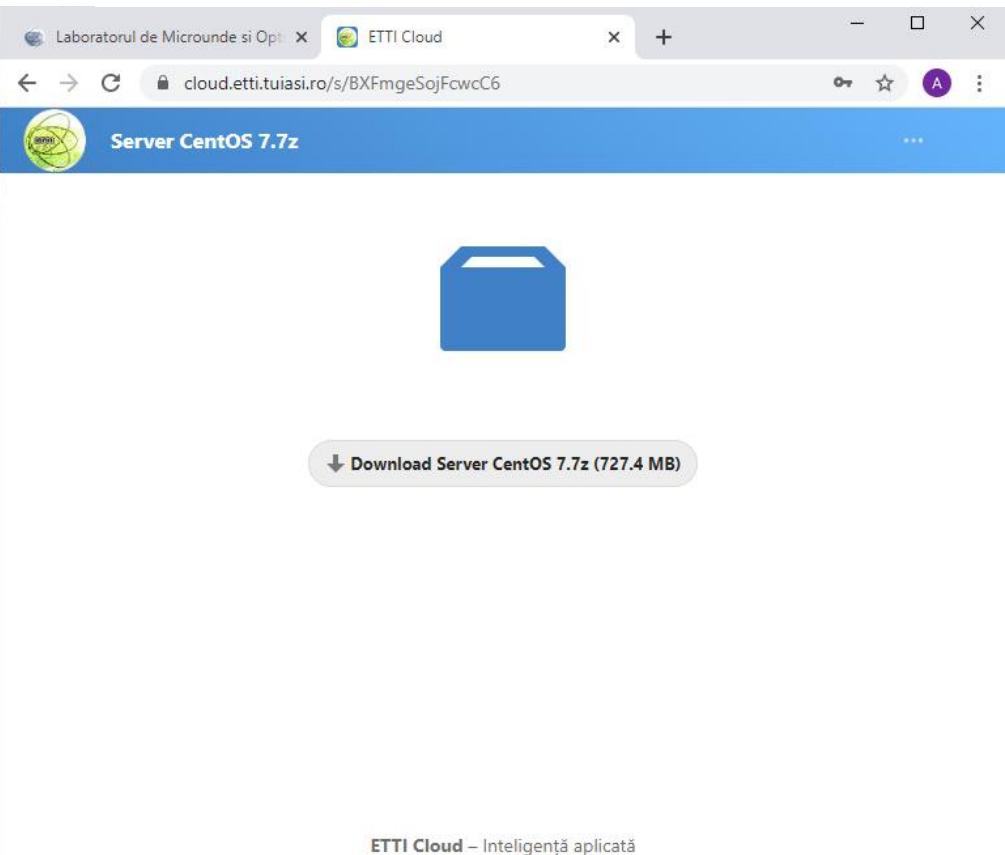
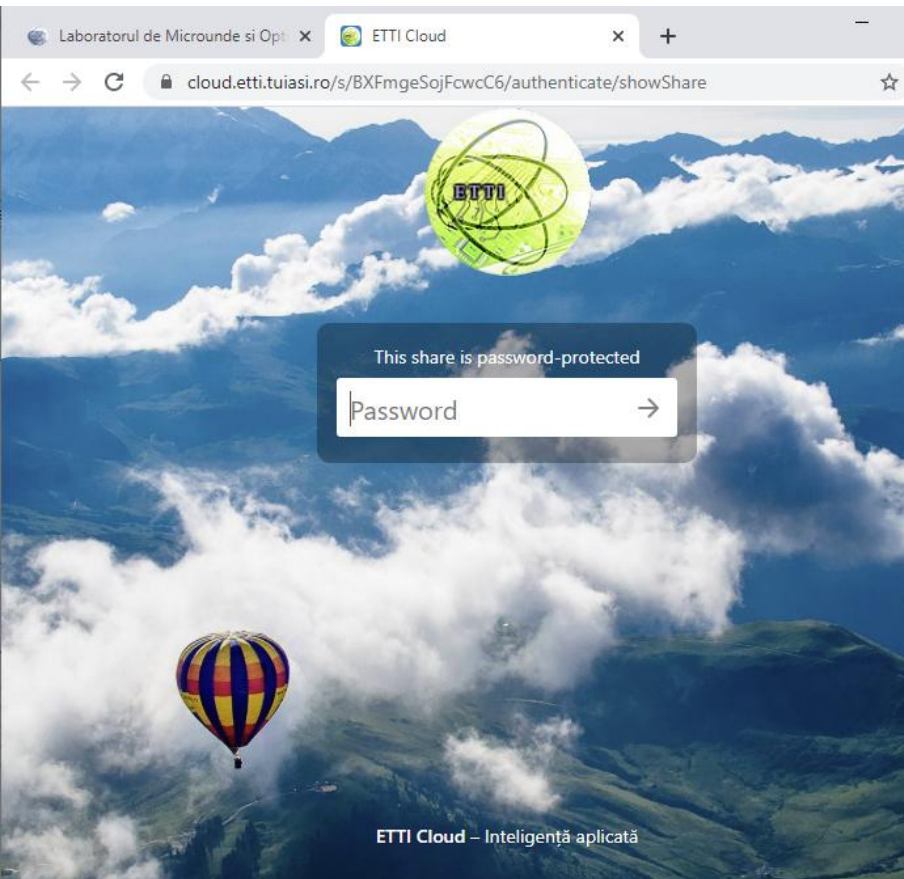
Examen

[Simulare Examen \(video\)](#) (mp4, 65.12 MB, ro, 🇷🇴)

[Manual examen on-line](#) (pdf, 2.65 MB, ro, 🇷🇴)

Server referinta

■ Cloud ETTI: RF-opto3#



Server referinta

- Masina virtuala
- VMware Workstation Player
 - Gratuit (non-comercial)
 - <https://www.vmware.com/products/workstation-player/workstation-player-evaluation.html>
- Inlocuit de VMware Workstation Pro



VMware Workstation Pro for PC

Build and test nearly any app with the world's leading desktop hypervisor app for Windows and Linux.

DOWNLOAD NOW >

Server referinta

- Masina virtuala
- VMware Workstation Pro (Broadcom)



VMware Workstation Pro for PC

Build and test nearly any app with the world's leading desktop hypervisor app for Windows and Linux.

[DOWNLOAD NOW >](#)



Broadcom Inc. Customer sign-in

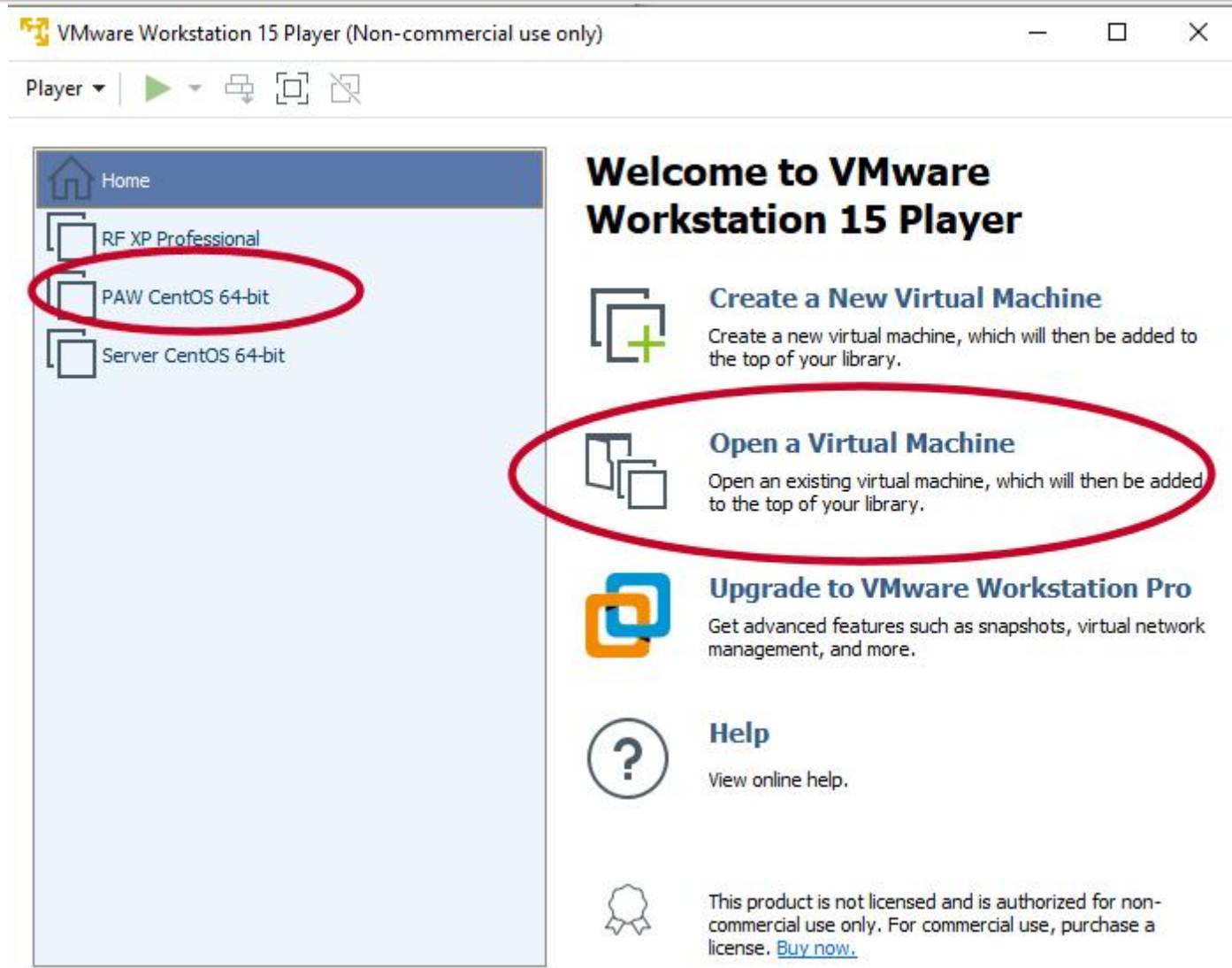
Username

Enter your username

☐ Remember me

Next

Server referinta



Server referinta

- Pentru rularea unui server pe o versiune VMware Player **anterioara**:
 - se localizeaza fisierul "*.vmx" a server-ului
 - se modifica virtualHW.version = "**21**" la o valoare mai mica (anterioara)
 - in 2.13 -> **18?**

Server referinta

The image shows a Windows File Explorer window titled "Server Debian" with the address bar set to "Documents > Curs PAW". The left sidebar shows standard Windows navigation links. The main pane displays a list of files related to a Debian 12.x 64-bit virtual machine. The file "Debian 12.x 64-bit.vmx" is circled in red. Overlaid on the right is a text editor window titled "Debian 12.x 64-bit.vmx" showing the XML configuration of the VMX file. The configuration includes settings for encoding, version, and hardware. The line "virtualHW.version = \"21\"" is circled in red.

File Explorer contents:

Name	Size	Modified	Type
Debian 12.x 64-bit.nvram			File
Debian 12.x 64-bit.scoreboard			File
Debian 12.x 64-bit.vmdk			File
Debian 12.x 64-bit.vmsd			File
Debian 12.x 64-bit.vmx			File
Debian 12.x 64-bit.vmx			File
Debian 12.x 64-bit.vmx			File
Debian 12.x 64-bit-0.scoreboard			File
Debian 12.x 64-bit-1.scoreboard			File
Debian 12.x 64-bit-2.scoreboard			File

VMX Configuration (Debian 12.x 64-bit.vmx):

```
1 .encoding = "windows-1252"
2 config.version = "8"
3 virtualHW.version = "21"
4 pciBridge0.present = "TRUE"
5 pciBridge4.present = "TRUE"
6 pciBridge4.virtualDev = "pcieRoot"
7 pciBridge4.functions = "8"
8 pciBridge5.present = "TRUE"
9 pciBridge5.virtualDev = "pcieRoot"
10 pciBridge5.functions = "8"
11 pciBridge6.present = "TRUE"
12 pciBridge6.virtualDev = "pcieRoot"
13 pciBridge6.functions = "8"
```

Name	Size	Modified	Type
Debian 12.x 64-bit.vmx			File
Debian 12.x 64-bit-0.scoreboard			File
Debian 12.x 64-bit-1.scoreboard			File
Debian 12.x 64-bit-2.scoreboard			File

Aplicatii suport

- WinSCP (client FTP, gratuit)
 - <https://winscp.net/eng/download.php>
- Notepad ++ (editor, avansat, gratuit)
 - <https://notepad-plus-plus.org/downloads/>
- Putty (remote access)
 - <https://www.putty.org/>
- MySQL Workbench (gratuit, cont Oracle)
 - <https://www.mysql.com/products/workbench/>
- Visual Studio Code (gratuit, Microsoft)
 - <https://code.visualstudio.com/download>

Aplicatii suport

- Variante portabile

Laboratory

[Laborator 1](#) (pdf, 1.48 MB, ro, )

[Server Win2000 pentru VMWare Player - lab 1 \(cloud\)](#) (link, 0 Bytes, en, )

[Accesorii laborator \(x32 - partial\)](#) (zip, 28.92 MB, en, )

[Accesorii laborator \(x64 - complet\)](#) (zip, 133.58 MB, en, )

Project/Design

[VMware Workstation Player](#) (link, 0 Bytes, en, )

[Server CentOS pentru VMWare Player \(cloud\)](#) (link, 0 Bytes, en, )

[Instalare Centos](#) (pdf, 2.54 MB, en, )

[Server Ubuntu pentru VMWare Player \(cloud\)](#) (link, 0 Bytes, en, )

[Instalare Ubuntu](#) (pdf, 1.83 MB, en, )

Adresa IP

- login, ifconfig
- Ctrl + Alt + mouse

PAW CentOS 64-bit - VMware Workstation 15 Player (Non-commercial use only)

Player ▾ || ▾ ⏏ ⏏ ⏏

```
CentOS Linux 7 (Core)
Kernel 3.10.0-229.20.1.el7.x86_64 on an x86_64

tmpaw login: root
Password:
Last login: Wed Jun 17 05:35:16 from 192.168.0.106
[root@tmpaw ~]# ifconfig
```

PAW CentOS 64-bit - VMware Workstation 15 Player (Non-commercial use only)

Player ▾ || ▾ ⏏ ⏏ ⏏

```
CentOS Linux 7 (Core)
Kernel 3.10.0-229.20.1.el7.x86_64 on an x86_64

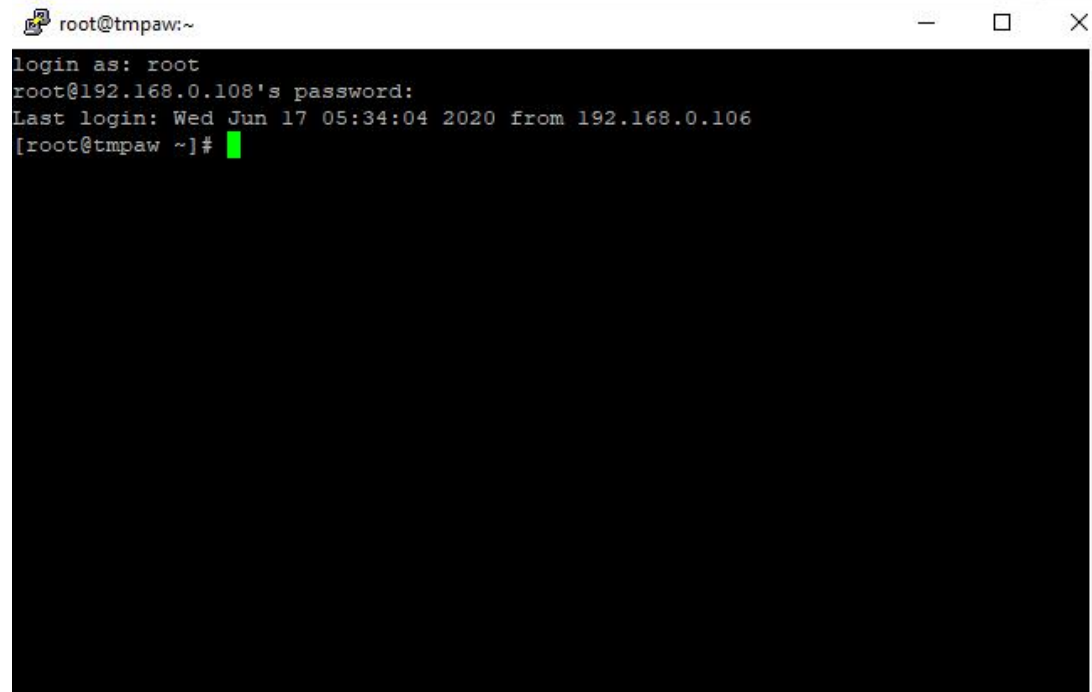
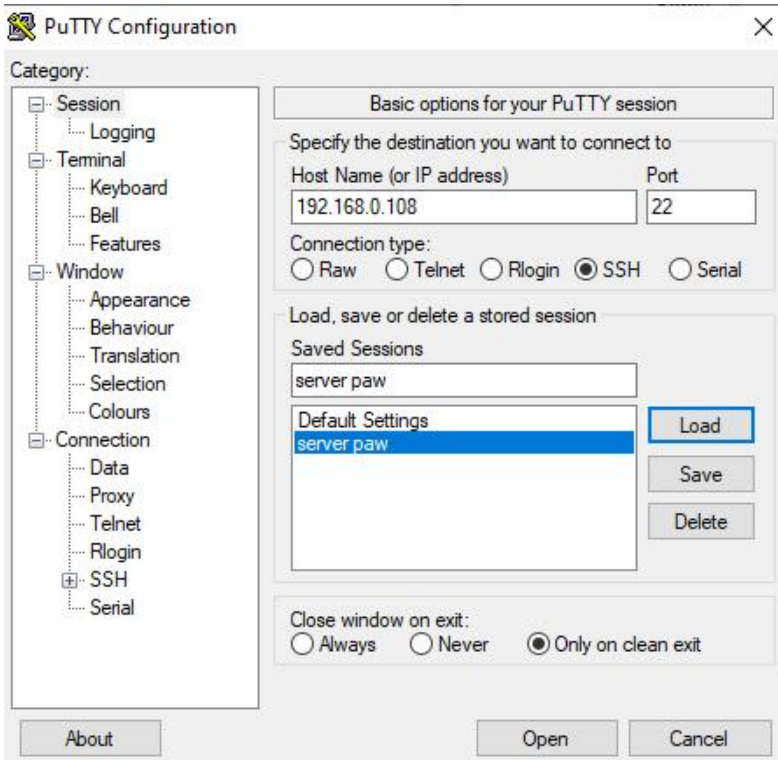
tmpaw login: root
Password:
Last login: Wed Jun 17 05:35:16 from 192.168.0.106
[root@tmpaw ~]# ifconfig
eno16777736: flags=4163<UP,BROADCAST,RUNNING,MULTICAST> mtu 1500
    inet 192.168.0.108 netmask 255.255.255.0 broadcast 192.168.0.255
    inet6 fe80::250:56ff:fe3e:1693 prefixlen 64 scopeid 0x20<link>
    ether 08:00:56:3e:16:93 txqueuelen 1000 (Ethernet)
    RX packets 104 bytes 12814 (12.5 KiB)
    RX errors 0 dropped 0 overruns 0 frame 0
    TX packets 99 bytes 11847 (11.5 KiB)
    TX errors 0 dropped 0 overruns 0 carrier 0 collisions 0

lo: flags=73<UP,LOOPBACK,RUNNING> mtu 65536
    inet 127.0.0.1 netmask 255.0.0.0
    inet6 ::1 prefixlen 128 scopeid 0x10<host>
    loop txqueuelen 0 (Local Loopback)
    RX packets 16 bytes 1774 (1.7 KiB)
    RX errors 0 dropped 0 overruns 0 frame 0
    TX packets 16 bytes 1774 (1.7 KiB)
    TX errors 0 dropped 0 overruns 0 carrier 0 collisions 0

[root@tmpaw ~]# _
```

Putty

- putty.exe
- evitare captura mouse, copy/paste etc.



WinSCP

- client FTP
- upload fisiere

Session

File protocol:
SFTP

Host name: 192.168.0.108 Port number: 22

User name: student Password:

Edit Advanced...

Login Close Help

html - student@192.168.0.108 - WinSCP

File Commands Mark Session View Help

Address /var/www/html

Find Files Download Edit Properties New Synchronize

Transfer Settings Default

student@192.168.0.108 x New Session

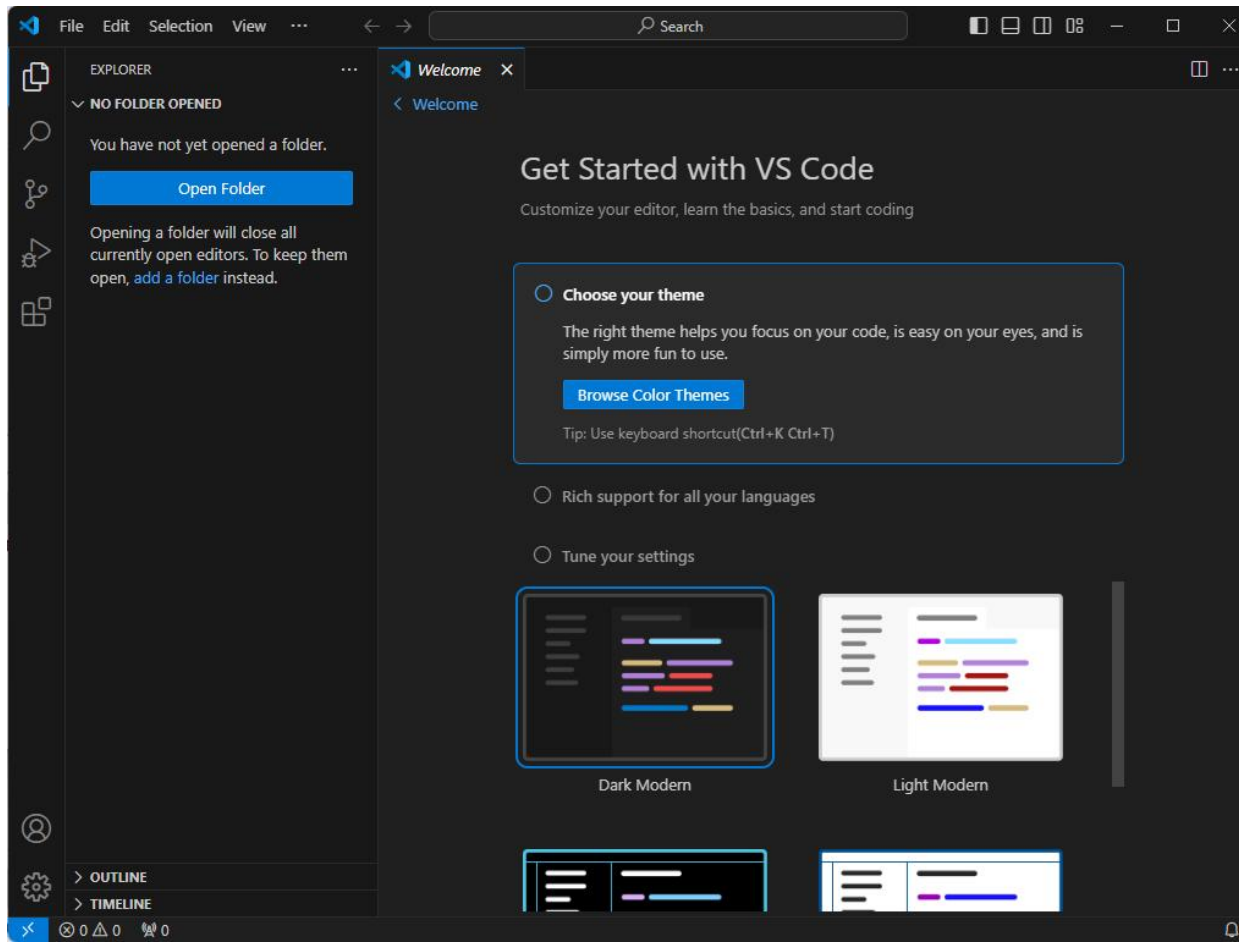
Name	Size	Changed	Rights
ap.log	1 KB	2/29/2016 11:28:50 AM	rw-rw-r
info.php	1 KB	9/30/2009 3:23:00 PM	rw-rw-r
logfile.php	4 KB	12/6/2015 12:05:08 PM	rw-rw-r
test.php	2 KB	2/29/2016 12:04:12 PM	rw-rw-r

0 B of 5.09 KB in 0 of 4

SFTP-3 150 1, 21:06:30

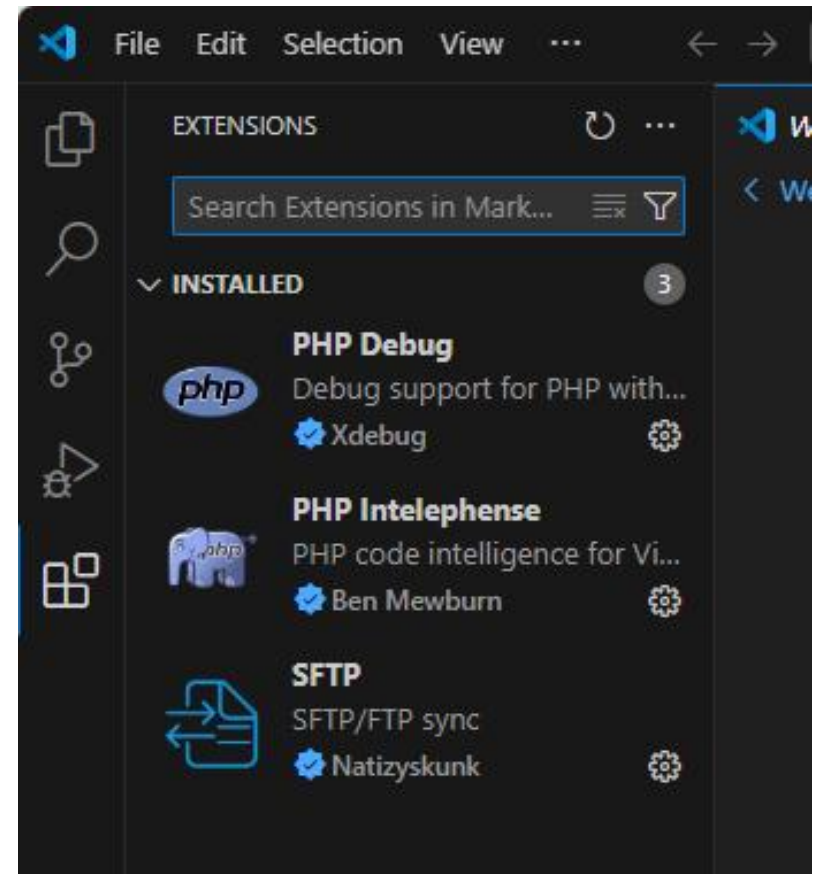
Visual Studio Code

- 1.87 Portabil (curent 1.97.2)

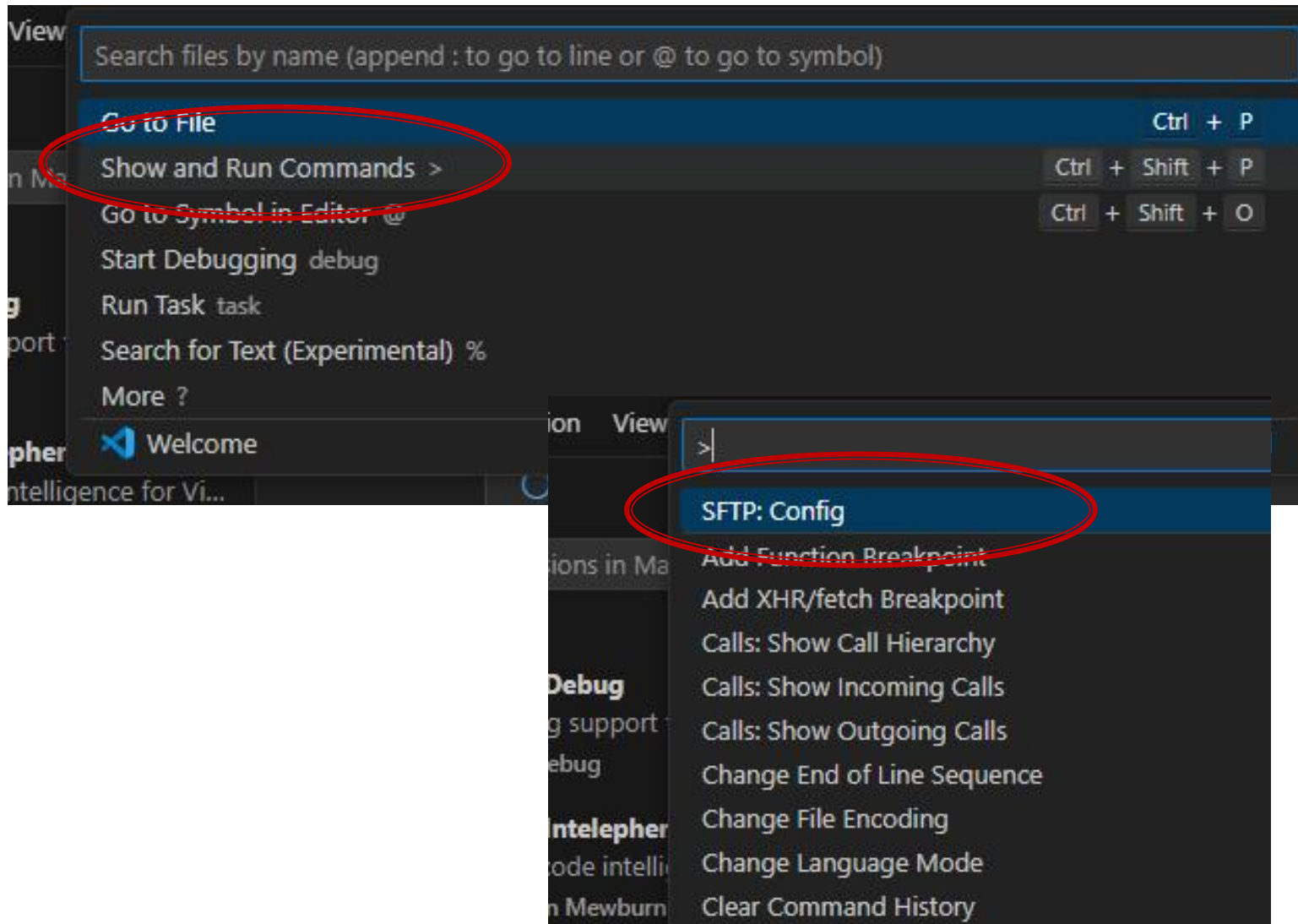


Visual Studio Code

- Extensii instalate
 - PHP Intelephense
 - PHP 8 -> Debian
 - PHP Debug (inactiv momentan)
 - SFTP – salvare automata pe un server



Visual Studio Code

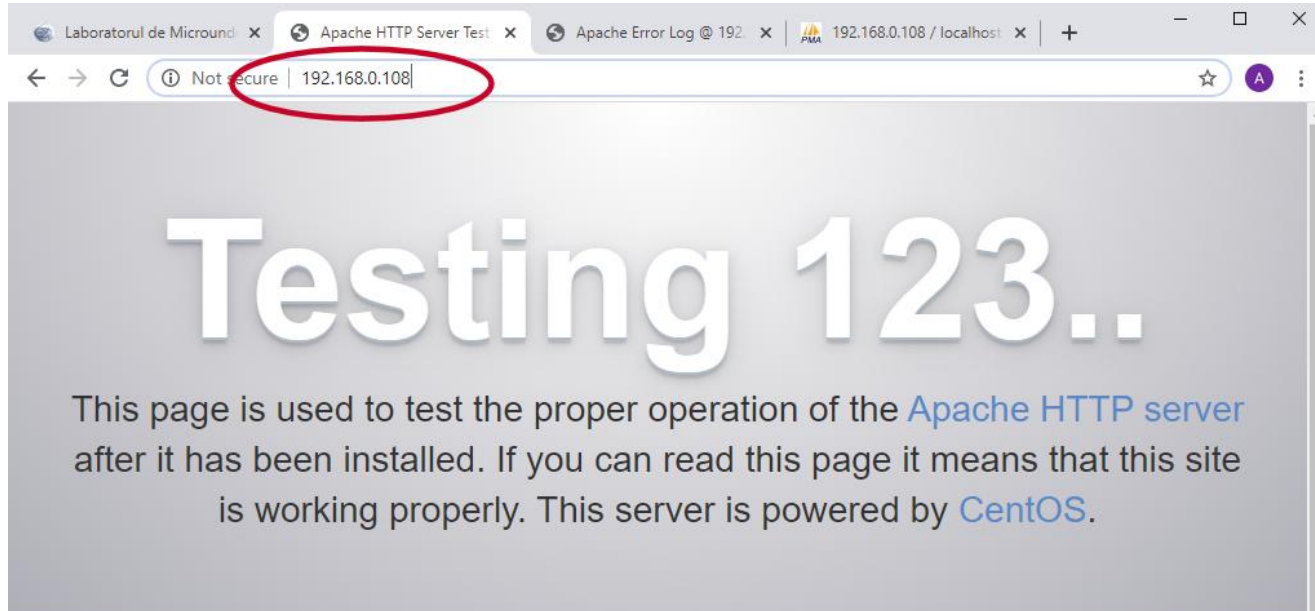


Visual Studio Code

```
{ } sftp.json x
.vscode > { } sftp.json > ...
1  {
2    "name": "My Server",
3    "host": "localhost",
4    "protocol": "sftp",
5    "port": 22,
6    "username": "username",
7    "remotePath": "/",
8    "uploadOnSave": false,
9    "useTempFile": false,
10   "openSsh": false
11 }
12
```

```
{ } sftp.json ●
.vscode > { } sftp.json > ...
1  {
2    "name": "Debian Server",
3    "host": "192.168.30.5",
4    "protocol": "sftp",
5    "port": 22,
6    "username": "student",
7    "remotePath": "/var/www/html/",
8    "uploadOnSave": true,
9    "useTempFile": false,
10   "openSsh": false
11 }
12
```

Browser



Just visiting?

The website you just visited is either experiencing problems or is undergoing routine maintenance.

If you would like to let the administrators of this website know that you've seen this page instead of the page you expected, you should send them e-mail. In general, mail sent to the name "webmaster" and directed to the website's domain should reach the appropriate person.

For example, if you experienced problems while visiting `www.example.com`, you should send e-mail to "webmaster@example.com".

Are you the Administrator?

You should add your website content to the directory `/var/www/html/`.

To prevent this page from ever being used, follow the instructions in the file `/etc/httpd/conf.d/welcome.conf`.

Promoting Apache and CentOS

You are free to use the images below on Apache and CentOS Linux powered HTTP servers. Thanks for using Apache and CentOS!



Server MySQL/MariaDB

The screenshot shows a web browser window with the phpMyAdmin interface. The address bar shows the URL `192.168.0.108/phpmyadmin/`, which is circled in red. The interface includes a left sidebar with a tree view of databases (information_schema, mysql, performance_schema, tmpaw, world) and a main content area with several settings panels.

General Settings

- Change password
- Server connection collation: `utf8mb4_unicode_ci`

Appearance Settings

- Language: `English`
- Theme: `pmahomme`
- Font size: `82%`
- More settings

Database server

- Server: Localhost via UNIX socket
- Server type: MariaDB
- Server version: 5.5.44-MariaDB - MariaDB Server
- Protocol version: 10
- User: root@localhost
- Server charset: UTF-8 Unicode (utf8)

Web server

- Apache/2.4.6 (CentOS) OpenSSL/1.0.1e-fips mod_fcgid/2.3.9 PHP/5.4.16 mod_python/3.5.0- Python/2.7.5
- Database client version: libmysql - 5.5.44-MariaDB
- PHP extension: mysql
- PHP version: 5.4.16

phpMyAdmin

- Version information: 4.4.15.1
- Documentation
- Wiki
- Official Homepage
- Contribute
- Get support
- List of changes

Contact

- Laboratorul de microunde si optoelectronica
- <https://rf-opto.etti.tuiasi.ro>
- rdamian@etti.tuiasi.ro