

INFORMATION SYSTEMS IN HEALTH CARE

Lesson 9 – Winter Term 2014

Agenda

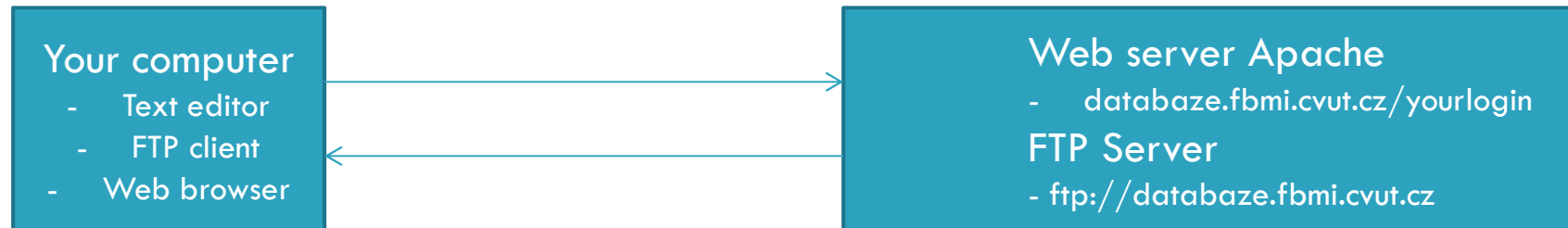
1. **HTML**
2. **PHP**

Introduction to HTML

- **HyperText Markup Language** is a language for creating webpages in the internet.
- **Structure of a web page in HTML**

```
<!DOCTYPE HTML PUBLIC "-//W3C//DTD HTML 4.01//EN" "http://www.w3.org/TR/html4/strict.dtd">
<html>
  <head>
  </head>
  <body>
  </body>
</html>
```

Development environment for HTML



1. HTML coding in the editor
2. Connection to FTP
 - Your computer -> ftp://databaze.fbmi.cvut.cz
 - Enter your faculty login and password
3. Upload HTML file
4. Open the page in a browser
 - <http://databaze.fbmi.cvut.cz/yourlogin/soubor.html>

HTML – login form

```
<!DOCTYPE HTML PUBLIC "-//W3C//DTD HTML 4.01//EN" "http://www.w3.org/TR/html4/strict.dtd">
<html>
  <head>
    <title>Prihlasovací formulár</title>
    <meta http-equiv="content-type" content="text/html; charset=utf-8">
  </head>
  <body>
    <form method="post" action="login.php">
      <table border="0" cellpadding="0" cellspacing="0">
        <tr>
          <td>Login:</td>
          <td><input type="text" name="log" size="20"></td>
        </tr>
        <tr>
          <td>Heslo:</td>
          <td><input type="password" name="pwd" size="20"></td>
        </tr>
        <tr>
          <td colspan="2"><input type="submit" name="submit" value="Odeslat"></td>
        </tr>
      </table>
    </form>
  </body>
</html>
```

Login:

Heslo:

login.html

Introduction to PHP

- Hypertext preprocessor (originally *Personal Home Page*) is a server-based programming language for developing dynamic web pages.

➡ <http://database.fbmi.cvut.cz/yourlogin/login.html>

➡

Login:

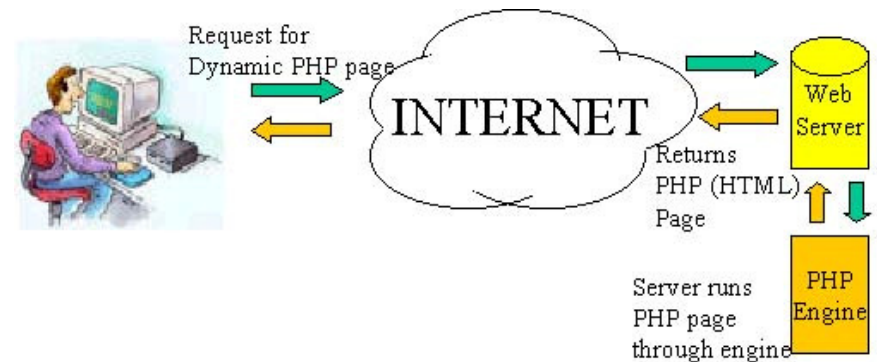
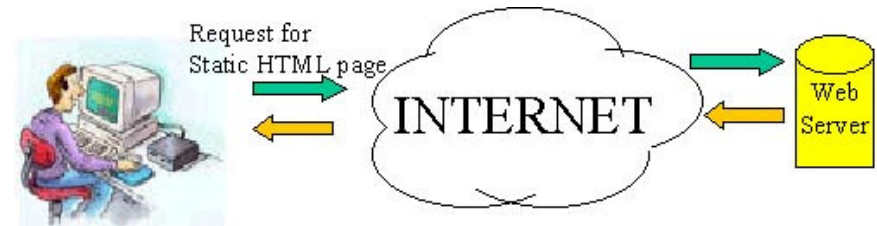
Heslo:

➡

Login: student

Heslo: ●●●●●●

➡ Prihlásování úspěšné.



Úvod do PHP – Vlastnosti jazyku

- ❑ PHP file is a text file that contains PHP code
- ❑ PHP code starts with `<?php`
- ❑ PHP code ends with `?>`
- ❑ PHP file can contains HTML code

```
<!DOCTYPE HTML PUBLIC "-//W3C//DTD HTML 4.01//EN" "http://www.w3.org/TR/html4/strict.dtd">
<html>
  <head>
    <title>úvodní stránka</title>
    <meta http-equiv="content-type" content="text/html; charset=utf-8">
  </head>
  <body>

    <?php

    ?>

  </body>
</html>
```

Properties of the PHP language

- Variables are defined using \$
 - ▣ `$number = 100;`
 - ▣ `$string = "Hello, world" ;`
- Displaying the content of a variable
 - ▣ `echo $number;`
 - ▣ `echo $string;`
- String concatenation with .
 - ▣ `$username = "student" ;`
 - ▣ `$message = "Hello, " . $username;`
- Mathematic operations: `/`, `*`, `+`, `-`, `%` (modulo)
 - ▣ `$number = $number % 5 + $number * 10 - $number / 9;`
- Operators for comparison: `==` , `>=` , `<=` , `!=`, `<>`, `===`
- Logical operators: `&&`(and) `||` (or), `!` (negace),
- Conditional and control statements
 - ▣ `if ($number > 0) { --- }`
 - ▣ `if ($number > 0) { --- } elseif ($number > -10) { --- }`
 - ▣ `while ($number <= 0) { --- }`
 - ▣ `do { --- } while ($number <= 0)`
 - ▣ `for ($i = 1; $i <= 10; $i++) { --- }`

Working with web forms in PHP

- Data entered by web users are accessed via the variable `$_POST`
 - ▣ `$_POST['log']`

Login:
Heslo:

login.html

```
<form method="post" action="login.php">
  <table border="0" cellpadding="0" cellspacing="0">
    <tr>
      <td>Login:</td>
      <td><input type="text" name="log" size="20"></td>
    </tr>
    <tr>
      <td>Heslo:</td>
      <td><input type="password" name="pwd" size="20"></td>
    </tr>
    <tr>
      <td colspan="2"><input type="submit" name="submit" value="Odeslat"></td>
    </tr>
  </table>
</form>
```

login.php

```
<!DOCTYPE HTML PUBLIC "-//W3C//DTD HTML 4.01//EN" "http://www.w3.org/TR/html4/strict.dtd">
<html>
  <head>
    <title>úvodní stránka</title>
    <meta http-equiv="content-type" content="text/html; charset=utf-8">
  </head>
  <body>

    <?php
      $login = $_POST['log'];
      $heslo = $_POST['pwd'];

      if( $login == 'student' && $heslo == 'student' ) {
        print 'Přihlašování úspěšné.';
      } else{
        print 'Přihlašování neúspěšné. Nesprávné login nebo heslo!';
      }

    ?>

  </body>
</html>
```

Přihlašování úspěšné.

```
<!DOCTYPE HTML PUBLIC "-//W3C//DTD HTML 4.01//EN" "http://www.w3.org/TR/html4/strict.dtd">
<html>
  <head>
    <title>úvodní stránka</title>
    <meta http-equiv="content-type" content="text/html; charset=utf-8">
  </head>
  <body>

    Přihlašování úspěšné. |
  </body>
</html>
```

login.php

Accessing a MySQL database from PHP

➡ <http://database.fbmi.cvut.cz/yourlogin/login.html>

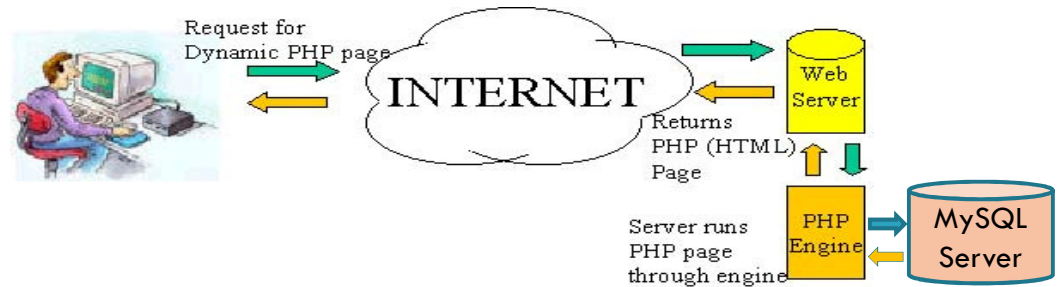
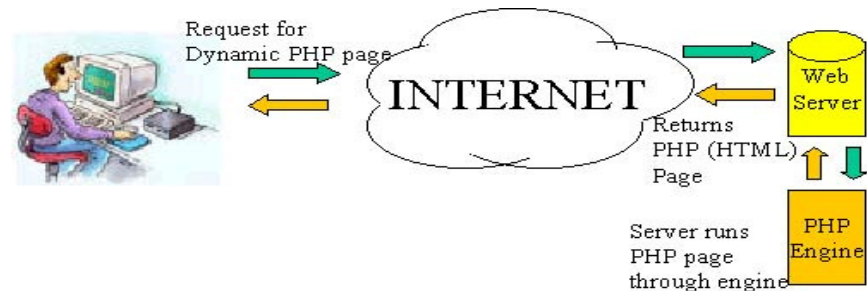
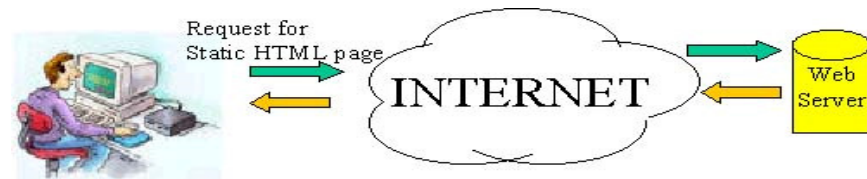
← Login:
Heslo:

➡ Login: student
Heslo: ●●●●●●

← Prihlasovani uspesne.

➡ Login: student
Heslo: ●●●●●●

← Prihlasovani uspesne.



Accessing a MySQL database

❑ Prepare the database

- ❑ `http://database.fbmi.cvut.cz/mysql`
- ❑ `CREATE TABLE user (user_id int AUTO_INCREMENT, user_name varchar(60), user_login varchar(60), user_password varchar(60), user_department_id int, PRIMARY KEY (user_id));`
- ❑ `INSERT INTO user (user_name, user_login, user_password, user_department_id) VALUES ('administrator', 'admin', 'admin', 1), ('MUDr. Pavel Janda', 'janda', 'janda', 2), ('MUDr. Jana Novakova', 'novakova', 'nova123', 2)`

❑ Connect to the database system

- ❑ `$db_connector= mysql_connect("localhost", "yourlogin", "yourpassword");`

❑ Control database connection

- ❑ `if (!$db_connector) { die('Connection failed: ' . mysql_error()); }`

❑ Setup UTF8 charset for e.g. Czech special characters

- ❑ `mysql_query("SET CHARACTER SET utf8");`

❑ Connect to the database

- ❑ `mysql_select_db("yourlogin");`

Accessing a MySQL database

❑ Selecting data from a database

- ❑ `$query = "SELECT * FROM user WHERE user_login = " . $login . " AND user_password = " . $heslo . "";`
- ❑ `$rs = mysql_query($query);`

❑ Controlling selected data

- ❑ `if (!$rs) { echo "Could not execute query: $query"; }`

❑ Storing selected data to an associative array

- ❑ `$row = mysql_fetch_assoc($rs)`

❑ Displaying results

- ❑ `echo 'Login successful. Homepage for ' . $row['user_name'];`
- ❑ `print 'Login unsuccessful. Wrong login or password!';`

Accessing a MySQL database

Login: novakova
Heslo: ●●●●●●
Odeslat

```
<form method="post" action="login.php">
<table border="0" cellpadding="0" cellspacing="0">
<tr>
<td>Login:</td>
<td><input type="text" name="log" size="20"></td>
</tr>
<tr>
<td>Heslo:</td>
<td><input type="password" name="pwd" size="20"></td>
</tr>
<tr>
<td colspan="2"><input type="submit" name="submit" value="Odeslat"></td>
</tr>
</table>
</form>
```

login.html

```
<!DOCTYPE HTML PUBLIC "-//W3C//DTD HTML 4.01//EN" "http://www.w3.org/TR/html4/strict.dtd">
<html>
<head>
<title>úvodní stránka</title>
<meta http-equiv="content-type" content="text/html; charset=utf-8">
</head>
<body>

<?php

$login = $_POST['log'];
$heslo = $_POST['pwd'];

$spojeni= mysql_connect("localhost", "atoudmic", "" );
if (!$spojeni) {
die(' Připojení k databázi neúspěšná: ' . mysql_error());
}

mysql_query("SET CHARACTER SET utf8;");
mysql_select_db("atoudmic");

$query = "SELECT * FROM user WHERE user_login = '" . $login . "' AND user_password = '" . $heslo . "'";
$rs = mysql_query($query);
if (!$rs) {
echo "Could not execute query: $query";
}

if ($row = mysql_fetch_assoc($rs)) {
echo 'Přihlašování úspěšné. Úvodní stránka pro ' . $row['user_name'];
}else{
print 'Přihlašování neúspěšné. Nesprávné login nebo heslo!';
}

mysql_close();

?>

</body>
</html>
```

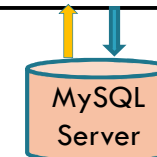
login.php

Přihlašování úspěšné. Úvodní stránka pro MUDr. Jana Novakova

```
<!DOCTYPE HTML PUBLIC "-//W3C//DTD HTML 4.01//EN" "http://www.w3.org/TR/html4/
<html>
<head>
<title>úvodní stránka</title>
<meta http-equiv="content-type" content="text/html; charset=utf-8">
</head>
<body>

Přihlašování úspěšné. Úvodní stránka pro MUDr. Jana Novakova
</body>
</html>
```

login.php



Programming Classes in PHP

- A class can be defined anywhere in a PHP file

- ▣ `class class_name{ }`

- Attributes and operators of a class

- ▣

```
class class_name{
    $attribute = "...";
    function operator($parameter){
        $this->attribute = $parameter;
    }
}
```

- Object creation

- ▣ `$object_name = new class_name();`

- Calling an operation

- ▣ `$object_name->operator("Hello");`

- ▣ `$object_name->attribute = "Hello";`

Classes in PHP

class.viewer.php

```
<?php

class viewer{
    function display_login_form(){
    }


    function display_homepage($user_name){
    }

}

$form_id = $_POST['id'];
$gui = new viewer();

if ($form_id == 1){
    $gui->display_login_form();
}elseif ($form_id == 2){
    $gui->display_homepage($_SESSION['user_name']);
}

?>
```

<http://database.fbmi.cvut.cz/yourlogin/lclass.viewer.php?id=1>  <http://database.fbmi.cvut.cz/yourlogin/login.html>

Homework

- ❑ Write a PHP program with the following characteristics
 - ▣ A HTML form where user can enter a patient name, age and gender
 - ▣ A PHP code that stores the patient data to a database table
 - ▣ A PHP code that displays the list of all patients from the table
- ❑ Java Server Page (JSP) is another server-side language for programming dynamic web pages.
 - ▣ Highlight major similarities and differences between PHP and JSP
- ❑ Send your solution before Nov 29