

Lecture #12

NEWM N510: Web-Database Concepts

PHP (4)

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<http://www.info510.com>

Review Last Lecture

- PHP Conditions
- PHP Loops
- PHP Functions

PHP in a Nutshell

1. PHP Intro
2. PHP Syntax
3. PHP *echo*
4. PHP Comment
5. PHP Variables
6. PHP String/Array Manipulation
7. PHP Conditions
8. PHP Loops
9. PHP Functions
10. PHP Cookies/Sessions
11. PHP SSI
12. PHP Forms
13. PHP/MySQL Integration

Lecture in a Nutshell

1. PHP Cookies/Sessions
2. PHP SSI
3. PHP Forms
4. PHP/MySQL Integration

1. PHP Cookies/Sessions

- A cookie is often used to identify a user. A cookie is a **small file that the server embeds on the user's computer**. Each time the same computer requests a page with a browser, it will send the cookie too. With PHP, you can both create and retrieve cookie values.
- **Setting a Cookie**

```
setcookie (name, value, expire, path, domain);
```

```
<?php
```

```
    setcookie ("user", "Peter Johnson", time() + 3600);
```

```
?>
```

PHP Cookies/Sessions (cont.)

- **Retrieving a Cookie**

The PHP `$_COOKIE` variable is used to retrieve a cookie.

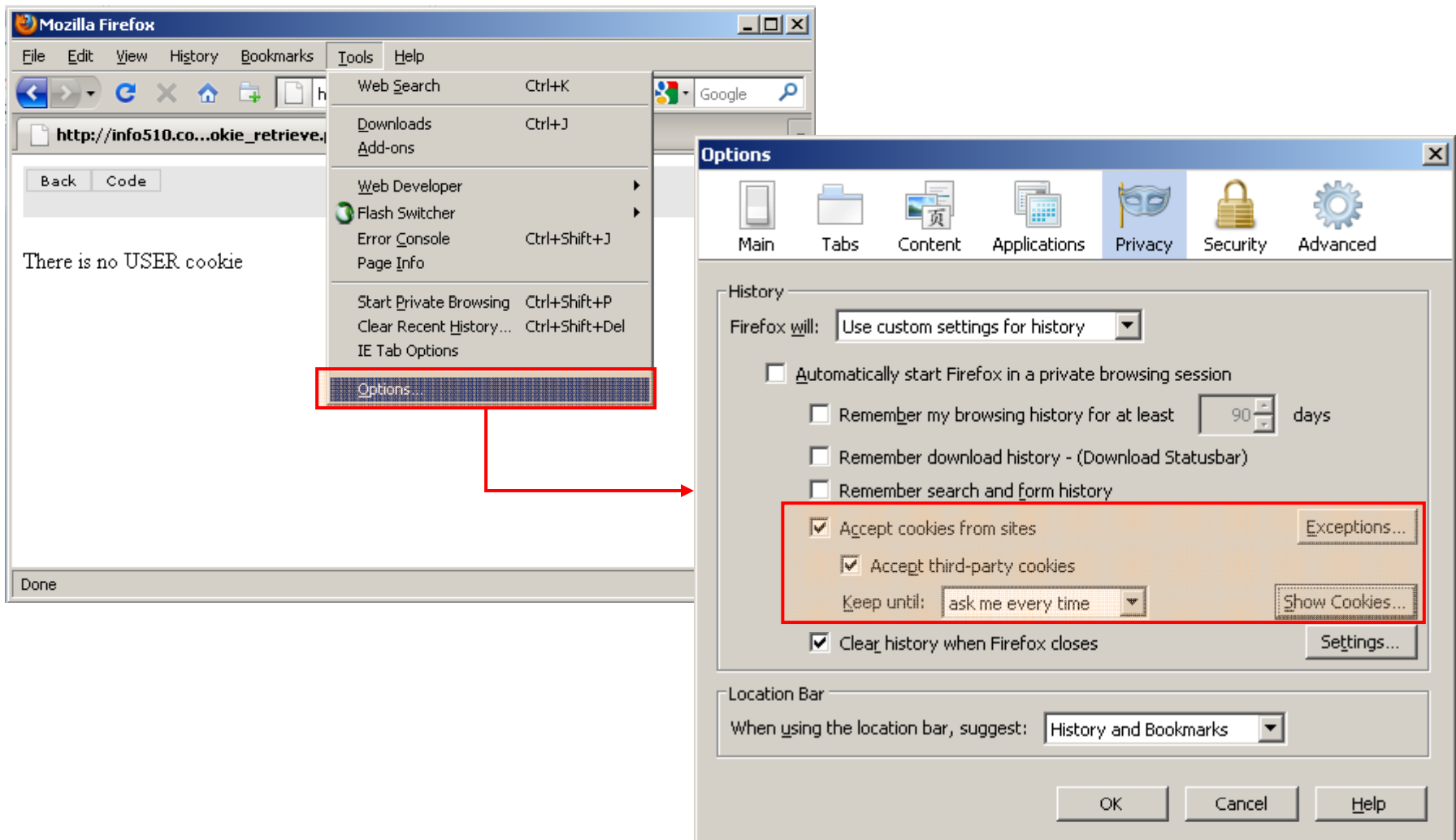
```
<?php
    echo $_COOKIE["user"];    // Print a cookie
    print_r ($_COOKIE);      // A way to view all cookies
?>
```

- **Delete a Cookie**

```
<?php
    // set the expiration date to one hour ago
    setcookie("user", "", time()-3600);
?>
```

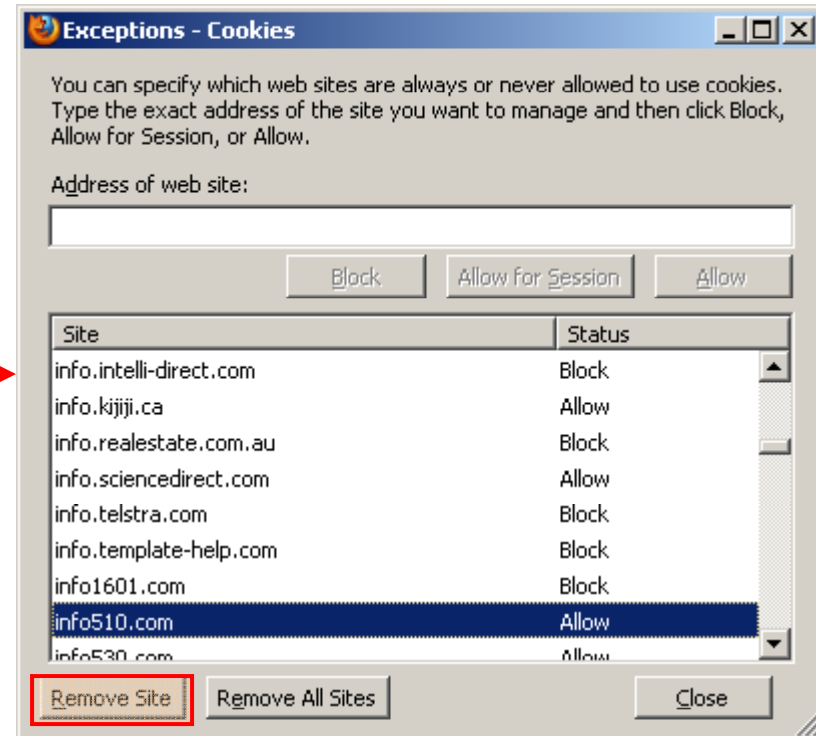
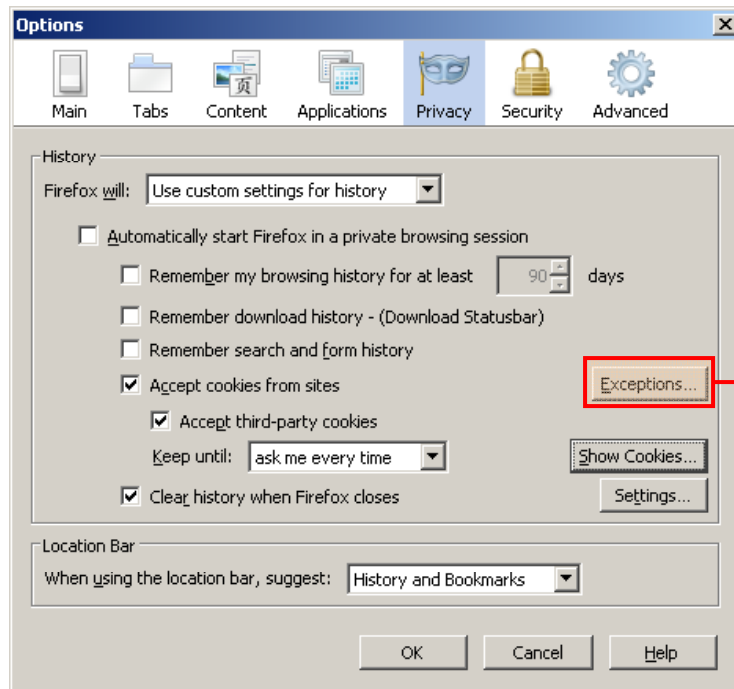
PHP Cookies/Sessions (cont.)

Settings



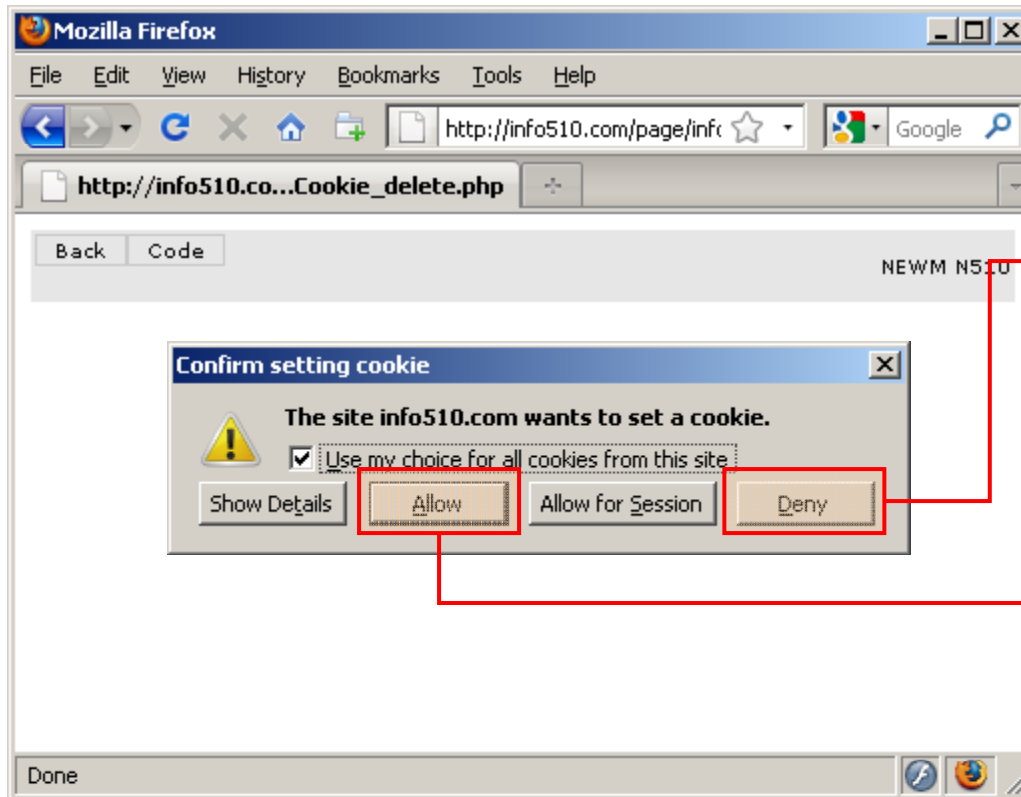
PHP Cookies/Sessions (cont.)

Exceptions



PHP Cookies/Sessions (cont.)

Setting Cookie / Prompts



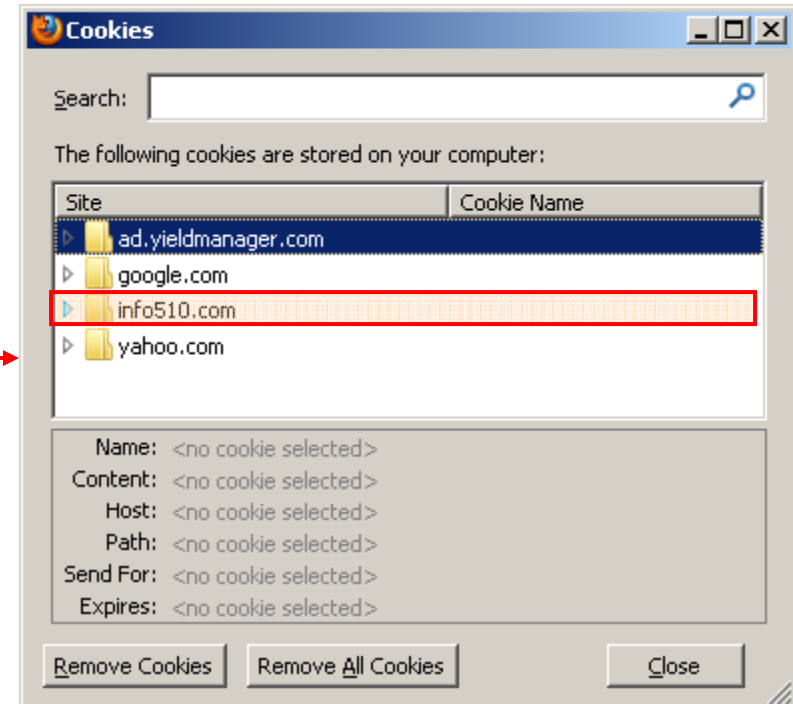
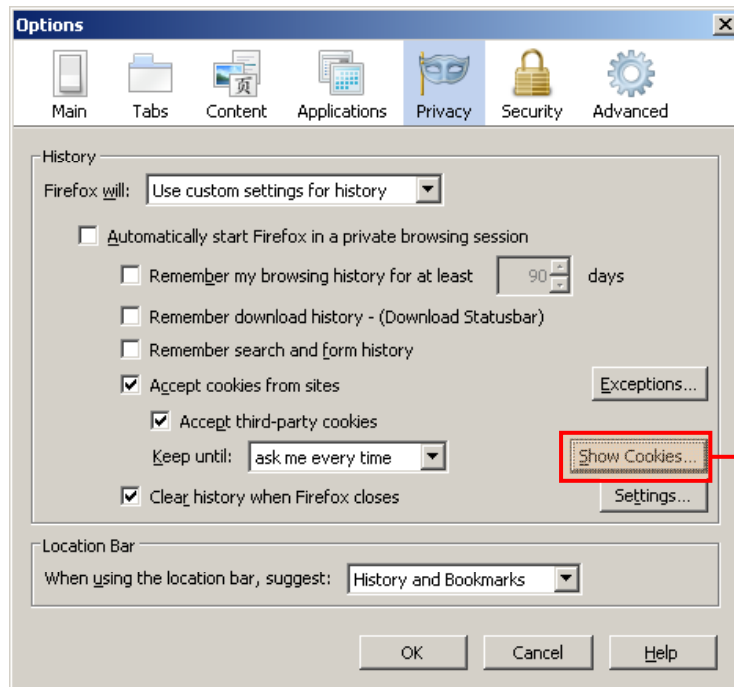
If denied, then cookies will not work anymore

If allow but no checkmark then it will ask every time

```
<?php
    setcookie ("user", "Peter Johnson", time()+3600);
?>
```

PHP Cookies/Sessions (cont.)

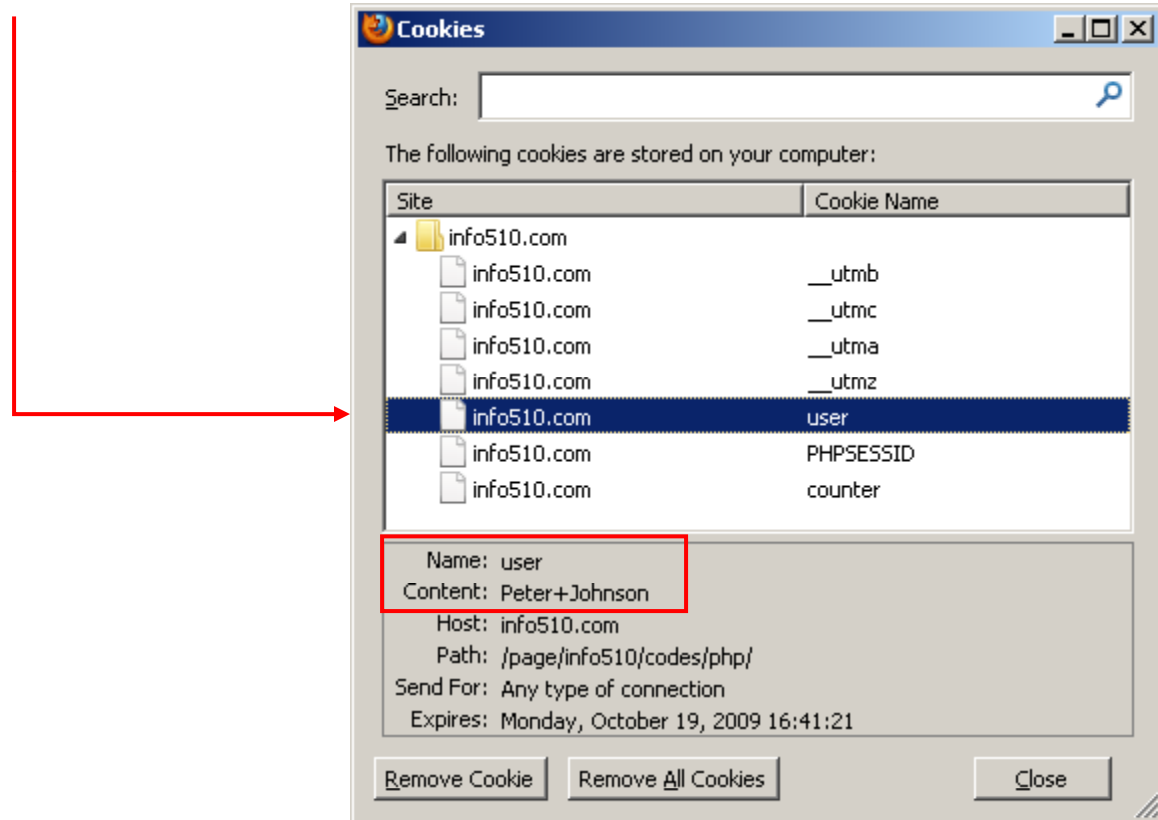
Show Cookies (Browser)



PHP Cookies/Sessions (cont.)

Show Cookies (Browser)

```
<?php  
    setcookie ("user", "Peter Johnson", time() + 3600);  
?>
```



PHP Cookies/Sessions (cont.)

Show Cookies (PHP)

Back Code NEWM N510

The USER cookie has been retrieved

The USER cookie is equal to:Peter Johnson

The entire cookie variable from this website is equal to: Array ([counter] => 1 [user] => Peter Johnson [PHPSESSID] => 8e779257d34bdb9c66ffa51af9c4544a [__utma] => 54712563.1450229686.1255981258.1255981258.1255981258.1 [__utmb] => 54712563.2.10.12 [__utmc] => 54712563 [__utmz] => 54712563.1255981258.1.1.utmcsr=(direct)|utmccn=(direct)|utm...

```
<?php
echo $_COOKIE["user"];
print_r ($_COOKIE);
?>
```

Search:

The following cookies are stored on your computer:

Site	Cookie Name
info510.com	__utmb
info510.com	__utmc
info510.com	__utma
info510.com	__utmz
info510.com	user
info510.com	PHPSESSID
info510.com	counter

Name: user
Content: Peter+Johnson
Host: info510.com
Path: /page/info510/codes/php/
Send For: Any type of connection
Expires: Monday, October 19, 2009 16:41:21

Remove Cookie Remove All Cookies Close

PHP Cookies/Sessions (cont.)

Delete Cookie (PHP)

No more 'user' cookie

```
<?php
    setcookie("user", "", time()-3600);
?>
```

Site	Cookie Name
info510.com	__utmb
info510.com	__utmc
info510.com	__utma
info510.com	__utmz
info510.com	PHPSESSID
info510.com	counter

PHP Cookies/Sessions (cont.)

Show Cookies (PHP)

The screenshot shows a Mozilla Firefox browser window with the address bar set to `http://info510.com/page/info510_cookie_retrieve.php`. The page content displays the text "There is no USER cookie". A red arrow points from the PHP code block below to the browser's status bar, which shows "Done".

Overlaid on the browser is a "Cookies" dialog box. It contains a search field and a list of cookies stored on the computer. The list is as follows:

Site	Cookie Name
info510.com	__utmb
info510.com	__utmc
info510.com	__utma
info510.com	__utmz
info510.com	PHPSESSID
info510.com	counter

Below the list, the following fields are shown, all with the value "<no cookie selected>": Name, Content, Host, Path, Send For, and Expires. At the bottom of the dialog are buttons for "Remove Cookies", "Remove All Cookies", and "Close".

```
<?php
echo $_COOKIE["user"];
print_r($_COOKIE);
?>
```

PHP Cookies/Sessions (cont.)

Sessions

- Session support in PHP consists of a way to **preserve certain data across subsequent accesses**. This enables you to build more customized applications and increase the appeal of your web site.
- A visitor accessing your web site is assigned a **unique id**, the so-called session id. This is either stored in a cookie on the user side or is propagated in the URL.
- **Setting a Session**

```
session_start();  
$_SESSION['variable_name']=value;  
session_destroy();
```

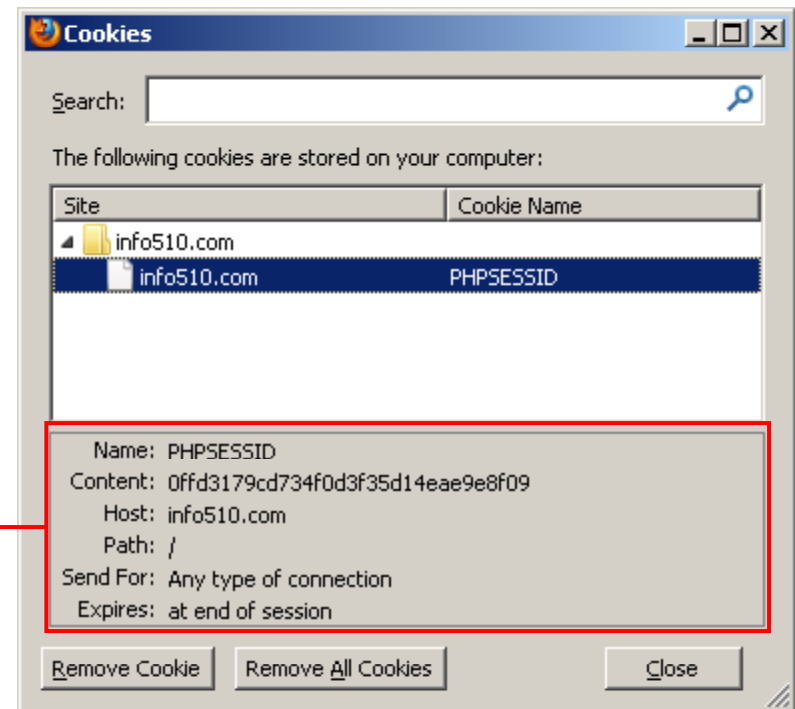
The session_start() function must appear BEFORE the <html> tag

PHP Cookies/Sessions (cont.)

Sessions – Simple visit counter

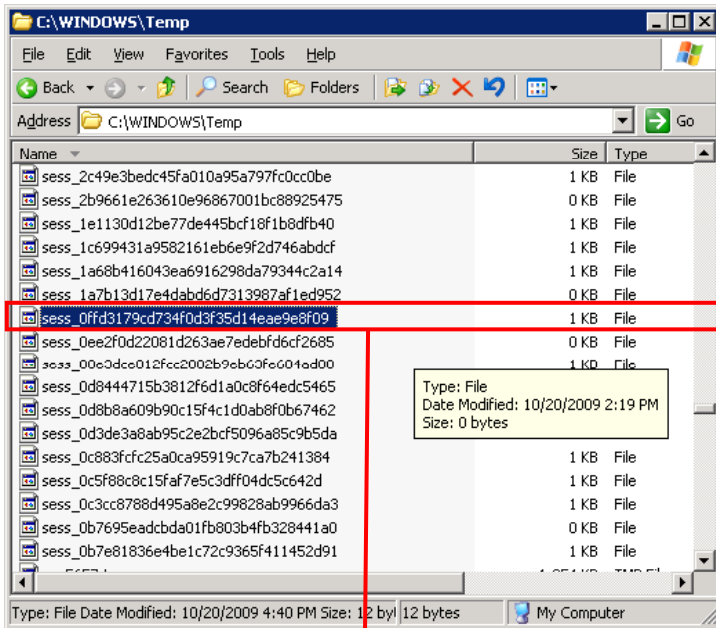
```
<?php
    session_start();
    if (isset($_SESSION["counter"]))
    {
        $_SESSION["counter"] = $_SESSION["counter"] + 1;
    }else{
        $_SESSION["counter"] = 1;
    }
    echo "You have visited us " .
    $_SESSION["counter"] . " times!";
?>
```

No cookie about the 'counter'
Only the PHP session cookie



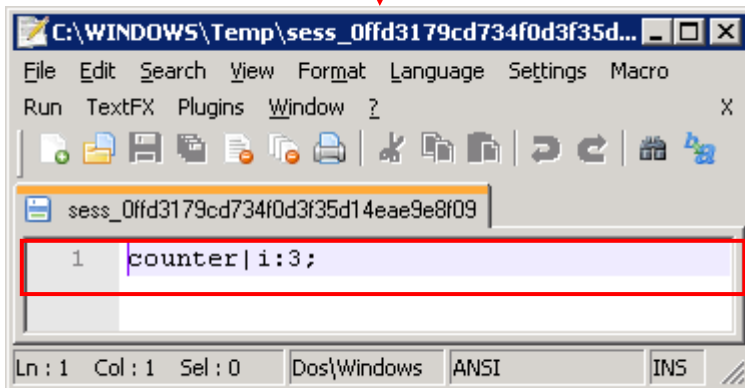
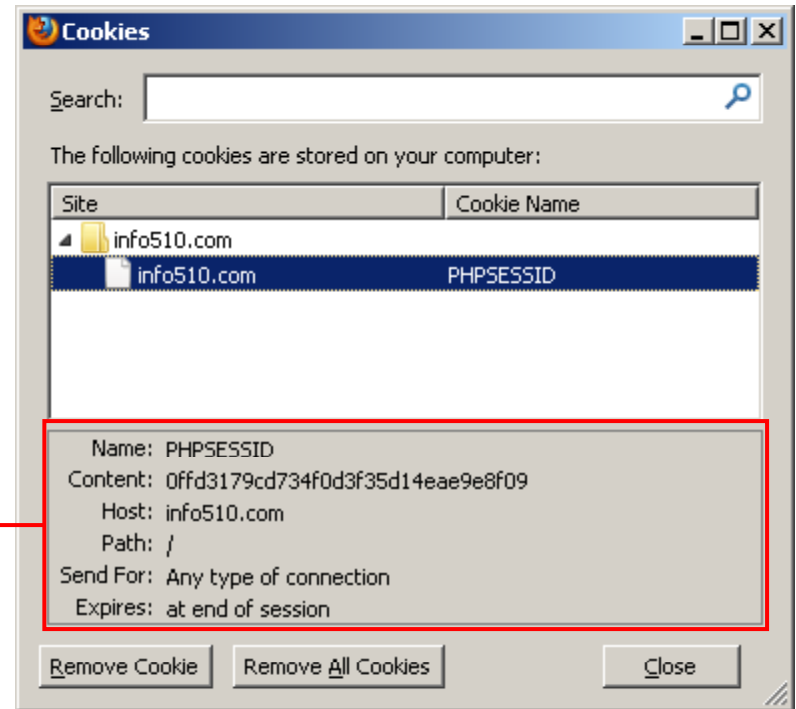
PHP Cookies/Sessions (cont.)

Sessions – Simple visit counter



Server / Session files

Client / Session ID



Session content

2. PHP SSI (Server Side Inclusion)

- You can insert the content of one file into another file before the server executes it, with the `require()` function. The `require()` function is used to create functions, headers, footers, or elements that will be reused on multiple pages.
- This can save the developer a considerable amount of time. If all of the pages on your site have a similar header, you can include a single file containing the header into your pages. When the header needs updating, you only update the one page, which is included in all of the pages that use the header.

```
require ('filename.html');
```

PHP SSI (cont.)

HTML file
(header.html)

```
This is my header in HTML format in a separate file.  
<br>  
This header will included by PHP in other files.  
<br>
```

PHP file
(anything.php)

```
<?php  
    // Including an extra file  
    require ('header.html');  
?>
```

This is now the content of my web page...

PHP SSI (cont.)

Final HTML

This is my header in HTML format in a separate file.

`
`

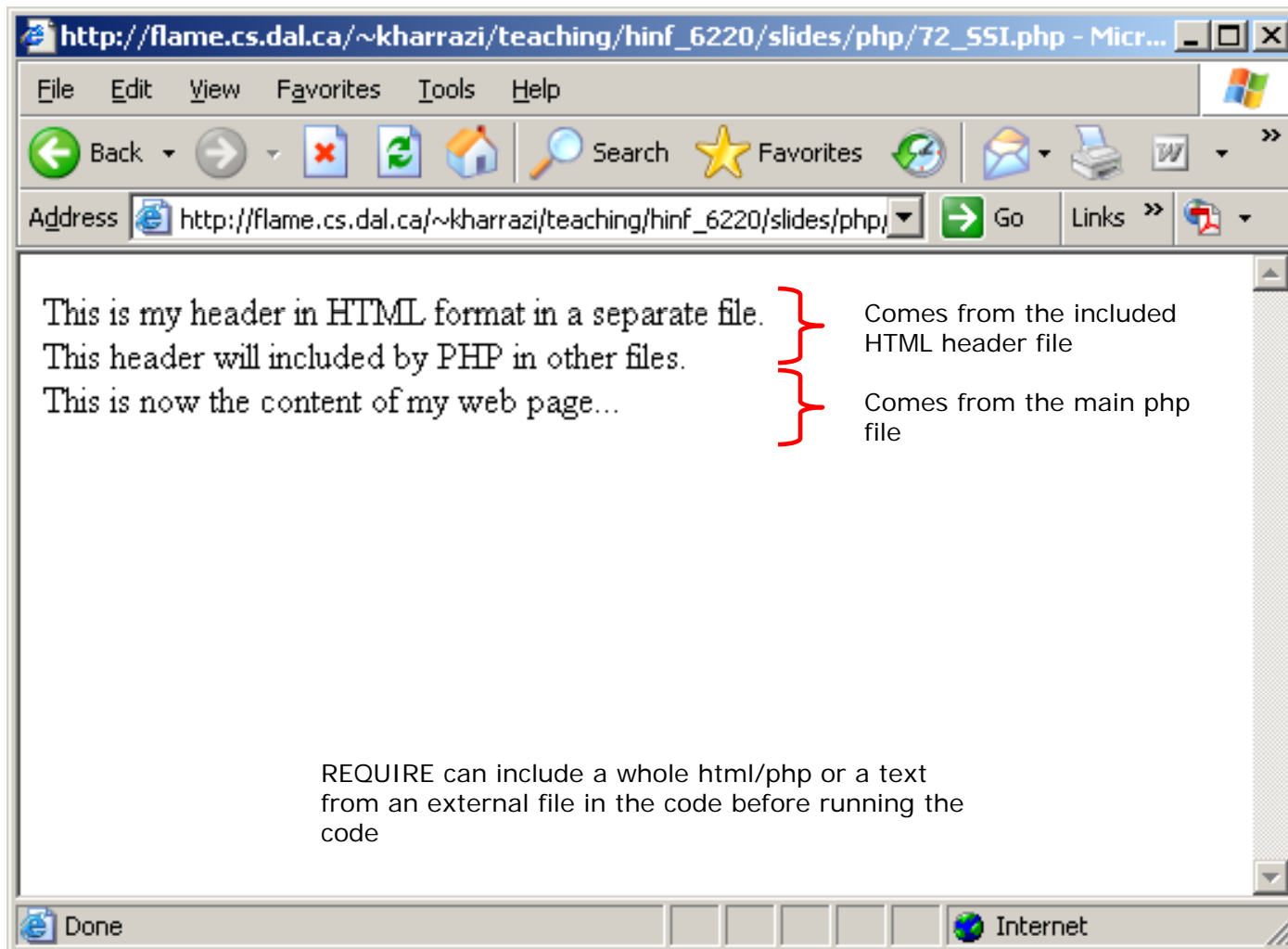
This header will included by PHP in other files.

`
`

This is now the content of my web page...

PHP SSI (cont.)

Final Output



3. PHP Form Processing

- The most important thing to notice when dealing with HTML forms and PHP is that any form element in an HTML page will automatically be available to your PHP scripts.
- When you send values of a form to a specific URL, for example `<form action='show.php'>`, the PHP file (in this case show.php) can receive the information and process them by the following super global variable:

```
$_POST['Name of the variable']
```

```
$_GET['Name of the variable']
```

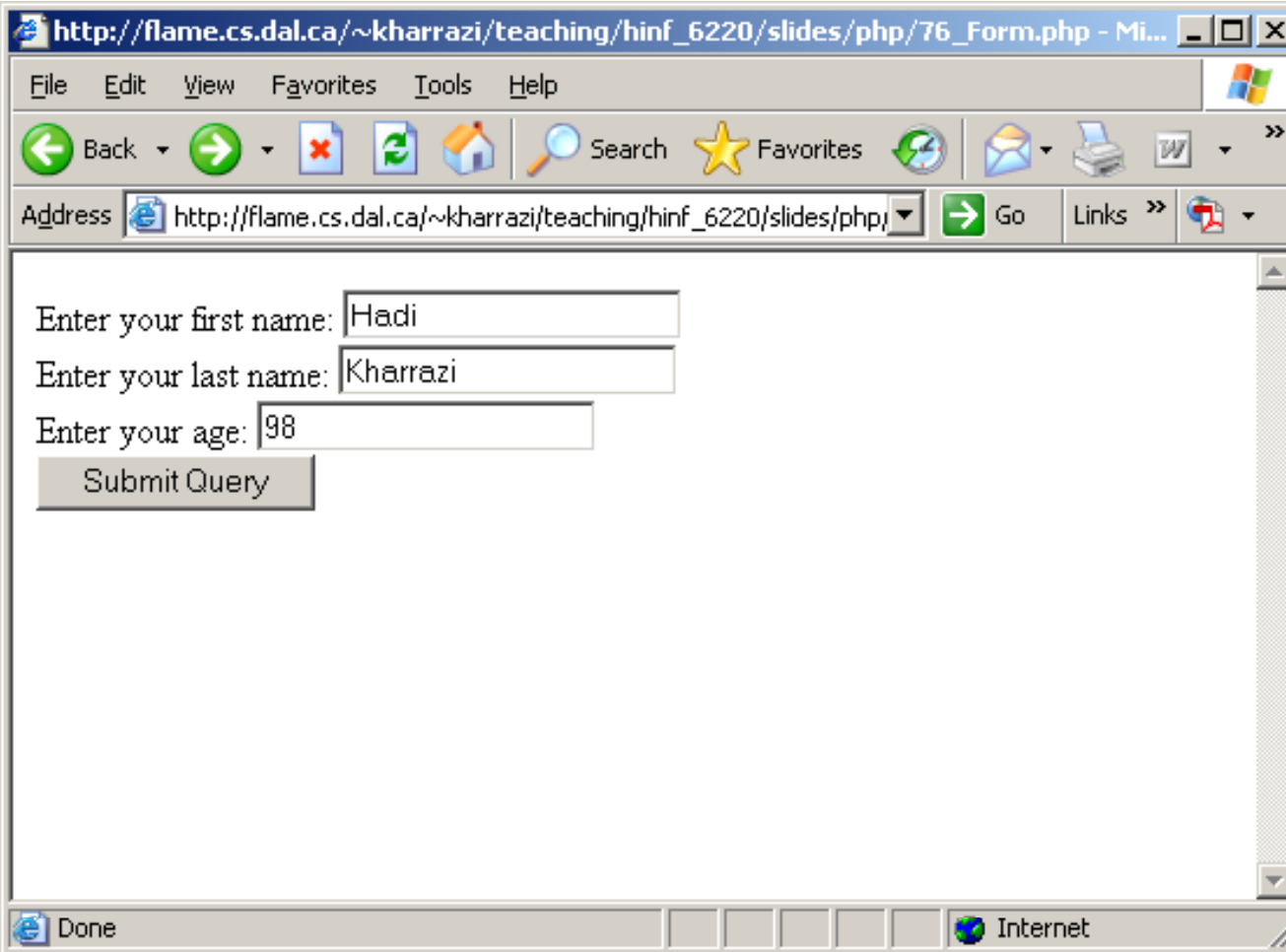
PHP Form (cont.)

HTML Form

```
<html>
  <body>
    <form action="FormProcess.php" method="POST">
      Enter your first name: <input type="text"
name="firstname" />
      <br>
      Enter your last name: <input type="text"
name="lastname" />
      <br>
      Enter your age: <input type="text" name="age" />
      <br>
      <input type="submit" />
    </form>
  </body>
</html>
```

PHP Form (cont.)

HTML Form



The screenshot shows a web browser window with the following content:

Address: http://flame.cs.dal.ca/~kharrazi/teaching/hinf_6220/slides/php/76_Form.php

Enter your first name:

Enter your last name:

Enter your age:

PHP Form (cont.)

PHP file
(FormProcess.php)

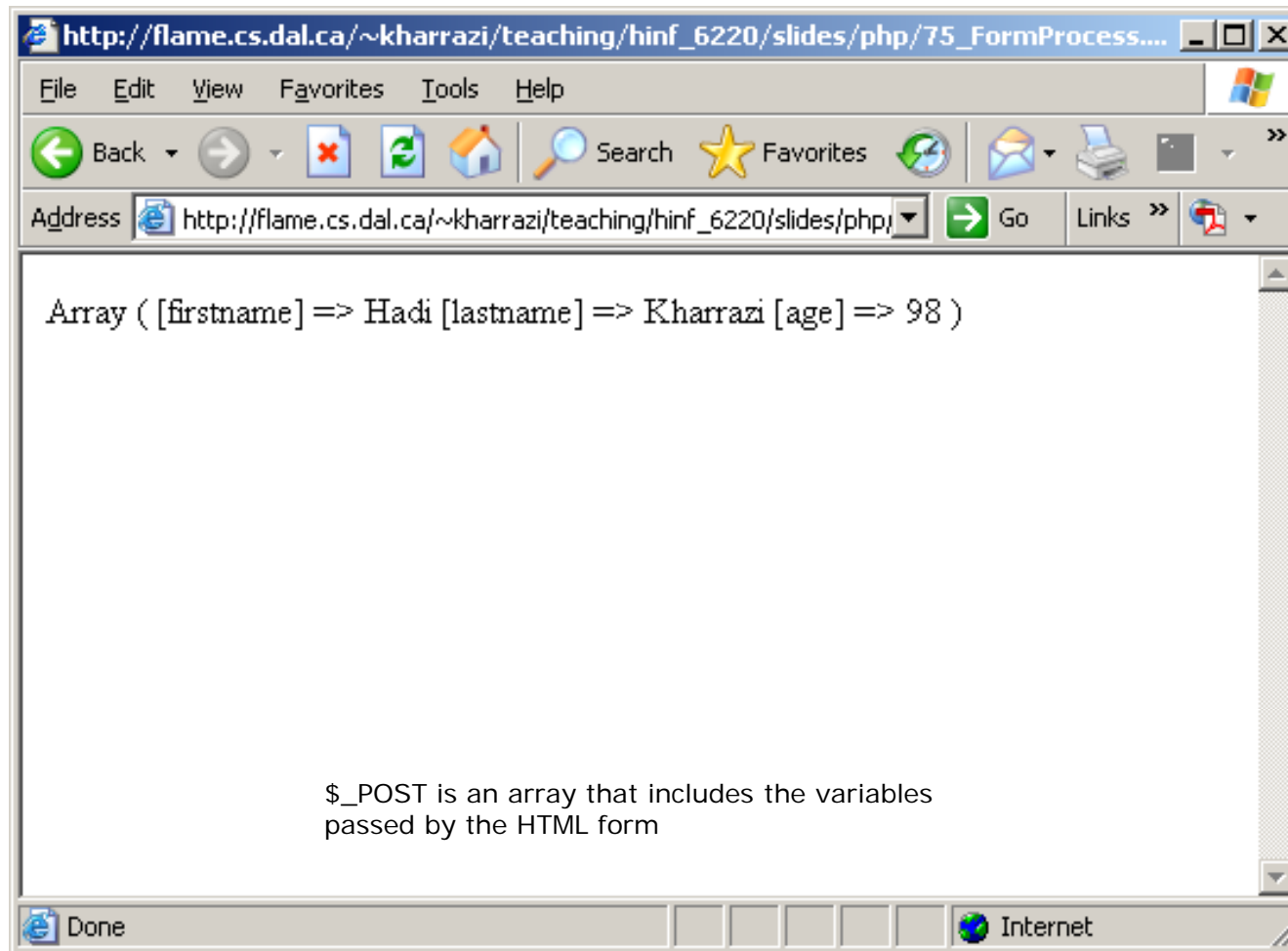
```
<?php
```

```
    print_r($_POST);
```

```
?>
```

PHP Form (cont.)

Final Output



PHP Form (cont.)

PHP file
(FormProcess.php)

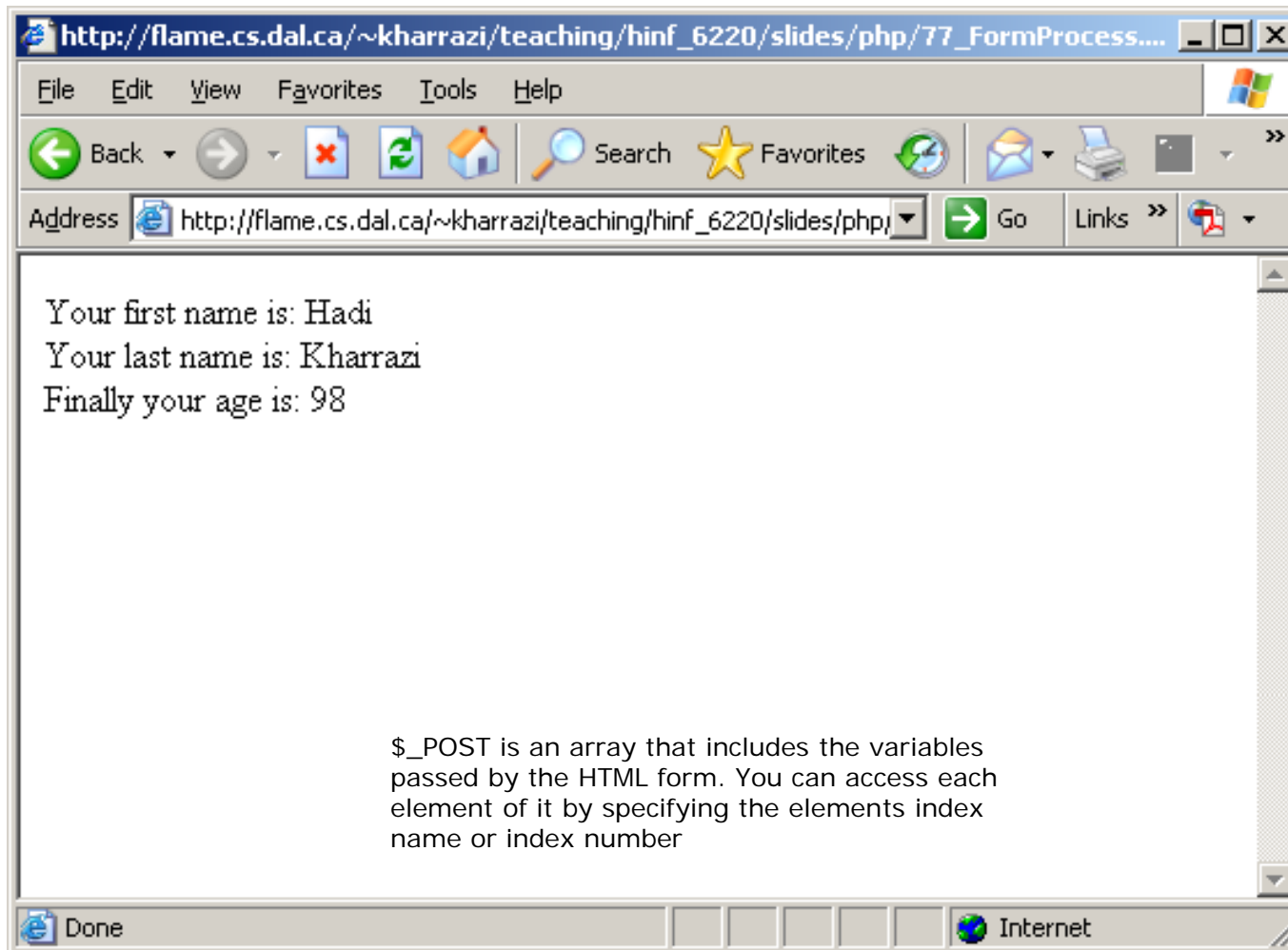
```
<?php
```

```
// Accessing the element's of the POST array
echo 'Your first name is: ';
echo $_POST['firstname'];
echo '<br>';
echo 'Your last name is: ';
echo $_POST['lastname'];
echo '<br>';
echo 'Finally your age is: ';
echo $_POST['age'];
echo '<br>';
```

```
?>
```

PHP Form (cont.)

Final Output



4. PHP/MySQL Integration

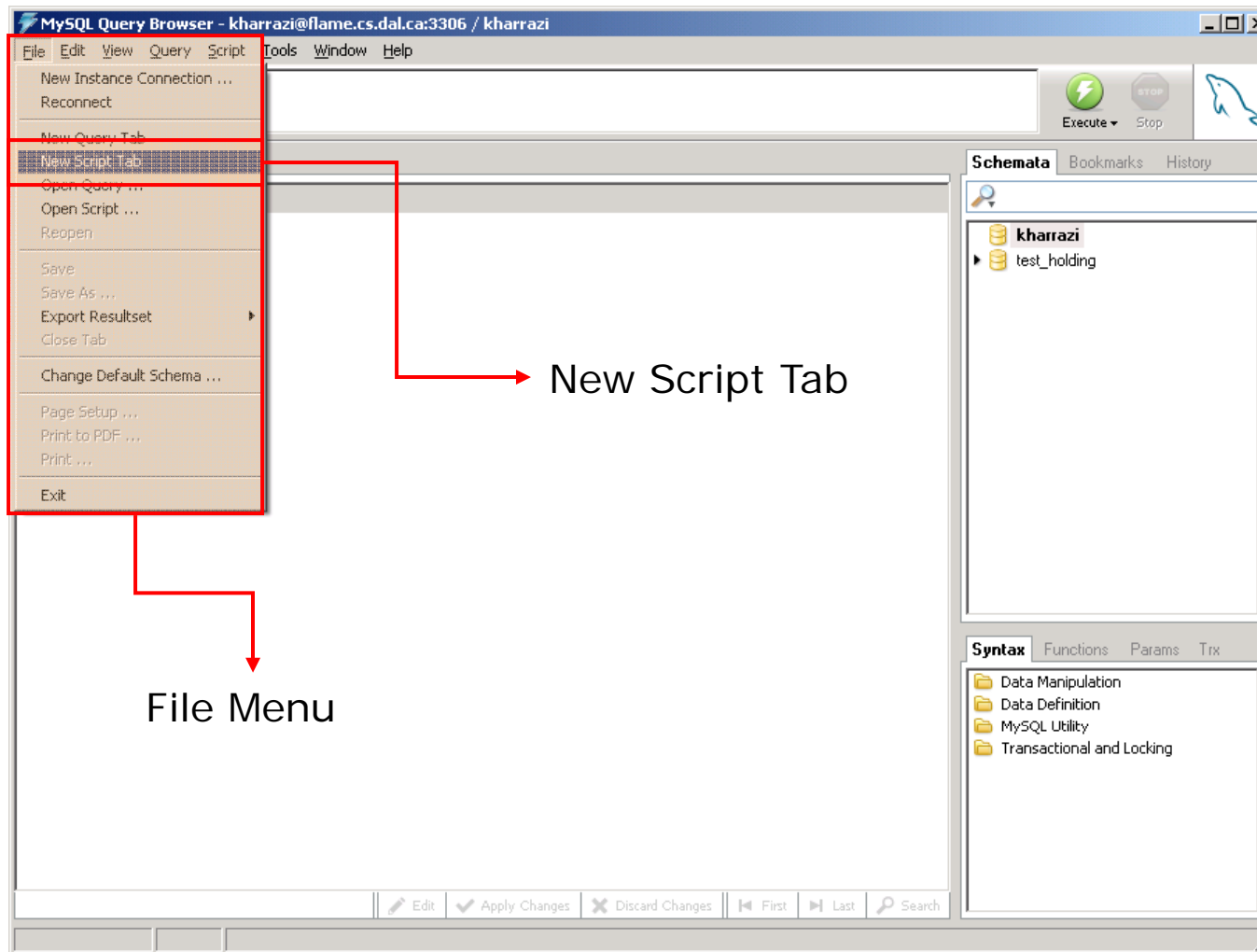
- MySQL features (commands) are no longer installed/compiled into PHP (version 5). Therefore the MySQL extensions should be installed separately.
- The PHP engine on the server has already been compiled with the MySQL features. Therefore you can use the MySQL commands inside your PHP code.
- A connection from PHP to MySQL includes the following steps:
 1. Setting up a connection
 2. Choosing a database to use
 3. Querying the database/Inserting data in the database
 4. Retrieving the query results
 5. Disconnecting from the database

PHP/MySQL (cont.)

- Before starting the PHP integration in this tutorial we should have tables and data to test the commands on them.
- In the *Resources* folder that you downloaded at the beginning of this session a file named *sample_data.sql* exists that contains a dumped (stored) version of a sample database created beforehand by the tutor.
- In the next couple of slides we will restore the dumped version of the tutor's database, which is now basically a file, into our databases on the faculty server.
- Creating tables and databases, dumping a database and restoring a database from a dumped file will be discussed later in future tutorials.

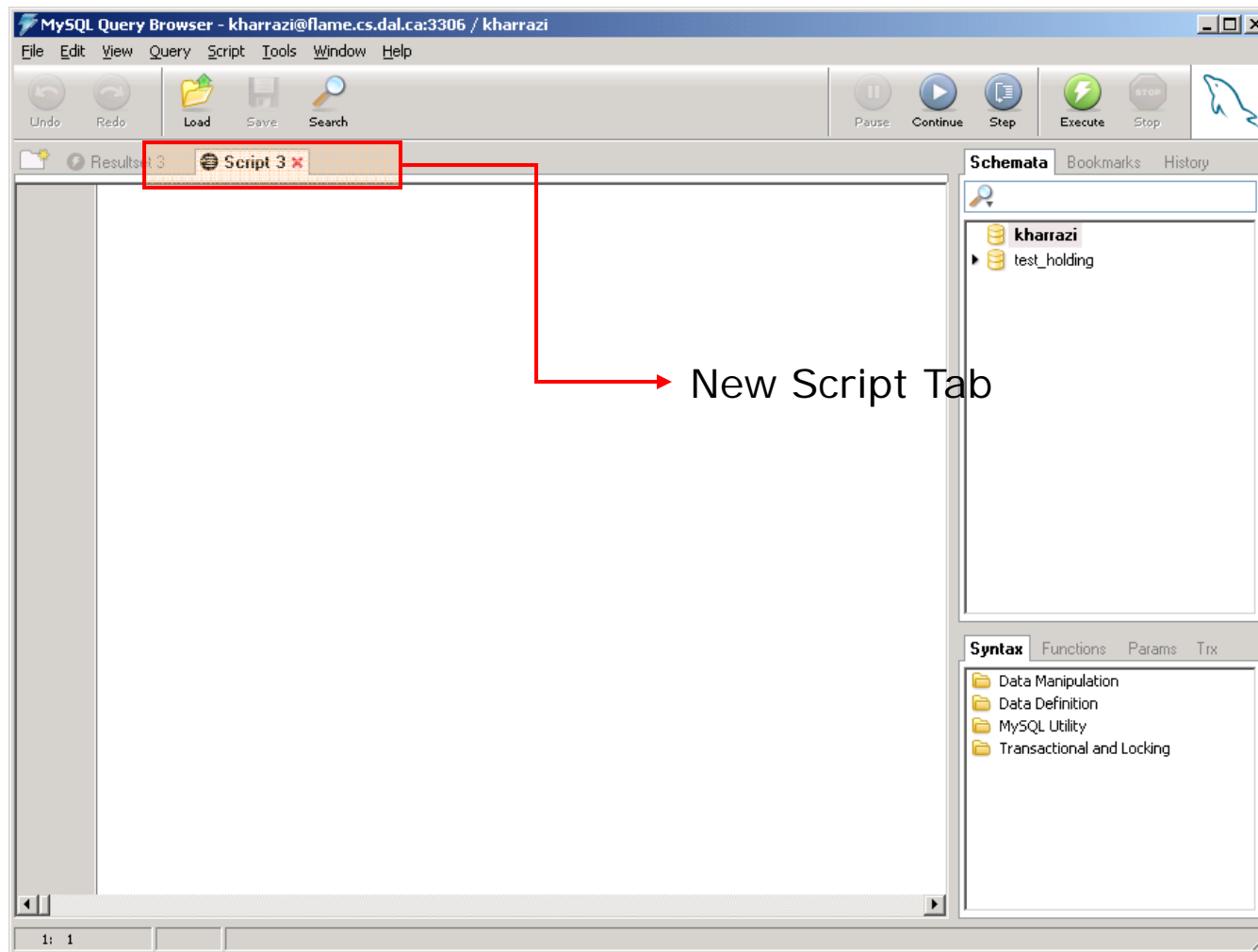
PHP/MySQL (cont.)

(Restoring the sample DB)



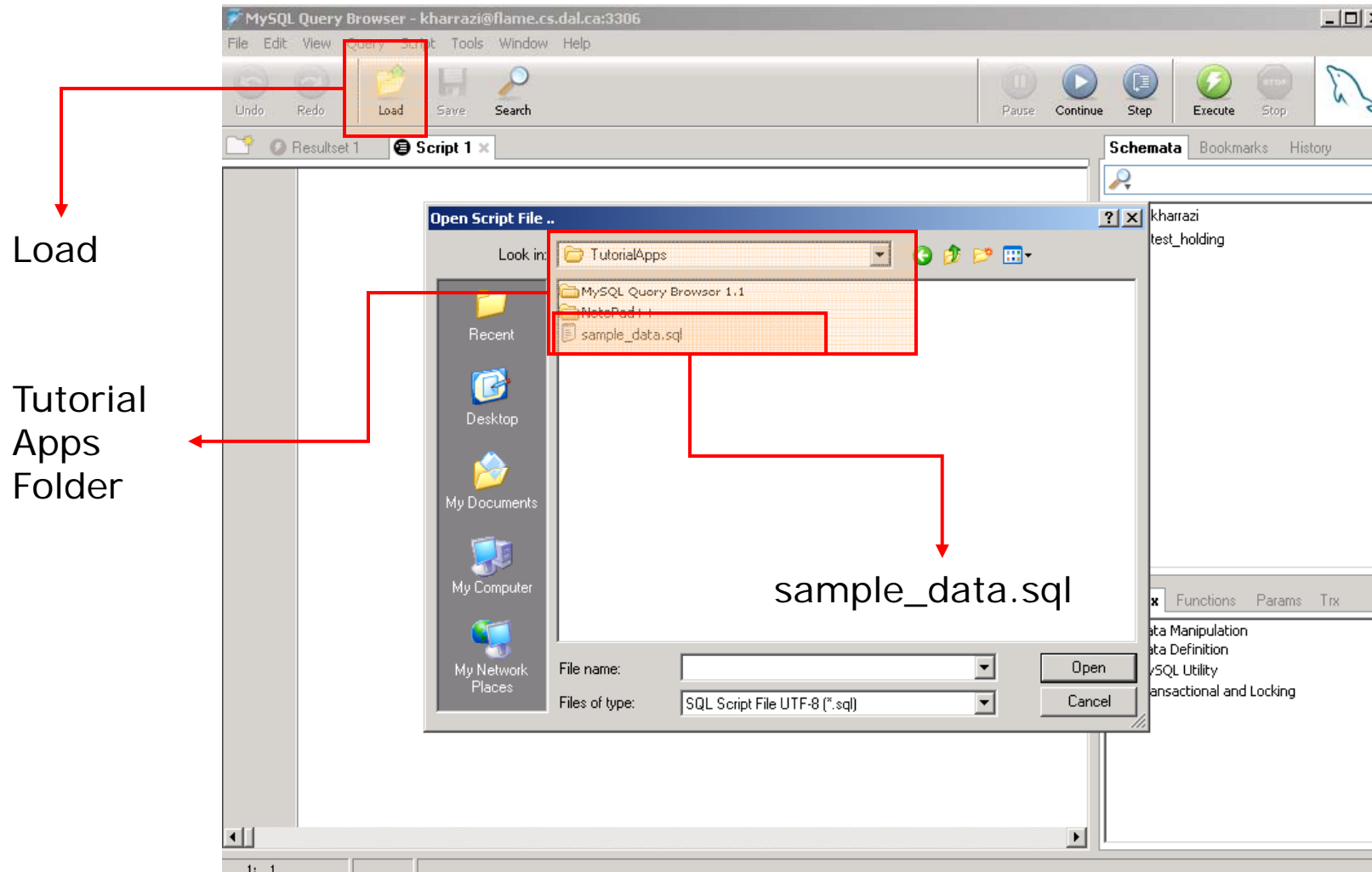
PHP/MySQL (cont.)

(Restoring the sample DB)



PHP/MySQL (cont.)

(Restoring the sample DB)



PHP/MySQL (cont.)

(Restoring the sample DB)

your_database_name' should be changed to your database name

```

1 #####
2 #
3 # Dalhousie University
4 # HINF 6220 - Tutorials
5 # Ceated by: Hadi Kharrazi
6 # Email: kharrazi@cs.dal.ca
7 #
8 # This is a useful sample
9 # which could help you doing your
10 # course project.
11 #
12 # In order to restore this tables in
13 # your database (MYSQL) please change
14 # 'your_database_name' in the first
15 # line to your database name.
16 #
17 #####
18
19
20 • USE 'your database name';
21 • CREATE TABLE `admin_info` (
22   `Admin_id` int(11) default NULL,
23   `Admin_FirstName` varchar(100) default NULL,
24   `Admin_LastName` varchar(100) default NULL,
25   `Client_id` int(11) default NULL
26 ) TYPE=MyISAM;
27 • INSERT INTO `admin_info` (`Admin_id`, `Admin_FirstName`, `Admin_LastName`, `Client_id`)
28   (1, 'Mike', 'Shepherd', 1),
29   (2, 'David', 'Zitner', 2),
30   (3, 'Ady', 'Adminson', 3);
31 • CREATE TABLE `city_info` (
32   `City_id` int(11) default NULL,
33   `City_Name` varchar(100) default NULL
34 ) TYPE=MyISAM;
35 • INSERT INTO `city_info` (`City_id`, `City_Name`) VALUES
36   (1, 'Halifax'),
37   (2, 'Vancouver'),
38   (3, 'Toronto'),
39   (4, 'Montreal').

```

Execute the restore

SQL Dump Code

PHP/MySQL (cont.)

(Restoring the sample DB)

MySQL Query Browser - kharrazi@flame.cs.dal.ca:3306 / kharrazi

File Edit View Query Script Tools Window Help

Undo Redo Load Save Search Pause Continue Step Execute Stop

Resultset 1 Script 1

```

1 #####
2 #
3 # Dalhousie University
4 # HINF 6220 - Tutorials
5 # Created by: Hadi Kharrazi
6 # Email: kharrazi@ecs.dal.ca
7 #
8 # This is a useful sample database
9 # which could help you doing your
10 # course project.
11 #
12 # In order to restore this tables in
13 # your database (MYSQL) please change
14 # 'your_database_name' in the first
15 # line to your database name.
16 #
17 #####
18
19
20 • USE `kharrazi`;
21 • CREATE TABLE `admin_info` (
22   `Admin_id` int(11) default NULL,
23   `Admin_FirstName` varchar(100) default NULL,
24   `Admin_LastName` varchar(100) default NULL,
25   `Client_id` int(11) default NULL
26 ) TYPE=MyISAM;
27 • INSERT INTO `admin_info` (`Admin_id`,`Admin_FirstName`,`Admin_LastName`,`Client_id`)
28   (1,'Mike','Shepherd',1),
29   (2,'David','Zitner',2),
30   (3,'Ady','Adminson',3);
31 • CREATE TABLE `city_info` (
32   `City_id` int(11) default NULL,
33   `City_Name` varchar(100) default NULL
34 ) TYPE=MyISAM;
35 • INSERT INTO `city_info` (`City_id`,`City_Name`) VALUES
36   (1,'Halifax'),
37   (2,'Vancouver'),
38   (3,'Toronto'),
39   (4,'Montreal'),

```

Close the Script

Schemata Bookmarks History

- kharrazi
 - admin_info
 - city_info
 - client_info
 - doc_info
 - kin_info
 - pat_doc_relate
 - pat_info
 - phone_info
- test_holding

Syntax Functions Params Trx

- Data Manipulation
- Data Definition
- MySQL Utility
- Transactional and Locking

20: 14

New tables created (restored)

PHP/MySQL (cont.)

(Restoring the sample DB)

The screenshot shows the MySQL Query Browser interface. The SQL Query Area contains the query: `1 SELECT * FROM pat_info p`. The result set below shows 15 rows of data. A red box highlights the first 15 rows of the result set. On the right, the Schemata panel shows the database structure, including tables like `admin_info`, `city_info`, `client_info`, `doc_info`, `kin_info`, `lab_info`, `pat_doc_relate`, `pat_info`, and `phone_info`. A red arrow points from the 'Data Definition' folder in the Syntax panel to the text 'New tables created (restored)'.

	P_FirstNa...	P_LastName	City_id	Phone_id	Kin_id	Client_id
1	Peter	Johnsons	1	4	6	14
2	Mike	Jackson	1	13	6	15
3	Sara	Henson	3	6	2	16
4	John	McDonald	5	8	3	17
5	Michael	Robinson	1	13	6	18
6	William	Jordan	4	10	4	19
7	Susan	McKinsy	1	2	5	20
8	Mehdi	Kharrazi	2	1	9	21
9	John	McKinsy	1	9	10	22
10	John	McDonald	3	18	7	23
11	Pat	Bentatar	7	25	8	24
12	Abraham	Lincoln	3	26	27	25
13	Brian	Adam	5	27	13	26
14	Catherin	Catholicy	7	28	15	33
15	Demi	Moore	12	29	23	34

PHP/MySQL (cont.)

Connecting

```
<?php
```

```
    // Defining the username and password
```

```
    $url = 'localhost';
```

```
    $username = 'kharrazi';
```

```
    $password = 'your password';
```

```
    // Setting up a connection
```

```
    $link = mysql_connect($url, $username, $password);
```

```
    if (!$link) {
```

```
        die('Could not connect');
```

```
    }
```

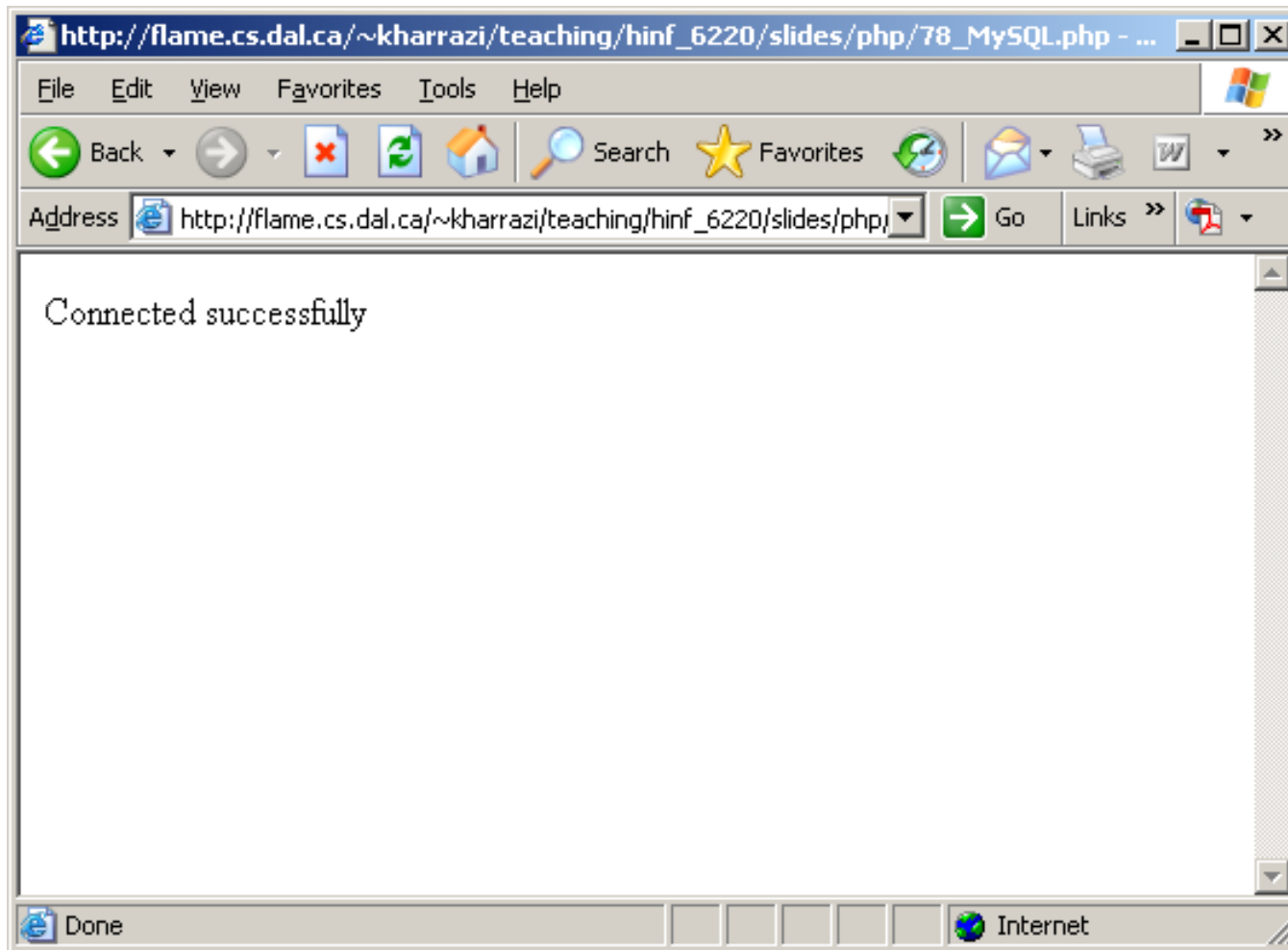
```
    echo 'Connected successfully';
```

```
    mysql_close($link);
```

```
?>
```



PHP/MySQL (cont.)



PHP/MySQL (cont.)

Selecting the DB

```
<?php
```

```
    // Defining the username and password
    $url = 'localhost';
    $username = 'kharrazi';
    $password = 'your password';
    $database = 'kharrazi_db';

    // Setting up a connection
    $link = mysql_connect($url, $username, $password);
    if (!$link) {die('Could not connect');}
    echo 'Connected successfully';
    mysql_select_db($database)
    mysql_close($link);
```

```
?>
```

PHP/MySQL (cont.)

- Before querying MySQL database you should know that the RESULT of the fetched data (result of the query) could be a number, string, array, 2D array and so on.
- For example if the result of your query only fetches one cell like a name ('Peter') or a number such as the amount of RBC ('6.54') the fetched data is only a string or a number.
- But in case you select a whole row of data in MySQL the result will be an array containing the cells of that array like `$x[0]`.
- Finally if the result of your query is a whole table (SELECT * FROM pat_info) the result will be a 2 dimensional array like `$x[0][0]` where the first index defines the column and the second index defines the row number.

PHP/MySQL (cont.)

Querying the DB

```
<?php
    // ... here comes the variables ... //

    // ... Setting up a connection and select DB ... //

    // Querying the DB
    $query = 'SELECT * FROM pat_info';
    $result = mysql_query($query) or die('Query failed');

    // ... Closing the DB ... //
?>
```

PHP/MySQL (cont.)

Retrieve the results

```
<?php
```

```
// ... here comes the variables ... //
```

```
// ... Setting up a connection and select DB ... //
```

```
// ... Querying the DB ... //
```

```
// Retrieving the results
```

```
$row = mysql_fetch_array($result);
```

MYSQL_FETCH_ARRAY reads the table row by row not all of it.

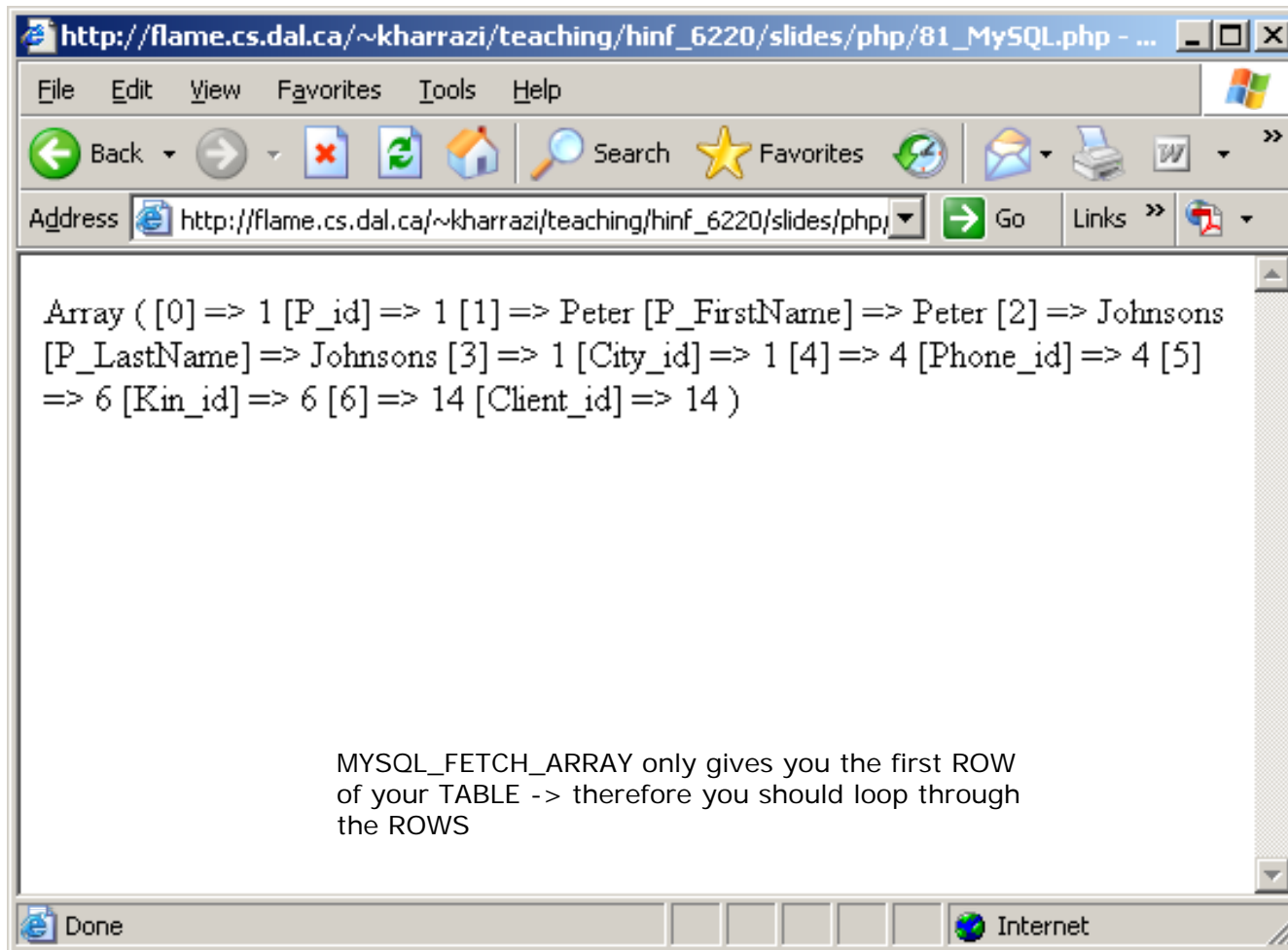
```
print_r($row);
```

Gives you only the first ROW of your TABLE

```
// ... Closing the DB ... //
```

```
?>
```

PHP/MySQL (cont.)



PHP/MySQL (cont.)

Retrieve the results

```
<?php
    // ... here comes the variables ... //

    // ... Setting up a connection and select DB ... //

    // ... Querying the DB ... //

    // Retrieving the results
    while ($row = mysql_fetch_array($result)){
        print_r($row);
        echo '<br>';
    }
    // ... Closing the DB ... //

?>
```

Because of the WHILE loop
MYSQL_FETCH_ARRAY reads all of the
rows in the table.

PHP/MySQL (cont.)

Array ([0] => 1 [P_id] => 1 [1] => Peter [P_FirstName] => Peter [2] => Johnsons [P_LastName] => Johnsons [3] => 1 [City_id] => 1 [4] => 4 [Phone_id] => 4 [5] => 6 [Kin_id] => 6 [6] => 14 [Client_id] => 14)

Array ([0] => 2 [P_id] => 2 [1] => Mike [P_FirstName] => Mike [2] => Jackson [P_LastName] => Jackson [3] => 1 [City_id] => 1 [4] => 13 [Phone_id] => 13 [5] => 6 [Kin_id] => 6 [6] => 15 [Client_id] => 15)

Array ([0] => 3 [P_id] => 3 [1] => Sara [P_FirstName] => Sara [2] => Henson [P_LastName] => Henson [3] => 3 [City_id] => 3 [4] => 6 [Phone_id] => 6 [5] => 2 [Kin_id] => 2 [6] => 16 [Client_id] => 16)

Patient #1 (ROW#1)

Patient #2 (ROW#2)

Patient #3 (ROW#3)

PHP/MySQL (cont.)

```

http://flame.cs.dal.ca/~kharrazi/teaching/hinf_6220/slides/php/82_MySQL.php ...
File Edit View Favorites Tools Help
Back Forward Stop Home Search Favorites
Address http://flame.cs.dal.ca/~kharrazi/teaching/hinf_6220/slides/php/
Array ( [0] => 1 [P_id] => 1 [1] => Peter [P_FirstName] => Peter [2] => Johnsons
[P_LastName] => Johnsons [3] => 1 [City_id] => 1 [4] => 4 [Phone_id] => 4 [5]
=> 6 [Kin_id] => 6 [6] => 14 [Client_id] => 14 )

Array ( [0] => 2 [P_id] => 2 [1] => Mike [P_FirstName] => Mike [2] => Jackson
[P_LastName] => Jackson [3] => 1 [City_id] => 1 [4] => 13 [Phone_id] => 13 [5]
=> 6 [Kin_id] => 6 [6] => 15 [Client_id] => 15 )

Array ( [0] => 3 [P_id] => 3 [1] => Sara [P_FirstName] => Sara [2] => Henson
[P_LastName] => Henson [3] => 3 [City_id] => 3 [4] => 6 [Phone_id] => 6 [5] =>
2 [Kin_id] => 2 [6] => 16 [Client_id] => 16 )
    
```

HTML/WEB

PHP

MySQL

P_id	P_FirstName	P_LastName	City_id	Phone_id	Kin_id	Client_id
1	Peter	Johnsons	1	4	6	14
2	Mike	Jackson	1	13	6	15
3	Sara	Henson	3	6	2	16

Patient #1
(ROW#1)

Patient #2
(ROW#2)

Patient #3
(ROW#3)

PHP/MySQL (cont.)

Formatting the results

```
<?php
    // ... here comes the variables ... //

    // ... Setting up a connection and select DB ... //

    // ... Querying the DB ... //

    // Retrieving the results
    while ($row = mysql_fetch_array($result)){
        print_r($row[1]);
        echo '<br>';
    }
    // ... Closing the DB ... //
?>
```

PHP/MySQL (cont.)

The screenshot shows a web browser window with the address `http://flame.cs.dal.ca/~kharrazi/teaching/hinf_6220/slides/php/83_MySQL.php`. The browser displays a list of names on the left and a table of data on the right. The table has columns: P_id, P_FirstName, P_LastName, City_id, Phone_id, Kin_id, and Client_id. The data rows are: (1, Peter, Johnsons, 1, 4, 6, 14), (2, Mike, Jackson, 1, 13, 6, 15), and (3, Sara, Henson, 3, 6, 2, 16). A red arrow points to the second row, labeled ROW[1]. Other rows are labeled ROW[0] and ROW[3].

P_id	P_FirstName	P_LastName	City_id	Phone_id	Kin_id	Client_id
1	Peter	Johnsons	1	4	6	14
2	Mike	Jackson	1	13	6	15
3	Sara	Henson	3	6	2	16

PHP/MySQL (cont.)

Formatting the results

```
<?php
    // ... here comes the variables ... //

    // ... Setting up a connection and select DB ... //

    // ... Querying the DB ... //

    // Retrieving the results
while ($row = mysql_fetch_array($result, , MYSQL_ASSOC)){
    print_r($row['P_FirstName']);
    echo '<br>';
}
    // ... Closing the DB ... //
?>
```

PHP/MySQL (cont.)

http://flame.cs.dal.ca/~kharrazi/teaching/hinf_6220/slides/php/83_MySQL.php - ...

File Edit View Favorites Tools Help

Back Forward Stop Home Search Favorites Refresh Print Mail

Address http://flame.cs.dal.ca/~kharrazi/teaching/hinf_6220/slides/php/ Go Links

Peter
Mike
Sara
John
Michael
William
Susan
Mehdi
John
John
Pat
Abraham
Brian
Catherin

ROW['P_FirstName']

ROW['P_id']

ROW['city_id']

P_id	P_FirstName	P_LastName	City_id	Phone_id	Kin_id	Client_id
1	Peter	Johnsons	1	4	6	14
2	Mike	Jackson	1	13	6	15
3	Sara	Henson	3	6	2	16

Done Internet

PHP/MySQL (cont.)

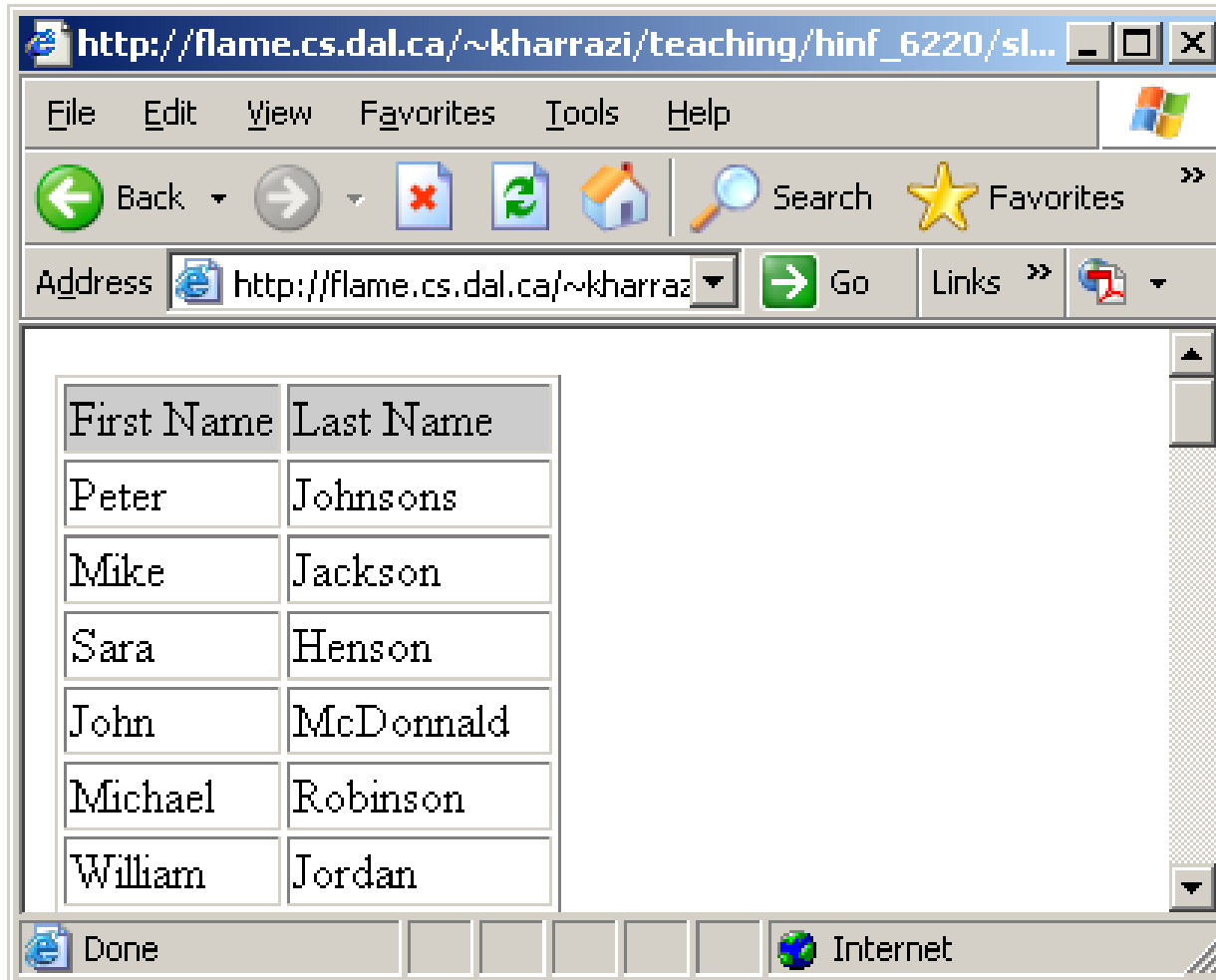
Results is a table

```
<?php
    // ... Connect, query and ... //
    echo '<table border=1>';
    echo '<tr bgcolor=#CCCCCC><td>First Name</td><td>Last
Name</td></tr>';

    // Retrieving the results
    while ($row = mysql_fetch_array($result, MYSQL_ASSOC)){
        echo
        "<tr><td>{$row['P_FirstName']}</td><td>{$row['P_LastName']}</td></tr>";
    }
    echo '</table>';
    // ... Closing the DB ... //
?>
```

PHP/MySQL (cont.)

Results is a table



Summary

1. PHP Cookies/Sessions
2. PHP SSI
3. PHP Forms
4. PHP/MySQL Integration

Exercise

- Please refer to the available text file in the slides section for this session on the course website:
- http://info510.com/core/public_page.php?page_name=slides