INTERNET PROGRAMMING - II

T.Y.B.Sc. : Computer Science : Semester-IV

BHUPESH TAUNK ANIKET NAGANE

NIRALI PRAKASHAN

A Book Of

INTERNET PROGRAMMING - II

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For Third Year B.Sc. Computer Science
As Per Revised Syllabus
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Preface ...

We take an opportunity to present this book entitled as **"Internet Programming - II"** to the students of T.Y.B.Sc. Computer Science as per the revised syllabus, June 2015.

The book covers theory of Web Techniques, Handling E-mail with PHP, PHP Framework, XML, JavaScript, DHTML, AJAX etc.

A special word of thanks to Shri. Dineshbhai Furia, Mr. Jignesh Furia for showing full faith in us to write this book. We also thank to Mr. Amar Salunkhe, Mr. Akbar Shaikh, Ms Chaitali Takle of M/s Nirali Prakashan for their excellent co-operation.

Although every care has been taken to check mistakes and misprints, any errors, omission and suggestions from teachers and students for the improvement of this text shall be most welcome.

Our efforts shall be more than rewarded if this book proves beneficial to the students.

Authors

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CHAPTER 1

Web Techniques

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- To Understand Variables Concepts
- To Study Server Information
- To Learn Forms and Processing of Form
- To Setting Response Headers and Maintaining State
- To Understand SSL

1.0 INTRODUCTION

- Nowadays, PHP is becoming a standard in the world of web programming with its simplicity, performance, reliability, flexibility and speed.
- PHP was designed/developed as a web scripting language and although it is possible to use it in purely command-line and GUI scripts, the Web accounts for the vast majority of PHP uses.
- A dynamic web site may have forms, sessions, and sometimes redirection. This chapter explains how to implement those things in PHP.
- The web runs on the HyperText Transfer Protocol (HTTP) and this protocol governs how web browsers request files from web servers and how the servers send the files back.

1.1 VARIABLES

- Every time you click a link or submit a form, you send a great deal of data about your system and your browser to the web server, and each time the web server responds, it sends you a great deal of data about itself. PHP has the capability to capture that data.
- For instance, if you go to a PHP driven website and log in, it's likely that a predefined variable $_POST is filled (on server) with your username and password, another predefined variable named $_SERVER contains information about the current web server environment.
- PHP automatically have some variables called predefined variables available anywhere in your program. They are array variables. These variables are: $_ENV, $_GET, $_POST, $_COOKIE, and $_SERVER, referred to as EGPCS.
- There is a setting in your configuration file (php.ini) called register_globals. The default value is off, and it restricts how you can access some predefined variables.
- register_globals determine whether or not to register the EGPCS variables as global variables.
- Regardless of the setting of the option register_globals, PHP creates six global arrays that contain the EGPCS information as given below:
  1. **$_COOKIE**: This global array contains any cookie values passed as part of the request, where the keys of the array are the names of the cookies.
  2. **$_GET**: This global array contains any parameters that are part of a GET request, where the keys of the array are the names of the form parameters.
  3. **$_POST**: This global array contains any parameters that are part of a POST request, where the keys of the array are the names of the form parameters.
  4. **$_FILES**: This global array contains information about any uploaded files.

5. **$_SERVER**: This global array contains useful information about the web server, as described in the next section.
6. **$_ENV**: This global array contains the values of any environment variables, where the keys of the array are the names of the environment variables.

- Above variables are not only global, but also visible from within function definitions, unlike their longer counterparts.
- The $_REQUEST array is also created by PHP if the register_globals option is on. The $_REQUEST array contains the elements of the $_GET, $_POST, and $_COOKIE arrays.
- PHP also creates a variable called $PHP_SELF, which holds the name of the current script, relative to the document root.
- Several predefined variables in PHP are "superglobals", which means that they are always accessible, regardless of scope - and you can access them from any function, class or file without having to do anything special.
- The PHP superglobal variables are $GLOBALS, $_SERVER, $_REQUEST, $_POST, $_GET, $_FILES, $_ENV, $_COOKIE, and $_SESSION.

1.2 SERVER INFORMATION

- The $_SERVER is an associative array contains a lot of information from the web server.
- The following table lists the most important elements that can go inside $_SERVER:

Sr. No.	Element/Code	Description
1.	$_SERVER['PHP_SELF']	Returns the filename of the currently executing script.
2.	$_SERVER['GATEWAY_INTERFACE']	Returns the version of the Common Gateway Interface (CGI) the server is using.
3.	$_SERVER['SERVER_ADDR']	Returns the IP address of the host server.
4.	$_SERVER['SERVER_NAME']	Returns the name of the host server (such as www.nirali.com).
5.	$_SERVER['SERVER_SOFTWARE']	Returns the server identification string (such as Apache/2.2.24).
6.	$_SERVER['SERVER_PROTOCOL']	Returns the name and revision of the information protocol (such as HTTP/1.1).

contd. ...

7.	$_SERVER['REQUEST_METHOD']	Returns the request method used to access the page (such as POST).
8.	$_SERVER['REQUEST_TIME']	Returns the timestamp of the start of the request (such as 1377687496).
9.	$_SERVER['QUERY_STRING']	Returns the query string if the page is accessed via a query string.
10.	$_SERVER['HTTP_ACCEPT']	Returns the Accept header from the current request.
11.	$_SERVER['HTTP_ACCEPT_CHARSET']	Returns the Accept_Charset header from the current request (such as utf-8,ISO-8859-1).
12.	$_SERVER['HTTP_HOST']	Returns the Host header from the current request.
13.	$_SERVER['HTTP_REFERER']	Returns the complete URL of the current page (not reliable because not all user-agents support it).
14.	$_SERVER['HTTPS']	Is the script queried through a secure HTTP protocol.
15.	$_SERVER['REMOTE_ADDR']	Returns the IP address from where the user is viewing the current page.
16.	$_SERVER['REMOTE_HOST']	Returns the Host name from where the user is viewing the current page.
17.	$_SERVER['REMOTE_PORT']	Returns the port being used on the user's machine to communicate with the web server.
18.	$_SERVER['SCRIPT_FILENAME']	Returns the absolute pathname of the currently executing script.
19.	$_SERVER['SERVER_ADMIN']	Returns the value given to the SERVER_ADMIN directive in the web server configuration file (if your script runs on a virtual host, it will be the value defined for that virtual host) (such as someone@w3schools.com).

contd. ...

20.	$_SERVER['SERVER_PORT']	Returns the port on the server machine being used by the web server for communication (such as 80).
21.	$_SERVER['SERVER_SIGNATURE']	Returns the server version and virtual host name which are added to server-generated pages.
22.	$_SERVER['PATH_TRANSLATED']	Returns the file system based path to the current script.
23.	$_SERVER['SCRIPT_NAME']	Returns the path of the current script.
24.	$_SERVER['SCRIPT_URI']	Returns the URI of the current page.

1.3 PROCESSING FORMS

- Forms are essential parts in web development. Forms are used to communicate between users and the server.
- Form is a way to get information of the user to the server and let the server do something in response to the user's input.
- We use form to register in a website, to login, to send feedback, to place order online, to book ticket online etc.
- After submitting the form, the form is processed by PHP on the server. In PHP the form parameters are available in the $_GET and $_POST arrays.
- When user submits a form then the form parameter is send to the server. Before sending the information, browser encodes it using a scheme called URL encoding. In this scheme, name/value pairs are joined with equal signs (=) and different pairs are separated by the ampersand (&).

```
name1=value1&name2=value2&name3=value3
```

- Spaces are removed and replaced with the + character and any other non alphanumeric characters are replaced with a hexadecimal values. After the information is encoded it is sent to the server.
- There are two HTTP methods that a client can use to pass form data to the server i.e., GET and POST. The method is specified with the method attribute to the form tag.

1.3.1 GET Method (Oct. 14)

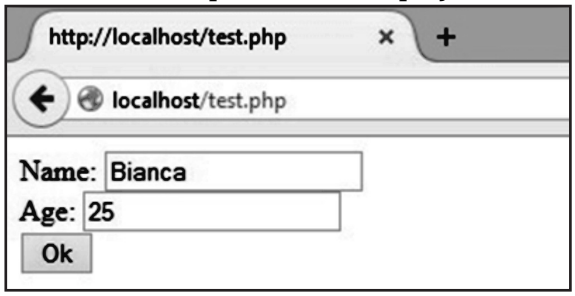
- The GET method sends the encoded user information appended to the page request (to the URL).
- The page and the encoded information are separated by the? character.

```
http://www.test.com/index.htm?name1=value1&name2=value2
```

- The GET method produces a long string that appears in your server logs, in the browser's Location: box.
- The GET method is restricted to send up to 1024 characters only.
- Never use GET method if you have password or other sensitive information to be sent to the server.
- GET cannot be used to send binary data, like images or word documents, to the server.
- The data sent by GET method can be accessed using QUERY_STRING environment variable.
- The PHP provides $_GET associative array to access all the sent information using GET method.
- Try out following example by putting the source code in test.php script.

```
<?php
  if( isset($_GET["s1"]) )
  {
     echo "Welcome ". $_GET['name']. "<br />";
     echo "You are ". $_GET['age']. " years old.";
  }
?>
<html>
<body>
  <form action="<?php $_PHP_SELF?>" method="GET">
  Name: <input type="text" name="name" /><br>
  Age: <input type="text" name="age" /><br>
  <input type="submit" name="s1" value="Ok"/>
  </form>
</body>
</html>
```

- The above program having two parts HTML and PHP. After executing the program in the browser, HTML part will be displayed first as follows as shown below:



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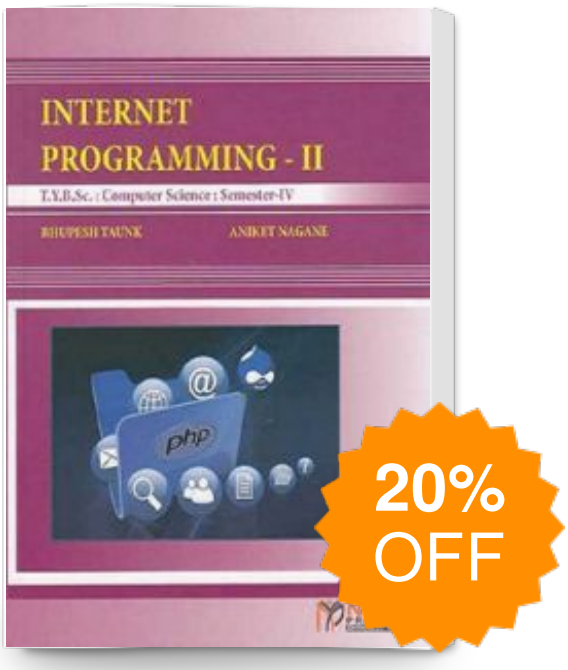

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