

Vietnam and Japan Joint ICT HRD Program

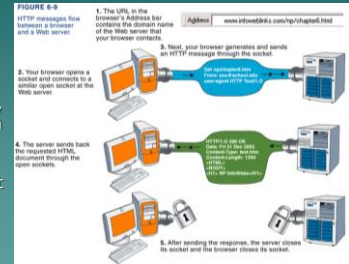
ICT 5 Web Development Chapter 10. Maintaining state through multiple forms

Nguyen Thi Thu Trang
trangntt-fit@mail.hut.edu.vn

HTTP – stateless protocol

HTTP is a **stateless protocol**

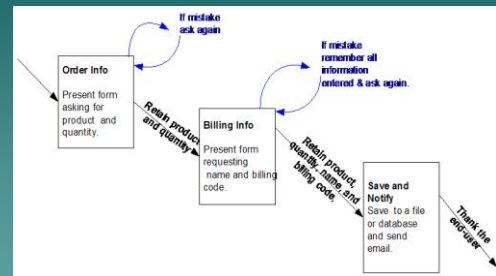
→ Once a web server completes a client's request for a web page, the connection between the two goes away.
→ There is no way for a server to recognize that a sequence of requests all originate from the same client.



What Are Multiple-Form Web Sessions?

- ◆ A multiple-form Web session leads the user through a series of HTML forms that work together and pass data from form to form.
- ◆ E.g.
 - To build a shopping cart or on-line survey.
 - To save user authentication information from page to page
 - To store persistent user preferences on a site

Example Multiple Screen Session



How to maintain the state through multiform?

- ◆ Use tricks to keep track of state information between requests (session tracking)
 - Using hidden form fields
 - URL rewriting: every local URL on which the user might click is dynamically modified to include extra information
 - ◆ <http://www.example.com/catalog.php?userid=123>
 - Using cookies: a bit of information that the server give to a client → depends on the client
 - Using session

Content

- ⇒ 1. Hidden fields
- 2. User browser cookies
- 3. PHP session

1. Hidden fields

- ◆ Hidden fields are part of HTML forms
 - Not displayed but value can be accessed in receiving script like any other variable.

```
<input type="hidden" name="preference" value="Likes Power Tools">
```

Variable name that will be available to your PHP program

Variable's value in the PHP program

- Can still be viewed by user's who view source.

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A Full Script Example

- ◆ Consider an example script sets a hidden field
 - Implements the Order Info form
 - on submit sends data to order2.php

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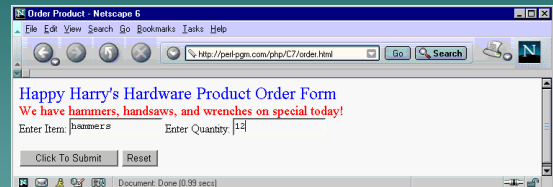
PHP Script – order.html

```
1. <html><head><title>Order Product</title></head><body>
2. <form action="order2.php" method="post">
3. <h1> Hardware Product Order Form</h1>
4. <br><p class="highlight">
5. We have hammers, handsaws, and wrenches on special today!
6. </p>
7. <input type="hidden" name="sample_hidden" value="Welcome!">
8. <br>Enter Item: <input text type="text" size="15"
   maxlength="20" name="product">
9. Enter Quantity: <input text type="text" size="15"
   maxlength="20" name="quantity"><br>
10. <br><input type="submit" value="Click To Submit">
11. <input type = "reset" value="Reset">
12. </form></body></html>
```

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The Output ...

The previous code can be executed at
<http://webwizard.aw.com/~phppgm/C7/order.html>



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Receiving Hidden Fields in Web Sessions

- ◆ Your scripts can receive data from hidden fields like any other data.
 - Suppose the following is stored at: order2.php

```
1. <html><head><title> Order Product 2 </title> </head>
2. <body>
3. <form action="order3.php" method="post">
4. <?php $sample_hidden = $_POST["sample_hidden"];
5. $product = $_POST["product"]; $quantity =
   $_POST["quantity"];
6. print "<p class='highlight'>";
7. print "Hidden value=$sample_hidden </p><br>";
8. print "You selected product=$product and
   quantity=$quantity";
```

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Receiving PHP Script

```
9. print "<br><br><input type='hidden' name='product'
   value='\"$product\"'> ";
10. print "<input type='hidden' name='quantity'
   value='\"$quantity\"'>";
11. print "<input type='hidden'
   name='\"sample_hidden\"' value='\"$sample_hidden\"'>";
12. print 'Please enter your name:';
13. print '<input type="text" size="15" maxlength="20"
   name="name">';
14. print ' and billing code: (5 digits)';
15. print '<input type="text" size="5" maxlength="5"
   name="code">';
16. print '<br> <input type="submit" value="Process Order">';
17. print '<input type="reset">';
18. ?></form></body></html>
```

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Sending email from PHP scripts

- Sometimes it is useful to send email from a PHP script:
 - PHP uses mail() that by default sends e-mail via the Simple Mail Transfer Protocol (SMTP).

```
mail(to_address, subject, message, extra_headers);
```

Specify the destination email address.

Specify the subject line of the e-mail.

Specify the Text of the email

Specify additional email headers.

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Consider the following example ...

```
1. $dest='orders@hardwareville.com';
2. $subject = 'New Hardware Order';
3. $message = 'Enclosed is a new order for 12 hammers.\n Thanks.';
4. $extra = 'From: harry@hardwareville.com';
5. mail( $dest, $subject, $message, $extra );
```

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Consider the following full example ...

- Implements save and notify
- Called from order2.php and saved at order3.php
- Can access variables \$product, \$quantity, and \$sample_hidden sent as hidden fields from the Billing Info form.

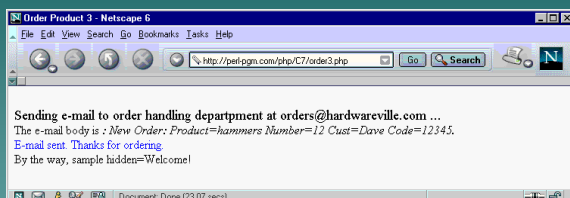
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The following PHP Script ...

```
1. <html><head><title>Order Product 3</title> </head><body>
2. <?php
3. $sample_hidden = $_POST["sample_hidden"];
   quantity=$_POST["$quantity"];
4. $product = $_POST["product"]; $name=$_POST["$name"];
5. $email='orders@hardwareville.com';
6. $body = "New Order: Product=$product Number=$quantity
   Cust=$name Code=$code";
7. print '<font size=4>';
8. print "<br>Sending e-mail to order handling department at
   $email ... </font>";
9. print "<br>The e-mail body is <i>: $body. </i>";
10. $from = 'harry@hardwareville.com';
11. $subject = "New order from $name";
12. mail($email, $subject, $body, "From: $from");
13. print "<br><font color='blue'> E-mail sent. Thanks for
   ordering. </font>";
14. print "<br>By the way, sample hidden=$sample_hidden";
15. ?></body></html>
```

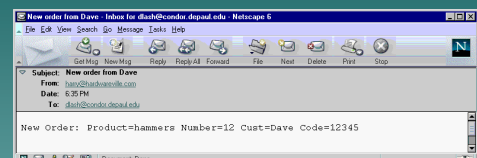
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Would have the following output ...



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Would have the following output ...



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Content

1. Hidden fields
- ⇒ 2. User browser cookies
3. PHP session

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Using Browser Cookies ...

- ◆ Cookies are small pieces of data that a Web application can save when a user visits the Web page.
 - Stored on the visitor's hard drive
 - a Web page script can read the previously stored browser cookie data

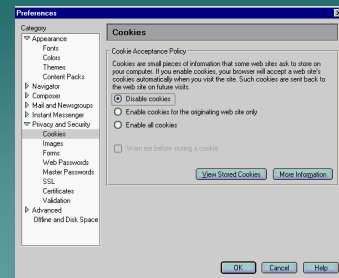
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Understanding Cookie Limitations

- ◆ Users can easily disable the cookies feature.
- ◆ People move around.
- ◆ Users may delete cookies.
- ◆ PHP sets limit on cookies

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The disable cookie screen in Netscape



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Setting and Reading Cookies

- ◆ Cookies can be set in memory or on hard disk
 - Set on hard disk are deleted when browser closes
 - Can use the setcookie() script

```
setcookie('Customer_name', 'Denise');
```

Directs browser to create a cookie

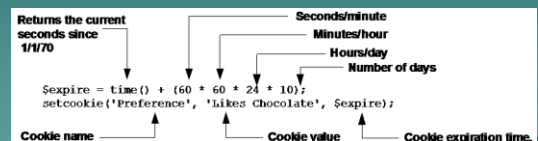
Specify the cookie's name

Specify the cookie's value

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Setting A Cookie on a Hard Drive

- ◆ You need to use the time() function when want to set a cookie on a hard drive.



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A full example of setting a cookie....

- ◆ Suppose a front-end web page asks for some survey information:

```
<input type="text" size="15" maxlength="20" name="custname">
<input type="radio" name="prefers" value="power tools"
checked > Power Tools?
<input type="radio" name="prefers"
value="hand tools"> Hand Tools?
<input type="radio" name="prefers" value="air fresheners">
Air Fresheners?
```

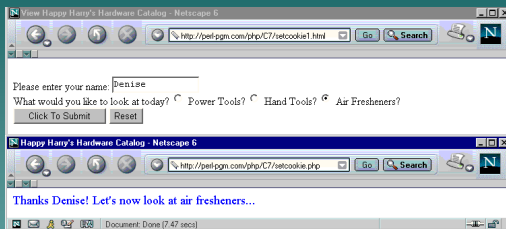
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The following script runs when submitted – setcookie.php

```
1.<?php $prefers = $_POST["prefers"];
   $expire=$_POST["expire"]; $custname=$_POST["custname"];
2. $expire = time() + (60 * 60 * 24 * 30);
3. setcookie("name", $custname, $expire);
4. setcookie("preference", $prefers, $expire);
5. ?>
6.<html>
7.<head><title>Happy Harry's Hardware Catalog </title></head>
8.<body><font size=4 color="blue">
9.<?php
10. print "Thanks $custname! ";
11. print "Let's now look at $prefers... ";
12. ?> </font></body></html>
```

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Would output:



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Reading Cookies

- ◆ You can read a cookie by using a variable name with the same name as a cookie:
 - print "\$cust_name";

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Reading Cookies with REGISTER_GLOBALS Of

- ◆ To read a cookie value use the `$_COOKIE[]` associative array to get the cookie function
- ◆ `$cust_name=$_COOKIE["cust_name"];`

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Example Script that read a cookie – readcookie.php

```
1.<html>
2.<head><title>Happy Harry's Hardware Catalog</title>
3.</head><body>
4.<?php
5. print '<font color="blue" size=4>';
6. if (isset($name)){
7.   print "Welcome back to our humble hardware site, $name.";
8. } else {
9.   print '<font color="red">';
10.  print 'Welcome to our humble hardware site.</font>';
11. }
12. if ($preference == 'hand tools'){
13.  print '<br> We have hammers on sale for 5 dollars!';
14. } elseif ($preference == 'power tools'){
15.  print '<br> We have power drills on sale for 25 dollars!';
16. } elseif ($preference == 'air fresheners'){
17.  print '<br> We now carry extra-strength air fresheners!';
18. } else {
19.  print '<br> <font color="red">';
20.  print 'We have drills and hammers on special today!';
21. }
22. ?></font></html>
```

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Example Script that read a cookie

```

1.<html>
2.<head><title>Happy Harry's Hardware Catalog</title>
3.</head><body>
4.<?php $name = $_COOKIE["name"]; $preference = $_COOKIE["preference"];
5. print '<font color="blue" size=4>';
6. if (isset($name)){
7.   print "Welcome back to our humble hardware site, $name.";
8. } else {
9.   print '<font color="red">';
10.  print 'Welcome to our humble hardware site.</font>';
11. }
12. if ($preference == 'hand tools'){
13.  print '<br> We have hammers on sale for 5 dollars!';
14. } elseif ($preference == 'power tools'){
15.  print '<br> We have power drills on sale for 25 dollars!';
16. } elseif ($preference == 'air fresheners'){
17.  print '<br> We now carry extra-strength air fresheners!';
18. } else {
19.  print '<br> <font color="red">';
20.  print 'We have drills and hammers on special today!';
21.}
22. ?></font></html>

```

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Content

1. Hidden fields
2. User browser cookies
- ⇒ 3. PHP session

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PHP Sessions

- ◆ PHP supports two functions that enable you to retain data between forms
 - `session_start()` - either starts a new session or resumes one if a session exists
 - ◆ Run at the start of every script
 - ◆ By default creates a unique session ID stored as a cookie
 - `session_register()` - registers one or more variables as session variables


```

$name = 'Matthew';
$preference = 'Soccer Equipment';
session_register('name', 'preference');

```

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Example PHP Code

```

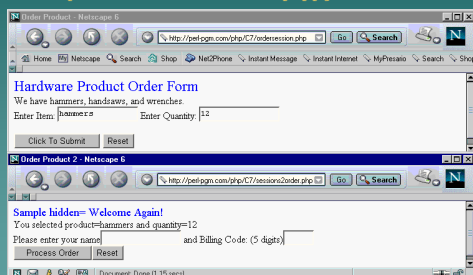
1.<?php session_start(); ?>
2.<html><head><title>Order Product</title>
3.</head><body>
4.<form action="sessions2order.php" method="post">
5.<font color="blue" size=5> Hardware Product Order Form
</font>
6.<br> We have hammers, handsaws, and wrenches.
7.<br>Enter Item: <input type="text" size="15"
maxlength="20" name="product">
8.Enter Quantity: <input type="text" size="15"
maxlength="20" name="quantity"><br>
9.<?php
10. $sample_hidden='Welcome Again!';
11. session_register('sample_hidden', $sample_hidden);
12. ?>
13.<br><input type="submit" value="Click To Submit">
14.<input type="reset" value="Reset" >
15.</body></html>

```

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Example output

This script can be executed at:
<http://webwizard.aw.com/~phppgm/C7/ordersession.php>



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Use the following script to read the session data - sessions2order.php

```

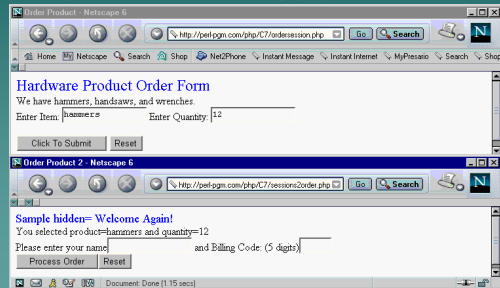
1.<?php session_start() ?>
2.<html><head><title> Order Product 2 </title> </head>
3.<body>
4.<form action="sessions3order.php" method="post">
5.<?php $sample_hidden = $_SESSION['sample_hidden'];
6. print "<h1> Sample hidden= $sample_hidden</h1>";
7. print "<br>You selected product=$product and
quantity=$quantity";
8. session_register('product', $product);
session_register('quantity', $quantity);
9. print '<br>Please enter your name';
10. print '<input type="text" size="15" maxlength="20"
name="name">';
11. print ' and Billing Code: (5 digits)';
12. print '<input type="text" size="5" maxlength="5"
name="code">';
13. print '<br> <input type="submit" value="Process Order">';
14. print '<input type="reset">';
15. print '</form></body></html>';
16. ?>

```

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Example output

This script can be executed at:
<http://webwizard.aw.com/~phpgm/C7/ordersession.php>



Some session extras

- ◆ `session_is_registered()` - can be used to determine if a variable comes from a session:

```
if (session_is_registered('name')) {  
    print "got name=$name from session";  
} else {  
    print "name=$name not set from session";  
}
```

Session Extras - \$_SESSION

- ◆ Use `$_SESSION` Associative array when `REGISTER_GLOBALS` are off in `php.ini`
 - Do not need to use `session_register()`
- ```
session_start();
$_SESSION['sample_hidden'] = 'Welcome!';
```

## Summary

- ◆ Hidden fields are HTML form fields you can use to set a variable name and variable value without displaying them on a form.
- ◆ Cookies provide a way for Web server applications to store small pieces of data on the user's hard disk.
- ◆ PHP session functions provide a convenient way to retain data between PHP scripts.
  - Use `session_start()` and `session_register()` functions to start sessions and define session variables, respectively

Question?

