IT1100

Internet and Web technologies

Lecture 09
Cookies and Sessions

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SLIIT

Discover Your Future

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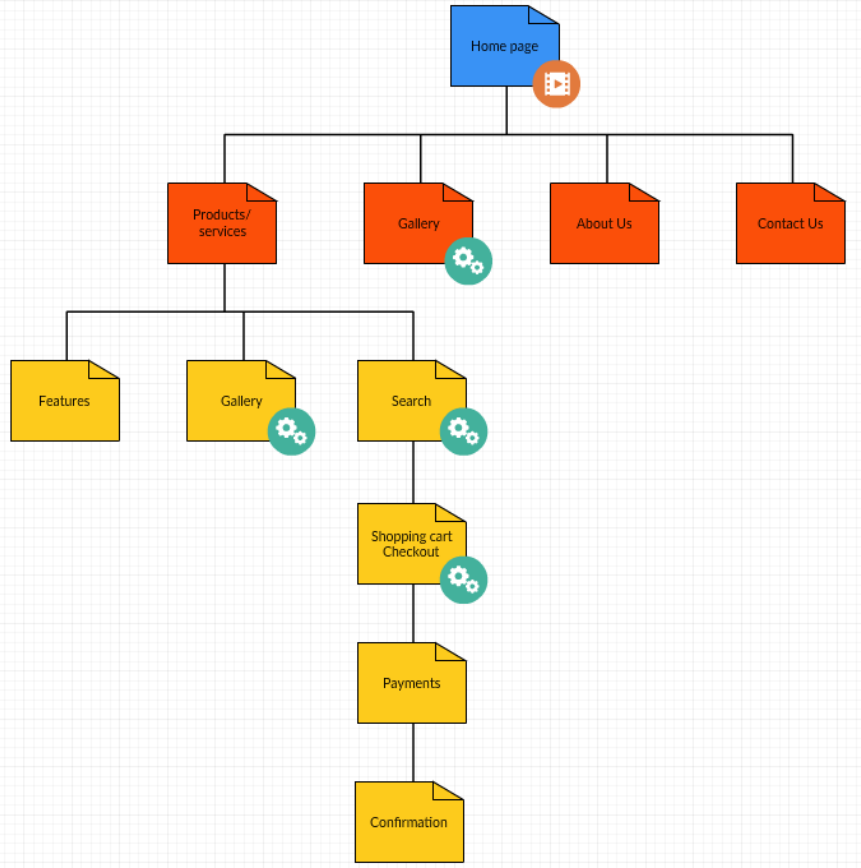
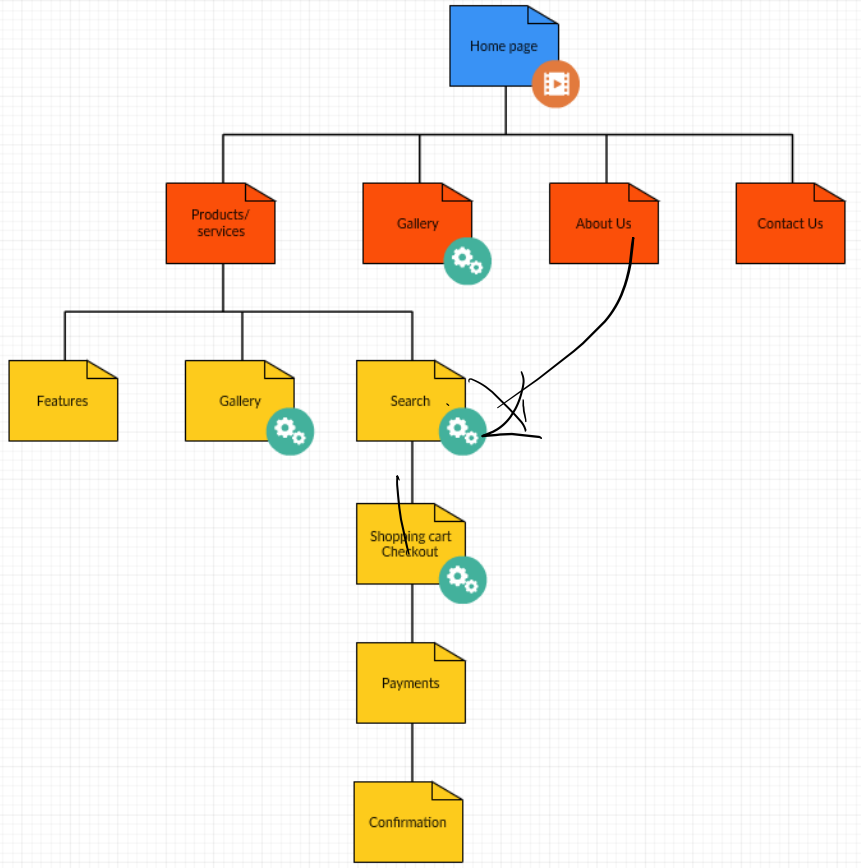
1. Introduction to PHP Cookies and Sessions

- A web application may contain multiple pages
  - a page may contain multiple features
- A user may navigate through multiple pages and use multiple features, while performing complex transactions, when accessing a web application
  - This may cause many request-response cycles
  - E.g. – Online shopping application -> items pages, shopping cart page, checkout page, etc…



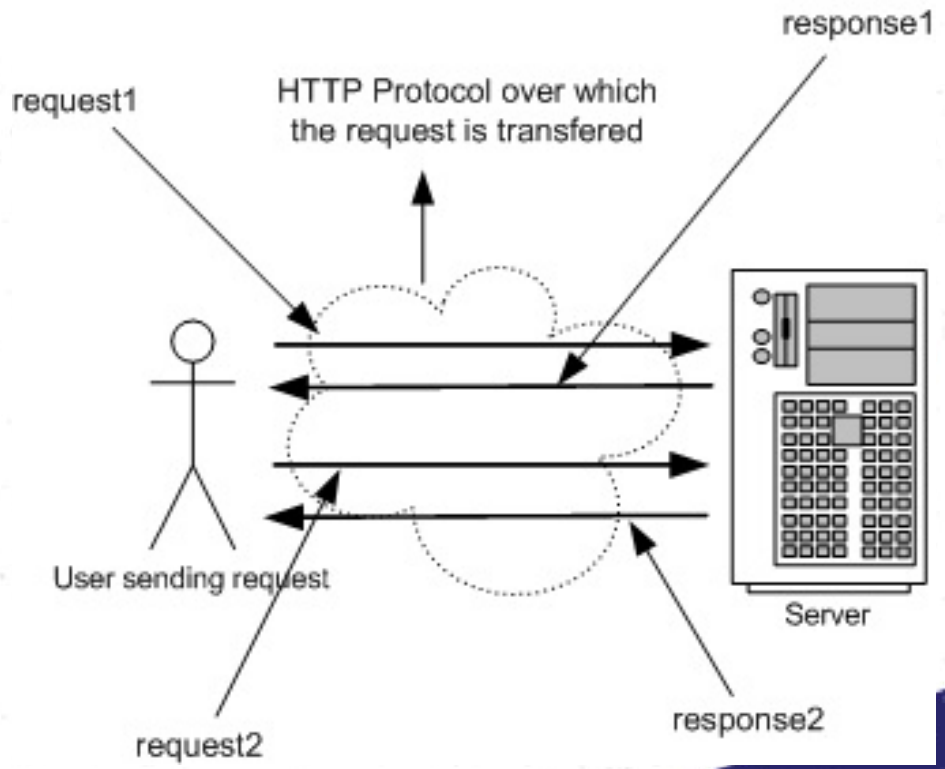
1. Introduction to PHP Cookies and Sessions

- When the user utilizes a web application to accomplish task(s)/transaction(s), from the point the user **starts using** the application up to the point the user **leaves** the application, it can be seen as a **user session**.
- There can be some common data to be used by the application throughout the user session.
  - E.g. – User details (user name), logging details (authorization), items in the cart, etc…



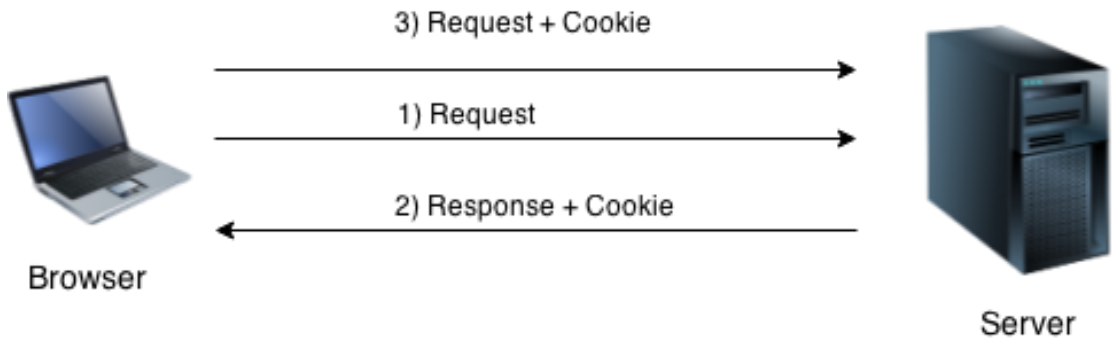
1. Introduction to PHP Cookies and Sessions

- **HTTP is a stateless protocol**
  - It cannot maintain details/data between multiple requests
  - If need to share data between pages/requests, application level mechanism should be used
- PHP use techniques named **Cookies** and **Sessions**



2. Cookies
2.1 Introduction

- Cookie is a small entry, which is saved in the user's device, by the server
  - Usually managed by the browser in a secured way
- Once a cookie is created/set, it will be sent back to the server with the each request
- Cookies can also be processed by JS
  - Because it is saved in the client-side



2. Cookies
2.2 Set a cookie

- A cookies is set as a **name:value** pair with some additional details

// setcookie(***name***, ***value***, *expire, path, domain, secure, httponly*);

setcookie(“Name”, “SLIIT”, time() + (86400 * 30), "/");

Time in seconds
86400 = 1 day

available for the entire website
(or specify the dir)

2. Cookies
2.2 Set a cookie

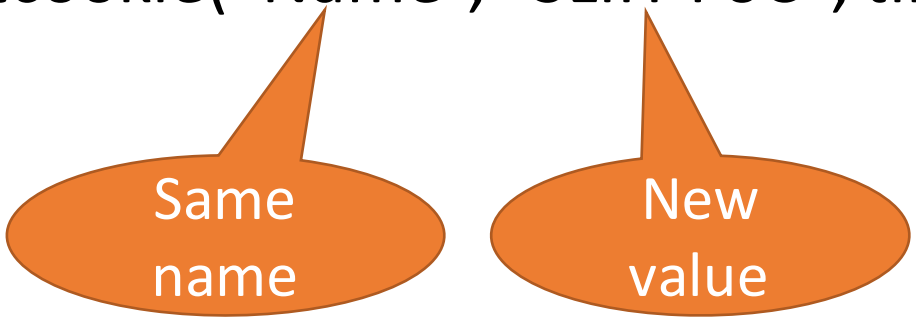
- You can see the cookie in the browser.
- Cookie will be expired after the set time
- You can remove the cookie(s) in the browser, using the browser settings

- DEMO

2. Cookies
2.3 Modify a cookie

- To modify a cookie, you may set it again with the new value (and other data)
- setcookie(“Name”, “SLIIT”, time() + (86400 * 30), "/");

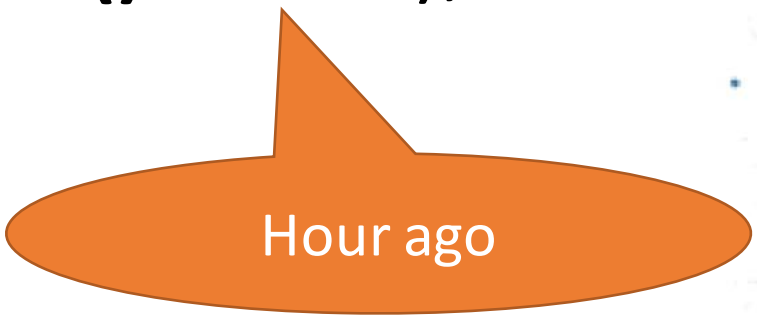
- setcookie(“Name”, “SLIIT FoC”, time() + (86400 * 30), "/");



2. Cookies
2.4 Delete a cookie

- To delete a cookie, modify it with a past expiration time

setcookie(" Name ", "", **time() - 3600**);



2. Cookies
2.4 Delete a cookie

- To delete a cookie, modify it with a past expiration time

setcookie(" Name ", "", **time() - 3600**);

2. Cookies
2.5 Use cookies

- Cookies are accessible using the $_COOKIE super global,
  - use the cookie name for the index

```
echo $_COOKIE[“Name”]
```

2. Cookies
2.6 Validate cookies

- You can check if the cookies are enabled for the application by checking the cookie count
  - count($_COOKIE)

```
if(count($_COOKIE) > 0) {
    echo "Cookies are enabled.";
}
else {
    echo "Cookies are disabled.";
}
```

2. Cookies
2.6 Validate cookies

- You can check for a specific cookie using the isset()

```
if(isset($_COOKIE[“Name”])) {
    echo $_COOKIE[“Name”];
}
else {
    echo “No such cookie”;
}
```

```php
<!DOCTYPE html>
<?php
$cookie_name = "user";
$cookie_value = "John Doe";
setcookie($cookie_name, $cookie_value, time() + (86400 * 30), "/");

// 86400 = 1 day
?>
<html>
<body>

<?php
if(!isset($_COOKIE[$cookie_name])) {
    echo "Cookie named '" . $cookie_name . "' is not set!";
} else {
    echo "Cookie '" . $cookie_name . "' is set!<br>";
    echo "Value is: " . $_COOKIE[$cookie_name];
}
?>

<p><strong>Note:</strong>You might have to reload the page to see the value of the cookie.</p>

</body>
</html>
```

Output?

Cookie named 'user' is not set!

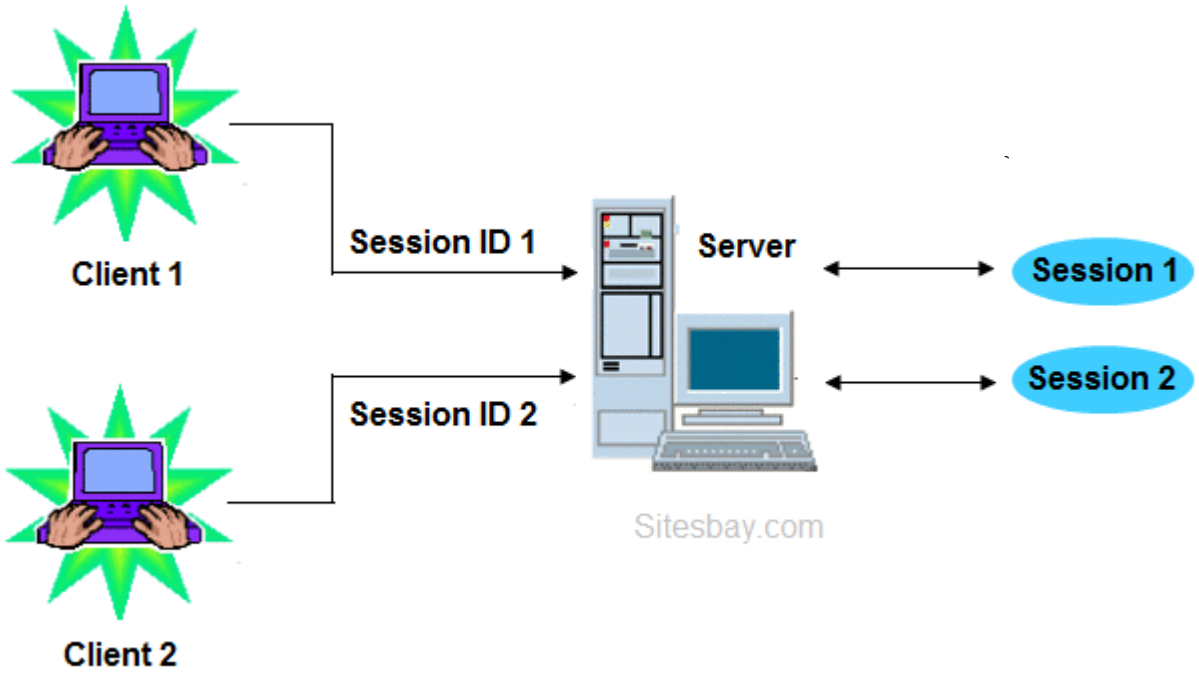
Note: You might have to reload the page to see the value of the cookie.

Cookie 'user' is set!
Value is: John Doe

Note: You might have to reload the page to see the value of the cookie.

3. Sessions
3.1 Introduction

- Sessions are stored in the server
- PHP server can identify the user session and maintain the Session variables within a user session
- Unlike cookies, Sessions are discarded when the user leaves the application (closes the browser)



3. Sessions
3.1 Introduction

- When the Session variables are used in an application, you have to start the session on each and every page, which use sessions

//This should be the first line of the page/file

session_start();

3. Sessions
3.2 Set/modify Session variables

- A Session variable is also a **name:value** pair
  - Use the $_SESSION super global variable
  - Name of the Session entry is used as the index

```
$_SESSION[“Name”] = “SLIIT”;
```

- To modify, you can simply assign the new value

```
$_SESSION[“Name”] = “SLIIT FoC”;
```

3. Sessions
3.2 Set/modify Session variables

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  - Use the $_SESSION super global variable
  - Name of the Session entry is used as the index

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$_SESSION[“Name”] = “SLIIT”;
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- To modify, you can simply assign the new value

```
$_SESSION[“Name”] = “SLIIT FoC”;
```

3. Sessions
3.3 Use Session variables

- Session variables can be used in the same way as a regular variable

```
echo $_SESSION[“Name”];
```

3. Sessions
3.4 End Session variables

- Session variables can be explicitly discarded by the application

```
// remove all session variables
session_unset();

// destroy the session
session_destroy();
```

E.g. :When the user logs off from the application

3. Sessions
3.5 Validate Session variables

- isset() can be used to check if the Session variable is available

```
if(isset($_SESSION[“Name”])) {
        echo $_SESSION[“Name”];
}
else {
        echo “No such Session”;
}
```

3. Sessions
3.5 Validate Session variables

- empty() can be used to check if the Session variable contains a value

```
if(!empty($_SESSION[“Name”])) {
        echo $_SESSION[“Name”];
}
else {
        echo “Session has no value”;
}
```

```
<?php session_start();
if( isset( $_SESSION['counter'] ) ) {
$_SESSION['counter'] += 1;
}else {
$_SESSION['counter'] = 1;
}
$msg = "You have visited this page ". $_SESSION['counter']; $msg .= "in this session.";
?>
<html>
<head> <title>
Setting up a PHP session</title>
</head>
<body>
<?php echo ( $msg );
?>
</body>
</html>
```

Output?

4. Some use of the sessions

- The common uses of Sessions are
  - To maintain the user details (If the user is logged in or not)
  - To store the items in a shopping cart

4. Some use of the sessions
4.1 User log in – index.php

```
<html>
<head>
</head>
<body>
 <h1>Log in</h1>
 <form method="post" action="index.php">
     Username: <input type="text" name="txtName"/><br>
     Password: <input type="password" name="txtPass"/><br>
     <input type="submit"/>
 </form>
</body>
</html>
```

4. Some use of the sessions
4.1 User log in – index.php

- If the request has the $_POST["txtName"], then it is the log in form submission

```
if(isset($_POST["txtName"]))
{
        //Validate the user
        //If a validuser, set a Session
}
```

4. Some use of the sessions
4.1 User log in – index.php

- User can be validated against the data in a DB
  - The sample code below validates the user against some static data just for demonstration

```
if($_POST["txtName"]=="asd" && $_POST["txtPass"]=="123")
{
        //Valid user, so set the Session
        $_SESSION["userName"] = $_POST["txtName"];
}
```

4. Some use of the sessions
4.1 User log in – index.php

- You may also check, if this is an already logged user.
  - We do not want to show a log in page to an already logged in user

```
if(isset($_SESSION["userName"]))
{
    //Redirect to another page
    header("Location:home.php");
}
```

4. Some use of the sessions
4.1 User log in – index.php

```
<?php //TOP OF THE PAGE
session_start();

if(isset($_POST["txtName"])){
  if($_POST["txtName"]=="asd" && $_POST["txtPass"]=="123")  {
            $_SESSION["userName"] = $_POST["txtName"];
   }
}

if(isset($_SESSION["userName"])) {
            header("Location:home.php");
}
?>
```

4. Some use of the sessions
4.1 User log in – Other pages (home.php)

- We can identify if the user is an already logged in user or not by checking the Session.

```
<?php
session_start();

$userName = "";
if(isset($_SESSION["userName"])) { //Already logged in
    $userName = $_SESSION["userName"]; //Use the session value
}
else {// Not logged in
    header("Location:index.php"); //Redirect to the login page
}
?>
```

4. Some use of the sessions
4.1 User log in – Other pages (home.php)

- Other pages may have a log out feature

```
<html>
<head>
</head>
<body>
    <h1>Hello <?php echo $userName; ?></h1>
    <form method="post" action="logoff.php">
        <input name="logoff" type="submit" value="Log off"/>
    </form>
</body>
</html>
```

4. Some use of the sessions
4.1 User log off – logoff.php

- Check if the request if coming from a logoff feature
  - If coming from a log off feature, then end the Session and redirect to log in page

```
if(isset($_POST["logoff"]))
{
        session_destroy();
        header("Location:index.php");
}
```

4. Some use of the sessions
4.1 User log off – logoff.php

- If someone is trying to visit the page directly, we had better redirect to a proper page

```
else
{
        header("Location:home.php");
}
```

4. Some use of the sessions
4.1 User log off – logoff.php

```
<?php
session_start();

if(isset($_POST["logoff"])) {
    session_destroy();
    header("Location:index.php");
}
else {
    header("Location:home.php");
}
?>
```

Summary

1. Introduction to PHP Cookies and Sessions
2. Cookies
3. Sessions
4. Some use of the sessions