

# Bazaar – php example code – part 6 – user login with SESSIONS and COOKIES

This new year article will focus on using `$_SESSION` and `$_COOKIE` variables in process on login user into a application. As first part of our next topics focused on user validation and differentiation app behavior we will take closer look on signing up and login of page user.

## Login mechanism in closer look

In our previous application of mailer, we used for restricting access in to a specific page only HTTP header authentication mechanism. This approach is very simple but not scale well in larger sites with different pages with partialy or complet access restrictions.

New approach relays on login ability created by login.php script. Login script obtain user login credentials, compare it with those stored in database (passwords can not be stored as plain text, but we store only sha1 hashes and make comparism with hashes together for deciding about corect or incorrect login).

After succesfull login `$_SESSION` variables are set. For better persistency there is made combination with `$_ COOKIES` variable. COOKIES are stored in local users browser and are available only if they are enabled by user, that must be kept in mind.

In all pages are SESSION started in first parts of php code and from COOKIES restore sessions among all pages where login

restrictions must be made. In our next article, we take a closer look how limiting or differentiating page looks for different category of users introduced with category of users database field.

For logout, there is available logout script with mechanism for invalidating COOKIES and clearing SESSIONS variables.

## **Creating new users with sign up script**

Our application needs mechanism for subscribing new users for deeper access in pages for submitting items for sell or more specific page available only for admin role of user – adminpage.

New user provides username, e-mail and type 2x password. Username must be unique and not used by another user. This mechanism is implemented in sql query but in our approach not in UNIQUE restriction in database field.

After successful login credentials creation, user can log in with existing login script.

Now we can take closer look at mentioned pages.

## **Sign Up script**

User provides from sign up form username, e-mail and password. If username is unique (no unique e-mail is needed, because we can expect different logins of seller for different account with the same e-mail) user login credentials are added and user with role „user“ is introduced into bazar\_user database

table.

User role grant ability to buy and sell items, but not provide management ability mark items as eligible for visibility on title page of bazaar.

Listening of our script follows.

```
<!--
*****
*** -->
<!-- PHP „self“ code handling sign up for membership on the bazaar app -->
<!--
*****
*** -->
<!-- Vrsion: 1.0          Date: 24.10-24.10.2020 by CDesigner.eu
-->

<!--
*****
*** -->
<?php
    require_once('appvars.php'); // including variables for database

    // two variables for message and styling of the message with bootstrap
    $msg = "";
    $msgClass = "";
    $u_name = "";
    $usr_passwd = "";
/* Attempt MySQL server connection. */
$dbc = mysqli_connect(DB_HOST, DB_USER, DB_PW, DB_NAME);
if(isset($_POST['submit'])) {
    // obtaining submitted data from POST
    $u_name = htmlspecialchars($_POST['u_name']);
    $u_pass_1 = htmlspecialchars($_POST['u_pass_1']);
    $u_pass_2 = htmlspecialchars($_POST['u_pass_2']);
    $email = htmlspecialchars($_POST['email']);
```

```

        if(!empty($u_name) && !empty($email) && !empty($u_pass_1)
        && !empty($u_pass_2) && ($u_pass_1 = $u_pass_2)) {
            // make sure that username is available and is not regist
            ered for someone else
            $sql = „SELECT * FROM bazaar_user WHERE username = „.$u
            _name'“ ;
            $data = mysqli_query($dbc, $sql);

            if(mysqli_num_rows($data) == 0) {
                // username is unique and have not been used by any
                previous user
                $usr_passwd_sha1 = sha1($u_pass_2);
                $sql = „INSERT INTO bazaar_user (username, pass_wor
                d, write_date, email, nickname)
                    VALUES (,$u_name', , $usr_passwd_sha1' , now
                ()), , $email', '$u_name')“; // by default nickname and username
                are the same, next user can change
                if(mysqli_query($dbc, $sql)){
                    $msg = , Your new account has been created success
                    fully.
                    You are now ready to <a href=“login.php“>log in</a
                    >';
                    $msgClass = ,alert-success';
                } else{
                    echo „ERROR: Could not able to execute $sql. “
                    . mysqli_error($dbc); // if database query problem
                }
                //success confirmation for registered user

                // Free result set
                mysqli_free_result($data);
                // Close connection

                //exit(); if used blank page will be displayed wit
                hout any other redirecting
            } else { // an account already exists for this username
            , so display an error message

                $msg = , An account for submitted username already
                exsts. Please use different username ...';
            }
        }
    }
}

```

```

        $msgClass = ,alert-danger';
    }
} else {

        $msg = , Your must enter all of the required data,
including contact e-mail address.';
        $msgClass = ,alert-danger';
    }

}

    // Close connection
    mysqli_close($dbc);
?>
<!-- ***** ->
<!-- HTML code containing Form for submitting ->
<!-- ***** ->
<!DOCTYPE html>
<html>
<head>
    <title> Bazaar signup page </title>
    <link rel="stylesheet" href="./css/bootstrap.min.css"> <!-- b
ootstrap mini.css file ->
    <link rel="stylesheet" href="./css/style.css"> <!-- my local.
css file ->
    <script src="https://code.jquery.com/jquery-3.1.1.slim.min
.js" integrity="sha384-
A7FZj7v+d/sdmMqp/n0QwliLvUsJfDHW+k90mg/a/EheAdgtzNs3hpfag6Ed95
0n" crossorigin="anonymous"></script>
    <script src="https://cdnjs.cloudflare.com/ajax/libs/te
ther/1.4.0/js/tether.min.js" integrity="sha384-
DztdAPBWPRXSA/3eYEEUWrWCy7G5KFbe8fFjk5JAIxUYHKkDx6Qin1DkWx51bB
rb" crossorigin="anonymous"></script>

</head>
<body>
    <nav class="navbar navbar-default">
        <div class="container">
            <div class="navbar-header">
                <a class="navbar-
brand" href="index.php">Bazaar – Signup for submitting/ buying
your items</a>

```

```

        </div>
    </div>
</nav>
<div class="container" id="formcontainer">

    <?php if($msg != ""): ?>
        <br>
        <div class="alert <?php echo $msgClass; ?>"><?php echo
$msg; ?></div>
        <?php endif; ?>

        <br>
        
        <br>
        <form method="post" action="<?php echo $_SERVER[,PHP_
SELF']; ?>">
            <div id="login">
                <legend> Please register for Bazaar membership
</legend>
                    <label>Username:</label>
                    <input type="text" onfocus="this.value='<?
php echo isset($_POST[,u_name']) ? $u_name : "; ?>' " name="u_n
ame"
                                class="form-
control" value="<?php echo isset($_POST[,u_name']) ? $u_name :
,Login name'; ?>">
                    <label>e-mail:</label>
                    <input type="text" onfocus="this.value='<?
php echo isset($_POST[,email']) ? $email : "; ?>' " name="email
"
                                class="form-
control" value="<?php echo isset($_POST[,email']) ? $email : ,
@'; ?>">
                    <label>Password:</label>
                    <input type="password" onfocus="this.value
='<?php echo isset($_POST[,u_pass_1']) ? " : "; ?>' " name="u_p
ass_1"
                                class="form-
control" value="<?php echo isset($_POST[,u_pass_1']) ? " : ";
?>">

```

```

        <label>Password:</label>
        <input type="password" onfocus="this.value
        ='<?php echo isset($_POST[,u_pass_2']) ? " : "; ?>' " name="u_p
        ass_2" class="form-
        control" value="<?php echo isset($_POST[,u_pass_2']) ? " : ";
        ?>">

        </div>
        <input id="loginsubmitt" type="submit" name="submit
        " class="btn btn-info" value="Sign In">
        <br>
        </form>

    </div>


<div class="footer">
        <a class="navbar-
        brand" href="https://cdesigner.eu"> Visit us on CDesigner.eu <
        /a>
    </div>

</body>
</html>

```

Front look at signup page follows.

Your new account has been created successfully. You are now ready to [log in](#)



Please register for Bazaar membership

**Username:**

**e-mail:**

**Password:**

**Password:**

## Login page

Code for loginpage take place only if user is not allready loged in. In this option is not set `isset($_SESSION[,users_id'])` . After verfication of login credentials SESSION variables and COOKIES are set for loged in user. Also loed in user is redirected on index.php main page as it contains next code.

```
<!--
```

```
*****
```

```
*** -->
```



```

<!-- PHP „self“ code handling login into the bazaar app
        ->

<!--
*****
*** ->
<!-- Vrsion: 1.0          Date: 11.10-24.10.2020 by CDesigner.eu
        ->

<!--
*****
*** ->
<?php
    require_once(,appvars.php'); // including variables for datab
ase
    session_start(); // start the session

    // two variables for message and styling of the mesage with b
ootstrap
    $msg = “;
    $msgClass = “;
    $usr_username = “;
    $usr_passwd = “;
//get info that user is logged in, if not try it looking at coo
kies
//if(!isset($_COOKIE[,s’])) { old solution with cookies
    if(!isset($_SESSION[,users_id’])) { //new with session varia
bles
        if(isset($_POST[,submit’])) {
            /* Attempt MySQL server connection. */
            $dbc = mysqli_connect(DB_HOST, DB_USER, DB_PW, DB
_NAME);

                // accessing user entered login data
            $usr_username = htmlspecialchars($_POST[,u_name’]
);
            $usr_passwd = htmlspecialchars($_POST[,u_pass’]);

            if(!empty($usr_username) && !empty($usr_passwd))
{
                // try lookup user database
                $usr_passwd_SHA = sha1($usr_passwd);
                $sql = „SELECT users_id, username, user_role FRO

```

```

M bazaar_user WHERE username = „.“, $usr_username'“. “ AND pass
_word = „.“, $usr_passwd_SHA'“ ;
    // debug output echo $usr_username;
    // echo $usr_passwd;
    //echo $usr_passwd_SHA;
    $data = mysqli_query($dbc, $sql);

    if(mysqli_num_rows($data) == 1) {
        // login is ok, set user ID and username co
okies and redirect to the homepage
        $row = mysqli_fetch_array($data);
        //setcookie(,users_id', $row[,users_id']); o
ld solution with cookies
        //setcookie(,username', $row[,username']);
        $_SESSION[,users_id'] = $row[,users_id']; //
sloution with sessions
        $_SESSION[,username'] = $row[,username'];
        $_SESSION[,user_role'] = $row[,user_role'];
// added user_role session variable
        // new cookies for login persistency that ex
pires after 30 days without logout combination SESSION with CO
OKIES is available
        setcookie(,users_id', $row[,users_id'], time
()+ (60+60*24*30));
        setcookie(,username', $row[,username'], time
()+ (60+60*24*30));
        setcookie(,user_role', $row[,user_role'], ti
me()+ (60+60*24*30)); // cookie for user_role of logged in user
added
        $home_url = ,http://'. $_SERVER[,HTTP_HOST']
. dirname($_SERVER[,PHP_SELF']) . ,/index.php';
        header(,Location:'. $home_url);
        // Free result set
        mysqli_free_result($data);
        // Close connection
        mysqli_close($dbc);
    } else {
        // urename/ password are incorrect – error m
essage is displayed
        $msg = „Incorrect username or password. Logi
n denied! „;

```

```

        $msgClass = ,alert-danger';

    }

    } else {
        // username/ password were not entered – displ
ay error message
        $msg = „Sorry, you must eneter username and pa
ssword to log in. „;
        $msgClass = ,alert-danger';

    }

}
?>
<!-- ***** ->
<!-- HTML code containing Form for submitting ->
<!-- ***** ->
<!DOCTYPE html>
<html>
<head>
    <title> Bazaar login page </title>
    <link rel="stylesheet" href="./css/bootstrap.min.css"> <!-- b
ootstrap mini.css file ->
    <link rel="stylesheet" href="./css/style.css"> <!-- my local.
css file ->
    <script src="https://code.jquery.com/jquery-3.1.1.slim.min
.js" integrity="sha384-
A7FZj7v+d/sdmMqp/n0QwliLvUsJfDHW+k90mg/a/EheAdgtzNs3hpfag6Ed95
0n" crossorigin="anonymous"></script>
    <script src="https://cdnjs.cloudflare.com/ajax/libs/te
ther/1.4.0/js/tether.min.js" integrity="sha384-
DztdAPBWPRXSA/3eYEEUWrWCy7G5KFbe8fFjk5JAIxUYHKkDx6Qin1DkWx51bB
rb" crossorigin="anonymous"></script>

</head>
<body>
    <nav class="navbar navbar-default">
        <div class="container">
            <div class="navbar-header">
                <a class="navbar -

```

```

brand" href="index.php">Bazaar – Login page</a>
    </div>
</div>
</nav>
<div class="container" id="formcontainer">
<?php if($msg != ""): ?>
    <br>
    <div class="alert <?php echo $msgClass; ?>"><?php echo
$msg; ?></div>
    <?php endif; ?>

    <?php
        //if(empty($_COOKIE[,users_id'])) { solution with
cookies
        if(empty($_SESSION[,users_id'])) { // solution w
ith sessions
            // only show for if session with name users_id
does not exist
            //echo , <br> ;;
            //echo ,<p class="alert alert-
danger">' . $msg . ,</p>';
            ?>

            <br>
            
            <br>
            <form method="post" action="<?php echo $_SERVER[,PHP_
SELF']; ?>">
                <div id="login">
                    <legend> Log In </legend>
                    <label>Username:</label>
                        <input type="text" onfocus="this.value='<?
php echo isset($_POST[,u_name']) ? " : "; ?>' " name="u_name" c
lass="form-
control" value="<?php echo isset($_POST[,u_name']) ? ,Please r
eenter' : ,Login name'; ?>">
                            <label>Password:</label>
                                <input type="password" onfocus="this.value
='<?php echo isset($_POST[,u_pass']) ? " : "; ?>' " name="u_pas
s"
                                class="form-

```

```


control" value="<?php echo isset($_POST[,u_pass']) ? ,Please re
eenter' : ,Login name'; ?>">
    </div>
    <input id="loginsubmitt" type="submit" name="submit
" class="btn btn-info" value="Log In">
    <br>
</form>
<?php } else {
    // successfull login
    // cookie solution echo ,<p class="alert ale
rt-
success"> You are logged in as , . $_COOKIE[,username']. ,</p>'
;
        echo ,<br>';
        echo ,<p class="alert alert-
success"> You are logged in as <em>' . $_SESSION[,username']. ,
</em></p>'; // session solution
        echo ,<p class="alert alert-
success"> If you will logout or login with anither credentials
, please first <a href="logout.php">logout!. </a></p>';
    }
    ?>
</div>

<div class="footer">
    <a class="navbar-
brand" href="https://cdesigner.eu"> Visit us on CDesigner.eu <
/a>
</div>

</body>
</html>

```

Next pictures display output on page after difrenet state of login process.



Log In


**Username:**

**Password:**

[LOG IN](#)

Log In page of Bazaar app

Incorrect username or password. Login denied!



Log In

**Username:**

**Password:**

[LOG IN](#)

Error messaging after unsuccesfull login

## Logout script

Last and shortest code page is logout page. After hitting link for logout, user sessions and cookies are immediately destroyed and user is logged out. Without logout with cookies enabled, user is logged in in browser for 30 days. If browser disables cookies, user is logged in only if sessions are active up to closing browser windows.

Full code follows:

```
<!--
*****
*** -->
<!-- PHP „self“ code handling logout procedure into the bazaar
app -->
<!--
*****
*** -->
<!-- Vrsion: 1.0          Date: 24.10-24.10.2020 by CDesigner.eu
-->
<!--
*****
*** -->
<?php
    require_once('appvars.php'); // including variables for database
    // part for SESSION solution for login persistence and its ending
    //even when logging out you have to first start the session in order to access the session variables
    session_start();
    if(isset($_SESSION['users_id'])) {
```

```

        $_SESSION = array(); // deleting session vars

    };
    // if session cookie exists, then delete it
    if(isset($_COOKIE[session_name()])) {
        setcookie(session_name(), "", time() - 3600);

    };
    // Destroy session
    session_destroy();
    // logout user by deleting cookie – for COOKIES persistence solution

    /* if(isset($_COOKIE[,users_id'])) {
        setcookie('user_id', "", time() - 3600);
        setcookie('username', "", time() - 3600);
        echo „deleted cookies“;

    }; */
    // for our final solution SESSIONS+ longer login persistence with COOKIES must be also cookies deleted
    setcookie('users_id', $row['users_id'], time()-3600);
    setcookie('username', $row['username'], time()-3600);
    setcookie('user_role', $row['user_role'], time()-3600); // added deletion of user_role cookie – after altering table for user_role
    // redirect to homepage in logout state
    $home_url = 'http://'. $_SERVER['HTTP_HOST'] . dirname($_SERVER['PHP_SELF']) . '/index.php';
    header('Location: ' . $home_url);
?>

```

## Conclusion and final thoughts

In this article we take focus on way how to grant user limited access in to a page resources. This solution uses sessions



with supporting role by cookies.

In our next article we will focus how to use session log in information for differentiating page display for different roles of page users (anonymous = unlogged, user-s and admin-s).

Full code in as is state can be obtained from github [here](#).