

## Lab 01

### Task 1: Set up and test your user account on the web server (10 marks)

To access a webpage or run a server-side script such as a PHP script, we first need to use a SFTP (Secure FTP) client software to upload the files onto the Web server. For Windows OS, WinSCP (<https://winscp.net/>) can be used. For Mac OS, Filezilla (<https://filezilla-project.org/>) or Cyberduck (<https://cyberduck.io/><sup>1</sup>) can be used.

#### Step 1: Enable AUT remote internet service (if accessing the server outside AUT campuses)

If accessing the web server remotely (not in AUT intranet), log into the AUT distance internet service from <https://distance.aut.ac.nz>. Otherwise skip this step.

#### Step 2: Connect to the server to transfer files.

- Launch WinSCP. WinSCP is available on all lab computers or otherwise be installed on your own machine. It can be found by clicking *Windows Start Button* (left corner) and then typing *winscp*.  
(NB: In case WinSCP is not installed on the computer you are using, you can also download a portable version (no install required) from <https://winscp.net/download/WinSCP-6.3.1-Portable.zip>)
- Using WinSCP, log on to the server with the host name '*webdev.aut.ac.nz*', user name: <Your AUT Network Username> and the password: <Your AUT Network Password>.
- After a successful log in, you will see two folders in the root directory: */htdocs* and */files*. The *htdocs* folder is where you put all your html and php files etc. The *files* folder is private, so you can store files that you do not wish to expose to the web in there. A file that includes your database credentials should be kept in the *files* folder, for example.

**NB: The file storage capacity for each student is 1GB.**

#### Step 3: Create a folder (directory) to contain your web pages.

It is recommended that we create a folder for each lab/web project. For instance, we should create a folder named '*lab01*' to contain all files that we will be developing for this lab.

Note that the web server name, *webdev*, is case sensitive, thus it is recommended that you use lower case and avoid non-alphanumeric characters such as space when naming folders.

Using WinSCP, create a folder '*lab01*' under */htdocs* folder.

#### Step 4: Create a web page for testing.

Use any text editor on your local computer (e.g. NotePad++), or an online editor (e.g. <https://onlinephp.io/>) to create a file named *myphp.php* and code the following:

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<sup>1</sup> Note that URL links are subject to change. While the current link usually could be found by a search engine.

```
<!DOCTYPE html>
<html xmlns="http://www.w3.org/1999/xhtml" lang="en" xml:lang="en" >
<head>
<meta http-equiv="content-type" content="text/html; charset=utf-8" />
<meta name="description" content="web Development :: Lab 1" />
<meta name="keywords" content="web,development" />
<title>My first web page</title>
</head>
<body>
<h1>web Development Lab 1</h1>
<p>Can I create a .php file that do not contain any PHP scripts?</p>
<p>Yes, but this should be avoided, so that the server does not do any
unnecessary parsing and processing.</p>
</body>
</html>
```

### Step 5: Transfer your web pages to the web server.

Using WinSCP, drag and drop the file 'myphp.php' from your local machine to the `/htdocs/lab01` folder.

### Step 6: Test and view web pages.

To view the pages through http, use any Web browser and type in the following address (Don't forget the tilde),

`https://webdev.aut.ac.nz/~<Your AUT Network Username>/lab01/myphp.php`

For example: `https://webdev.aut.ac.nz/~abc1234/lab01/myphp.php`

## Task 2: Develop a PHP web page (0 mark)

### Step 1:

Use a text editor to create a file named **functions.php**

Add basic *html* tags along with the *meta* tag at the top of the page as follows:

```
<html>
<head>
<title>PHP Functions</title>
<meta http-equiv="Content-Type" content="text/html; charset=utf-8" />
</head>
<body>
</body>
</html>
```

### Step 2:

Add a suitable heading for your page using `<h1>` element after the `<body>` start tag

Also add a PHP *code block* using *standard script delimiter* after the page heading as follows:

```
<h1>Use of PHP built-in functions</h1>
<?php
?>
```

### Step 3:

Now add some PHP code inside the *script delimiters*:

For example, use `abs()` built-in function which calculates absolute value of an integer and `pow()` function which calculates the value of x to the power of y. Use the `echo` statement to print the results

(Note: It is good practice to include useful comments in your code):

```
<?php
/* Use of abs() and pow() built-in functions, and echo statement. */
echo "<p>Absolute value of -9 is: ", abs (-9), "</p>";
echo "<p>2 to the power of 5 is : ", pow(2,5), "</p>";
?>
```

**Step 4:**

Save the file as “**functions.php**”, if a file name has not been assigned yet.

Use WinSCP client to upload this file to ‘lab01’ folder that you already created on the webdev server.

**Step 5:**

Use any Web browser to run the PHP file by typing in following address:

<https://webdev.aut.ac.nz/~<Your AUT Network Username>/lab01/funcitons.php>

**Step 6:**

Try more built-in functions, such as *decbin()* and *bindec()*.

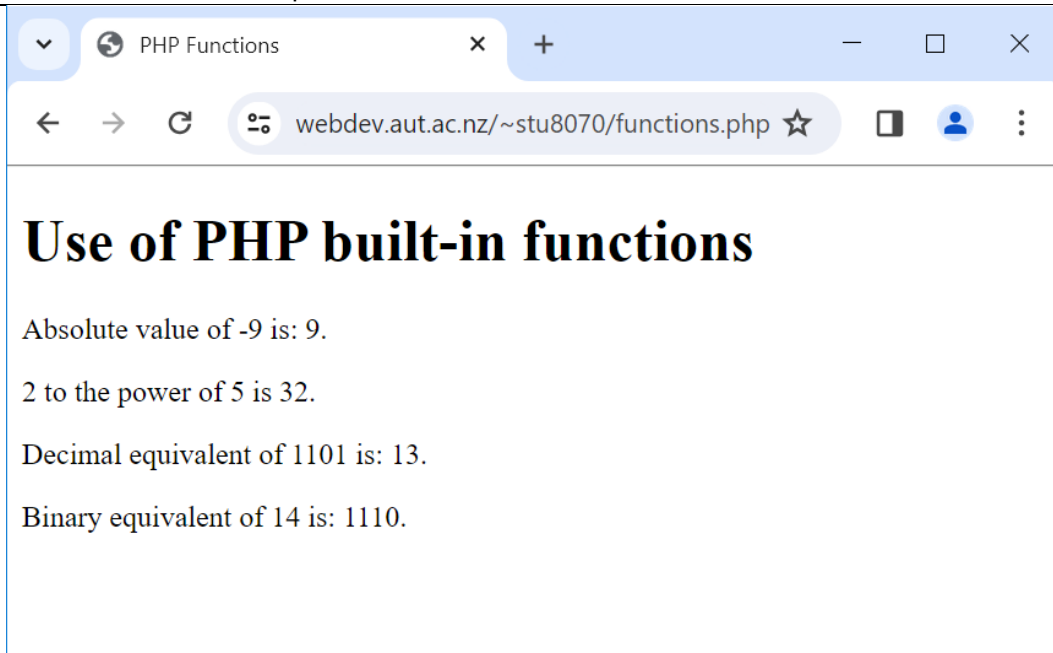
Add another PHP *code block* that uses a *standard script delimiter* and *echo* statements to print binary to decimal and decimal to binary conversions, using above two functions:

```
<?php
/* Use of decbin() and bindec() functions. */
echo "<p>Decimal equivalent of 1101 is: ", bindec(1101), "</p>";
echo "<p>Binary equivalent of 14 is: ", decbin(14), "</p>";
?>
```

The complete program should look something like this:

```
<!DOCTYPE html>
<html>
<head>
<title>PHP Functions</title>
<meta http-equiv="Content-Type"
content="text/html; charset=utf-8" />
</head>
<body>
<h1>Use of PHP built-in functions</h1>
<?php
/* Use of abs() and pow() built-in functions, and echo statement. */
echo "<p>Absolute value of -9 is: ", abs (-9), "</p>";
echo "<p>2 to the power of 5 is : ", pow(2,5), "</p>";
?>
<?php
/* Use of decbin() and bindec() functions. */
echo "<p>Decimal equivalent of 1101 is: ", bindec(1101), "</p>";
echo "<p>Binary equivalent of 14 is: ", decbin(14), "</p>";
?>
</body>
</html>
```

The screen shot below shows the final output of **functions.php**.



### **Extra Exercises:**

**Note:** These exercises are strongly recommended if you are not familiar with HTML and CSS.

- 1. Work on HTML & CSS Review (see HTML\_Review.pdf) and do the enclosed examples on your own webpage.**
- 2. Work on a HTML Table exercise (see Table\_Exercise.pdf)**