Bachelor Of Engineering
In
Information Technology

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Web Technology

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Unit 3

UNIT 3 :Refer

Web Technologies: HTML, Javascript, PHP, Java, JSP, ASP.NET, XML and AJAX, Black Book; Publisher: Dreamtech Press(2015) ; ISBN: 978-81-7722-997-4

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Topics

1. Introduction to PHP
2. Features of PHP
3. Advantages of PHP over other scripting languages
4. PHP vs JSP
5. Creating a PHP Script
6. Running a PHP script
7. Handling Errors in a PHP Script
8. Escape Characters

Introduction to PHP

- PHP stands for “PHP:Hypertext Preprocessor”
- PHP is a server side scripting language
- PHP is a free software released under PHP license which does not adhere to the GNU General Public License norms.(GPL)
- PHP is used to create dynamic web pages
- PHP was created by the Danish programmer,Rasmus Lerdorf,in 1995,and was originally called Personal Home Page.Lerdorf initially created a set of common Gateway Interface binaries, written in C language, to replace some Perl scripts in his homepage. He later combined these binaries with his Form Interpreter (FI) to create PHP/FI. This PHP/FI was the first version of the PHP language. PHP/FI had the capability to communicate with database and develop dynamic Web pages.

Features of PHP

- PHP is a general-purpose scripting language that runs on a Web server
- PHP is configured to take PHP code as input and create Web page content as output.
- It can be deployed on most of the Web servers and on almost every operating system and platform free of charge.
- Some important features of PHP are

1. Access control- provides a built-in Web-based configuration screen to handle access control configuration. Depending upon the client's domain,browser,e-mail address, or the referring document, various restrictions can be places on the Web pages, such as password protected, completely restricted, and logging disabled.

2.File upload support-allows users to upload files to a Web server.PHP provides the Multipurpose Internet Mail Extensions (MIME) decoding process to upload the files onto a server.

3.HTTP-based authentication control-allows the user to create customized HTTP –based authentication mechanisms for the Web server.

4.Variables ,arrays, and associative arrays-support variables, arrays, and associative arrays that can be passed from one Web page to another using either the GET or POST method forms.

5.Conditional statements and loops-provide features similar to the C language and allows you to work with various conditional statements such as if, else,elseif as well as loops such as for,foreach,while and do while.

6.Extended regular expressions-support all common regular expression operations. Regular expressions are mainly used for pattern matching, pattern substitutions, and general string manipulation.

7.Raw HTTP header control-allows to transfer a URL from 1 client to another. It is used to manipulate the latest updated header of the Web page.

8.Access logging-allows you to record the number of times a Web page or a website is accessed. It also helps to generate footer on every page, displaying the access information.

9.Safe Mode support-allows multiple users to run PHP scripts on the same server simultaneously. The PHP safe mode helps to solve the shared-server security problem.

10.Open Source-Allows the user to work with different software development languages. User can choose the desired software development language to create its own source code for different types of application and distribute on the WWW free of cost.

11.Third-party application support-supports a wide range of different databases, including MySQL, PostgreSQL, Oracle, and Microsoft SQL Server. For example,PHP 5.3 supports more than 15 database engines, and includes a common API

12.PHP’s extensible architecture – allows the user to read and write in various formats, such as

1. Graphic Interchange Format (GIF)
2. Joint Photographic Experts Group (JPEG), and
3. Portable Network Graphics (PNG);

send and receive e-mails using the

4. Simple Mail Transfer Protocol SMTP
5. Internet Message Access Protocol (IMAP) , and
6. Post Office Protocol (POP3) protocols.

PHP also allows the user to access C libraries , Java classes, and Component Object Model (COM) objects as well as the program code written for these languages.

Advantages of PHP over other scripting languages

- PHP is one of the most popular server-side scripting languages used for creating dynamic Web pages. One of the reasons of its popularity is that it offers many advantages over most of the scripting languages that are currently in use. Some of the advantages are

1. Active Server Pages (ASP)
2. Cold Fusion
3. Practical Extraction and Report Language (Perl)
4. Java Server Pages (JSP)

ASP

- ASP is a scripting language that is supported by only Microsoft Internet Information Server (IIS).
- This limits its availability to Win32 based servers; whereas , PHP scripting language is supported by almost all the web servers.As compared to PHP, ASP is a much slower, less stable, and less secure language.
- PHP works with Apache, which has a proven record of speed ,reliability, and hardened security.

Cold Fusion

- PHP runs on almost every platform; Cold Fusion is only available on Win32 , ,Solaris, Linux , and HP/UX.
- PHP is focused on programmers
- Cold Fusion is designed for non-programmers.
- As compared to Cold Fusion , PHP is a faster, more efficient, and more stable language.

Perl

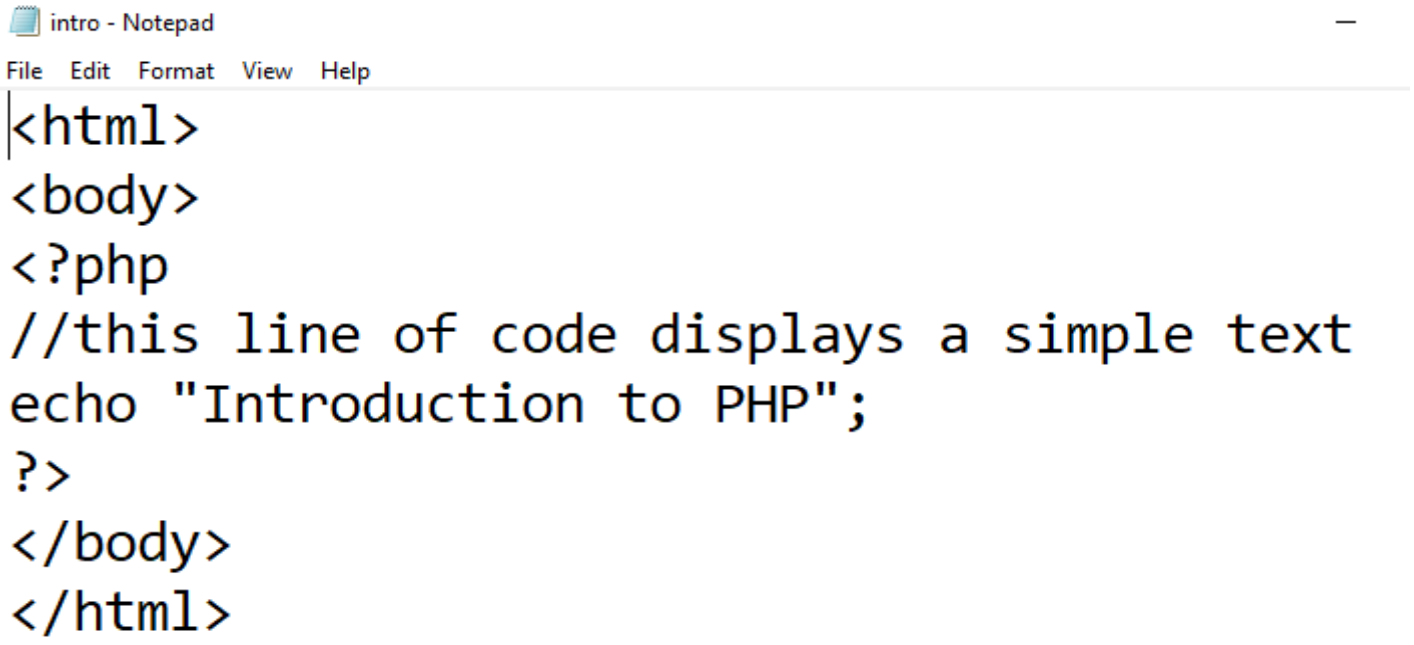
- The main advantage of PHP over Perl is that PHP was designed for scripting for the Web
- Perl was designed to do complex tasks, which makes it complicated.
- PHP is easier to integrate with the HTML language than Perl.
- Compared to Perl, PHP is relatively easy to learn and has a smaller learning curve.
- No prior knowledge of programming languages is required to learn PHP; whereas learning Perl requires some knowledge of C and shell scripting.

JSP

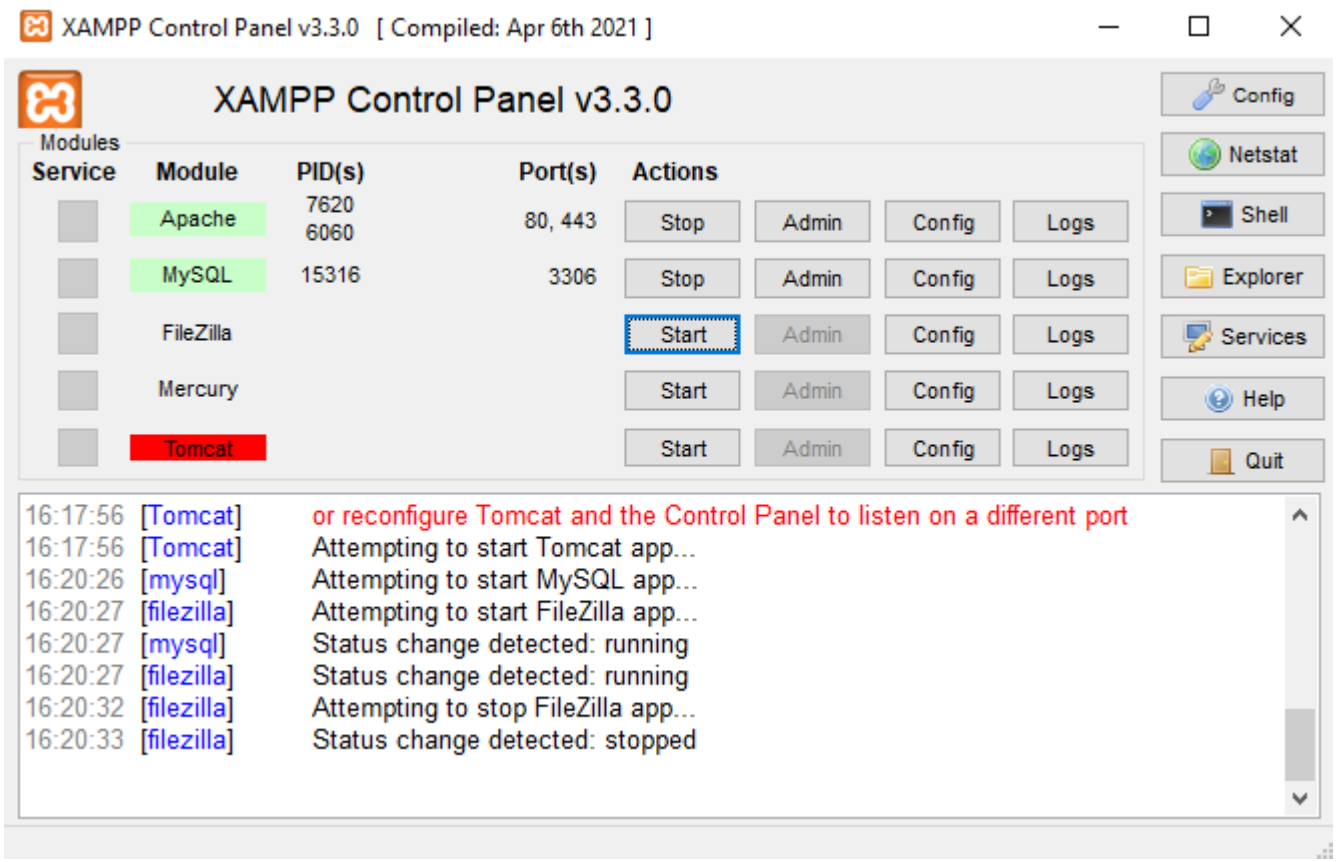
- PHP is supported on any platform that is equal or above 32 bits; whereas, JSP is supported only by those platforms that have a JVM.
- The performance of PHP is almost 5 times faster than JSP.

Creating a PHP Script

- PHP scripts are plain-text files containing PHP instructions, JavaScript, and HTML language.Write the program in a text editor like notepad.Save it as intro.php



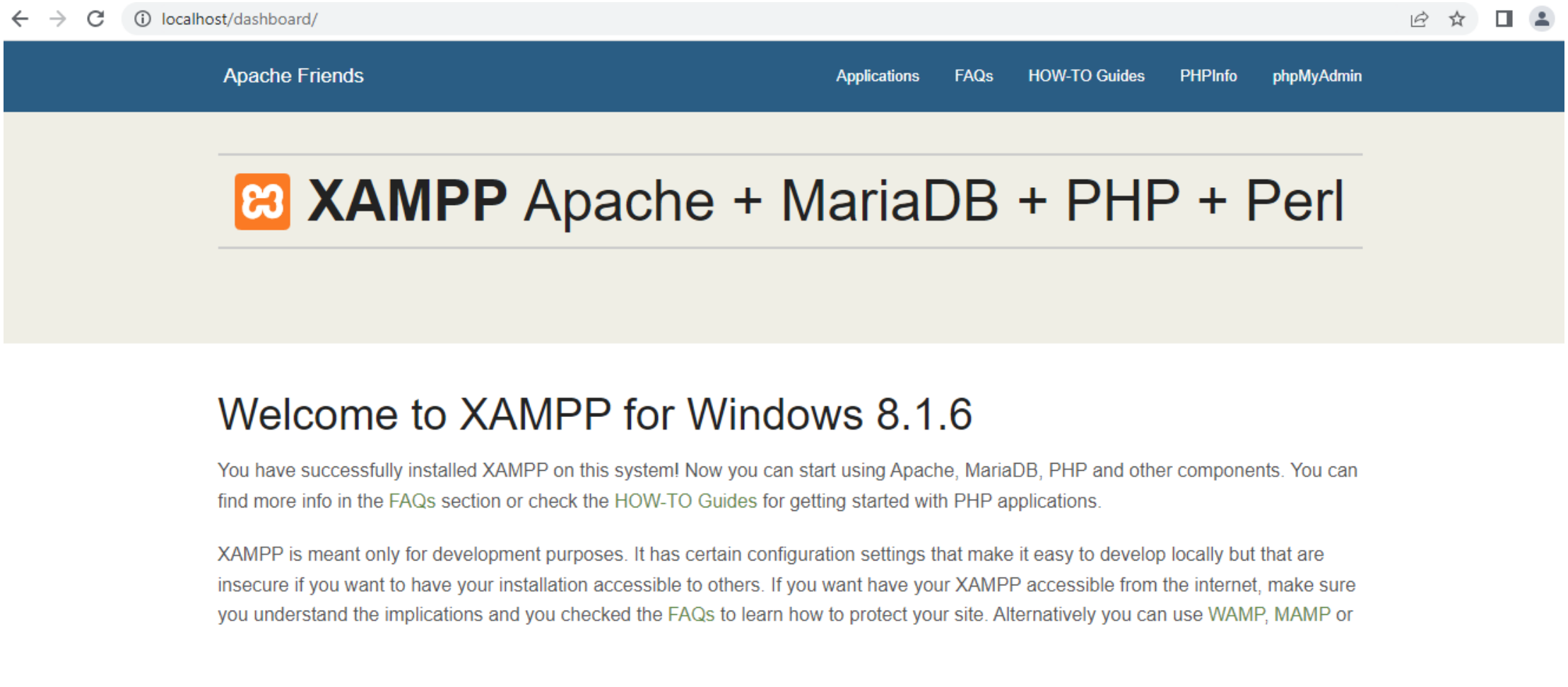
Start Apache Server



Running a PHP script

- Save the script to a location under your Web server root, and name it. In this example we have named it intro.php.
- Copy intro.php to htdocs (C:/Program Files/XAMPP/htdocs)
- You can also create any folders inside htdocs folder and save our codes over there.
- To get the dashboard for localhost, search http://localhost in any browser.

The dashboard for localhost



- To run your code, open localhost/intro.php and click the enter key.
- The PHP script runs as shown below.

- First ,you request the intro.php script.
- The web server receives your request, recognizes that the file was a PHP script.(by means of the .php file extension), and hands it over to the PHP parser and interpreter for further processing.
- This PHP interpreter then reads the instructions between the <?php...?> tags, executes them, and passes the result back to the server, which in turn sends them back to your browser.
- The echo statement is used to display output to the user.
- The print statement can also be used to display output instead of the echo statement.

- The following points should be kept in mind while working with a PHP script
- All PHP code must be enclosed within <?php...?> tags
- Every PHP statement must end with a semicolon
- Blank lines within the PHP tags are ignored by the parser
- Single line comments must be preceded by the // character,while multiline comments must be enclosed within a /*....*/ comment block

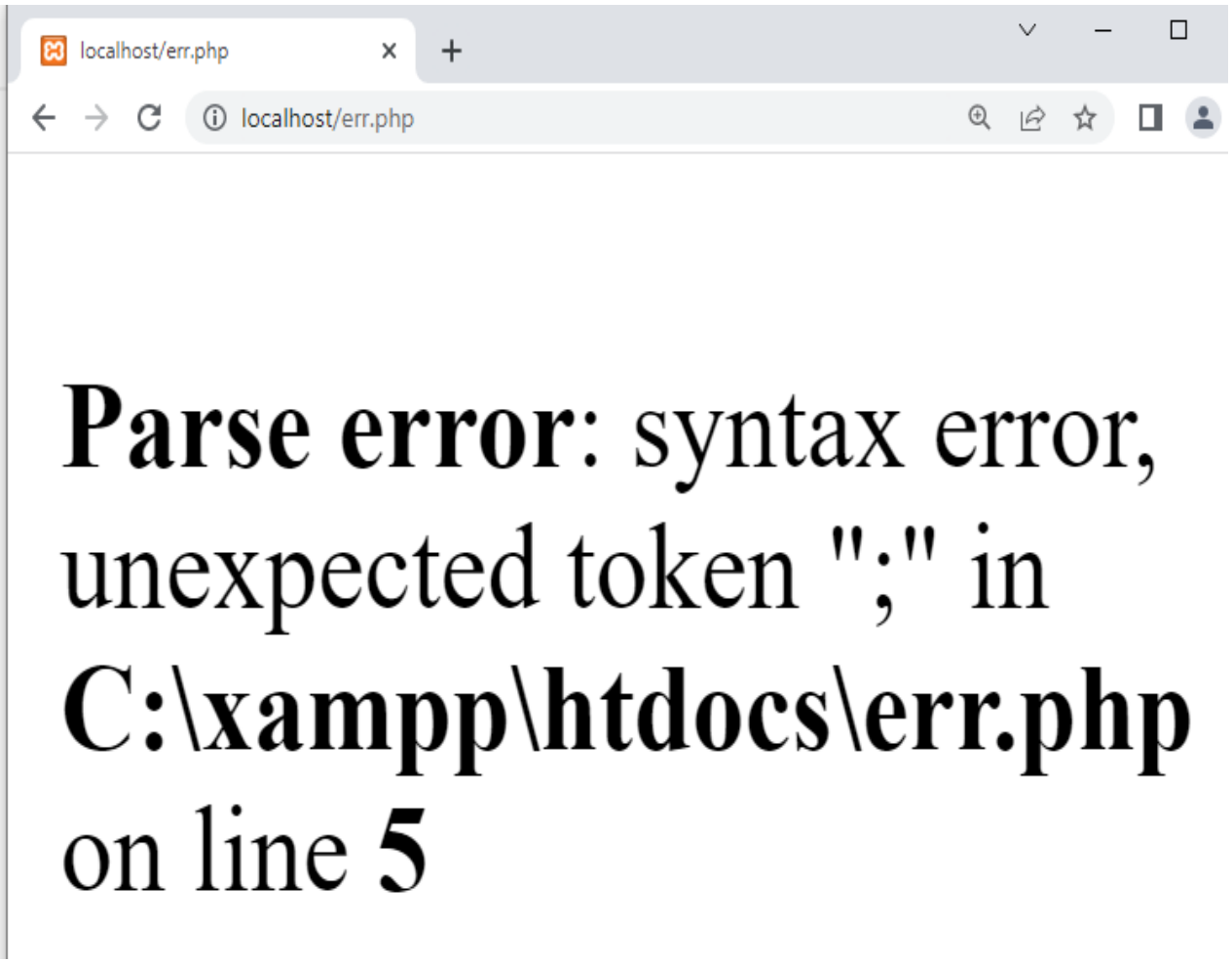
Handling Errors in a PHP Script

- Sometimes , the execution of the script halts in between due to occurrence of an error. Depending upon the severity of the error, either a warning message is displayed or the execution of the script stops at the point of error with a notification of error message.
- Let us generate an error in the script to have a better understanding of how to deal with an error.

err - Notepad

File Edit Format View Help

```
<html>
<body>
<?php
//this line of code displays a simple text
echo; "Introduction to PHP";
?>
</body>
</html>
```



Escape Characters

- Escape Characters are special functions that help to display certain characters, such as single or double quotes, the $ symbol in the script.The Character to be displayed must be typed after the backslash (\) character, forming an escape sequence, such as \” and \ $.
- These sequences signify that the character after the backslash should be displayed on the screen. You can also enter a new line or a tab space in the script by typing the letter n or t after the backslash (\) character, respectively.

Table 3.1 List of Escape Characters in PHP

Sr.No	Escape Charatacers	Description
1	\”	Prints the next character as a double quote
2	\’	Prints the next character as a single quote
3	\n	Prints a new line character
4	\t	Prints a tab character
5	\r	Prints a carriage return
6	\$	Prints $ as the next character
7	\\	Prints \ as the next character

Code to implement Escape Characters

File Edit Format View Help

```
<html>
<body>
<?php
$myString="This is an \"escaped\" string";
$mySingleString='This \'will\'work';
$myNonVariable="I have \$zilch in my pocket";
$myNewLine="This ends with a line return\n";
$myFile="c:\\windows\\system32\\myfile.txt";

echo $myString;
echo $mySingleString;
echo $myNonVariable;
echo $myNewLine;
echo $myFile;
?>
</body>
</html>
```