

Diploma in Web Development – Part I



Lesson 4 – What is the Back-End?

Back-End Languages

Back end programming languages serve as the brain, or logic, of a web application (or indeed, any application). The back end language is responsible for everything from adding, updating and requesting information from the persistent storage device to performing security validation and inserting dynamic content into a web page template.

PHP is the back-end language we will be learning in this course. PHP stands for PHP Hypertext Preprocessor and is used in many web applications today, including WordPress, phpMyAdmin, and many online websites.

PHP can be enabled by installing a PHP module into your server (details in Lesson 5). PHP files must use the .php file extension, and php can be enabled by using the following inside the text document:

```
<?php  
  
    //Write PHP Code Here  
  
?>
```

PHP statements can be then written in between these PHP tags.

Persistent Storage

Persistent storage is utilised by all modern web applications. Important aspects of persistent storage include:

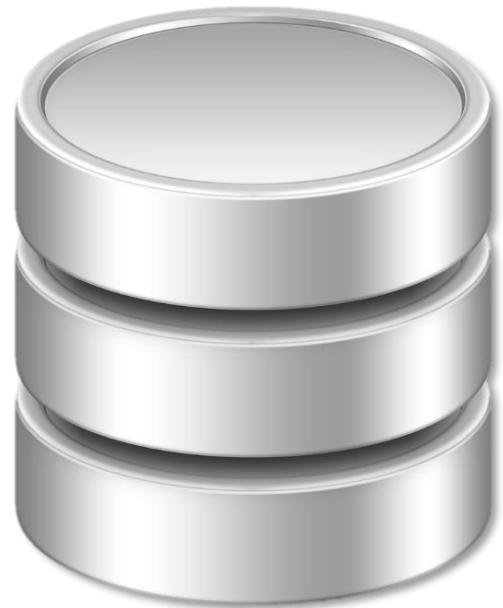
1. Organised storage of data
2. Storage through loss of power
3. Easy to add, update, and delete information

Persistent storage devices make use of the hard-disk of a server computer to store data. This is distinct from variables in a programming language which utilise RAM (Random Access Memory) to store data. This allows for long-term storage rather than data storage only for the duration of a script.

A very popular persistent storage device is the relational database. It performs all the requirements of a persistent storage device, with notable advantages over its predecessors: Information can be retrieved efficiently, even for large datasets, and most relational databases use a very simple and powerful interface known as SQL (Structured Query Language).

Relational Database

Relational databases store data in a series of interlinked tables (much like what you would find in an data spreadsheet). Fields (columns) represent the kind of stored information in a given table, while Records (Rows) are the sets of data in a table. Records can be inserted, updated, accessed, or even deleted with relative ease using SQL.



Introduction to SQL

SQL queries are written in a similar manner to a simplified English command. See below example:

```
SELECT `name`, `age`, `description`  
FROM `my_table`  
WHERE `my_field_name` = 1;
```

In the above, commands are in capital letters and signify the instruction to be processed by a given database software. Additional information in the form of field names, tables names, and conditional

operators (such as follows the 'WHERE' keyword) provide additional information about the query to be processed. SQL is covered in a practical depth in the Advanced semester "Databases & Servers".