

PHP QUESTIONS

LAB-01

1 How is a website accessed over the web?

Ans. The browser sends an HTTP request message to the server, asking it to send a copy of the website to the client .

2 What is the purpose of DNS?

Ans. DNS, or the Domain Name System, translates human readable domain names (for example, www.amazon.com) to machine readable IP addresses .

3 What is the URL? List different components of the URL.

Ans. URL stands for Uniform Resource Locator

The four main components of URLs are the protocol, domain, path, and query.

4 What is the responsibility of the web server?

The main job of a web server is to display website content through storing, processing and delivering webpages to users.\

5 What is the difference between HTML and php?

PHP is used for server-side programming which will interact with databases to retrieve information, storing, email sending, and provides content to HTML pages to display on the screen. HTML is used for specifying colors, text formatting, aligning, etc. PHP is easy to learn but not as much as HTML.

6 How is a server side code executed?

A server-side script is processed on the web server when the user requests information.

7 How can we embed php within HTML?

if you want to insert PHP code into an HTML file, just write the PHP anywhere you want (so long as they're inside the PHP tags). Open a PHP tag with <?

8 How can we embed HTML within php?

Use PRINT or ECHO

With this method, you can include the HTML inside of the PHP tags.

9 What is the purpose of =, == and === in php?

== Operator: This operator is used to check the given values are equal or not. If yes, it returns true, otherwise it returns false. === Operator: This operator is used to check the given values and its data type are equal or not

10 What is the rocket ship operator in php?

In PHP 7, a new feature, spaceship operator has been introduced. It is used to compare two expressions. It returns -1, 0 or 1 when first expression is respectively less than, equal to, or greater than second expression.

11 What is the conditional operator in php?

conditional operator used to perform a simple comparison or check on a condition having simple statements.

12 How to define a variable in php?

A variable starts with the \$ sign, followed by the name of the variable.

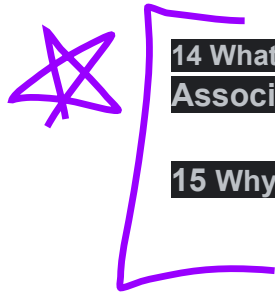
13 How to define an array in php?

\$myArray = array(values);

14 What is an associative array in php?

Associative Array - It refers to an array with strings as an index.

15 Why is " " preferable over ' ' with echo/print in php?



16 How to **return** a value from function?

A function can return a value using the **return statement** in conjunction with a value or object.

17 What is the advantage of foreach loop?

The advantage of the **for-each loop** is that it **eliminates** the possibility of **bugs** and makes the code more **readable**.

18 What is the purpose of **var_dump()** in php?

This function provides structured data about the **specified variable**, including its **type and value**.

LAB-02

1 What is a **table**?

A table is an **arrangement of information** in rows and columns containing cells that make **comparing** and contrasting **information** easier

2 What is a **database**?

A database is an **organized collection of structured information**, or **data**, typically stored electronically in a computer system.

3 What is **phpmyadmin**?

phpMyAdmin is a **free software tool** written in PHP, intended to **handle the administration of MySQL** over the Web.

4 What is **SQL**?

SQL stands for **Structured Query Language**. SQL lets you **access** and **manipulate databases**.

5 What is the purpose of the **primary key**?

A primary key is the column or columns that contain values that **uniquely identify each row** in a table.

6 Which are the different types available for data in **MariaDB**?

- **TINYINT**. Tiny integer, **-128 to 127** signed.

- **BOOLEAN**. Synonym for **TINYINT(1)**.
- **SMALLINT**. Small integer from **-32768 to 32767** signed.
- **MEDIUMINT**. Medium integer from **-8388608 to 8388607** signed.
- **INT**. ...
- **INTEGER**. ...
- **BIGINT**

7 What is the difference between **MariaDB** and **MySQL**?

MariaDB is **Open Source** whereas **MySQL** uses some **proprietary code** in its **Enterprise** Edition. **MariaDB** doesn't support **Data Masking and Dynamic column** while **MySQL** **supports it**. Comparing **MariaDB** or **MySQL**, Comparatively **MariaDB is faster than MySQL**.

8 What is the purpose of **import and export** in **phpmyadmin**?

9 What is the difference between **DROP** and **TRUNCATE**?

In **SQL**, the **DROP** command is used to **remove the whole database or table indexes, data, and more**. Whereas the **TRUNCATE** command is used to **remove all the rows from the table**.

LAB-03

1 What is **SQL injection**?

SQL injection is a code injection technique that **might destroy your database**. **SQL injection** is one of the most **common web hacking techniques**.

2 How can we **prevent** **SQL injection**?

The only sure way to prevent **SQL Injection** attacks is **input validation** and **parametrized queries including prepared statements**. The application code should never use the input directly.

3 What is a prepared statement? **Explain the steps.**

A prepared statement is a feature used to **execute the same** (or similar) **SQL statements repeatedly** with **high efficiency**.

4 What is a **form** element?

form elements. . </form> The <form> element is a **container** for different types of **input elements**, such as: text fields, checkboxes, radio buttons, submit buttons, etc.

5 Which are the **attributes** used with form elements?

6 What is the submit button?

The **<input type="submit">** defines a button for submitting the **form data to a form-handler**.

7 Can we have **multiple** submit buttons in **one** form? If yes, then how is redirection possible to different pages on different submit click events.

You can **change the action of form on different submit buttons click**.

8 Can we have **multiple form elements** in a php/html file?

LAB-04

1 What is the difference between **GET and POST**?

Both GET and POST method is used to **transfer data from client to server in HTTP** protocol but Main **difference** between POST and GET method is that **GET** carries **request parameter appended in URL string** while **POST** **carries** request parameter in **message body** which makes it **more secure** way of **transferring data from client to server**.

2 When should we use GET?

- The GET method **produces a long string** that **appears in your server logs**, in the **browser's Location** box.

3 When should we use POST?

POST is used to send data to a server to create/update a resource. Some notes on POST requests: **POST requests are never cached**. POST requests **do not remain** in the **browser history**.

4 How can we make parameters safe when passing using URL?

5 How can we pass dynamic data through URL rewriting?

6 What is the purpose of the **header function**?

The header() function is an **predefined** PHP native function. With header() HTTP functions we can **control data sent to the client** or browser by the Web server before some other output has been sent

7 How can we pass messages from one page to another in php?

To transfer data from one web page to another webpage we need **Html form** and using **action=""** we transfer form data on another page.

Using **\$_POST['field_name']** we receive form data on **another page** in PHP if method is **post** in case of **get** method use **\$_GET['field_name'];**.

LAB-05

1 Why do we need **more than one table**?

In many cases, it may be **best to split information** into multiple related tables, so that there is **less redundant data and fewer places to update**.

2 What is **normalization** in brief?

Normalization is the process of **organizing data in a database**. This includes creating tables and establishing relationships between those tables according to rules designed both to protect the data and to make the database more flexible by eliminating **redundancy and inconsistent dependency**.

3 What is the purpose foreign key?

A foreign key (FK) is a column or combination of columns that is used to establish and enforce a **link between the data in two tables** to control the data that can be stored in the foreign key table.

4 How a foreign key relation is established in a database?

Each foreign key is enforced independently by the database system. Therefore, cascading relationships between tables can be established using foreign keys. A foreign key is defined as an attribute or set of attributes in a relation whose values match a primary key in another relation.

5 How do we join two tables in SQL?

The join is done by the **JOIN** operator. In the **FROM clause**, the name of the **first table** (product) is followed by a **JOIN** keyword then by the name of the **second table** (category). This is then followed by the keyword **ON** and by the **condition** for joining the rows from the different tables.

LAB-06

1 What is a **session**?

A session is a way to **store information (in variables)** to be used across **multiple pages**.

2 What is a **cookie**?

A cookie is often used to **identify a user**. A cookie is a **small file** that the server embeds on the **user's computer**.

3 What is the difference between session and cookie?

Cookies and Sessions are used to **store information**. **Cookies** are only stored on the **client-side machine**, while **sessions** get stored on the **client as well as a server**.

4 When to **use** a session?

PHP session is used to **store and pass information** from **one page to another temporarily** (until user **close** the website). PHP session technique is widely used in **shopping websites** where we need to store and pass cart information e.g. username, product code, product name, product price etc from one page to another.

5 When to **use** a cookie?

For example, cookies let websites **recognize users and recall** their individual **login information** and **preferences**, such as sports news versus politics.

6 How to **set** a cookie?

Setting Cookie In PHP: To set a cookie in PHP, the **setcookie()** function is used. The setcookie() function needs to be called prior to any output generated by the script otherwise the cookie will not be set. Syntax:
setcookie(name, value, expire, path, domain, security);

7 How to **read** a cookie?

This is the PHP syntax for cookie creation: **setcookie(\$name, \$value, \$expires, \$path, \$domain, \$secure, \$httponly);**

8 How to **delete** a cookie?

Use the setcookie() method to delete the cookies. For that, we need to keep the **expiry date of the past**.

9 How to **set** a session?

To begin a new session, simply call the PHP **session_start()** function. It will create a new session and generate a **unique session ID** for the user.

10 How to **read** a session?

If you want to get a session id, you can use the **session_id** function, as shown in the following snippet.
session_start(); echo session_id();

11 How to **delete** a session?

A PHP session can be destroyed by `session_destroy()` function.

12 Which are the parameters to specify while setting a cookie?

13 How can we restrict `unauthorized access` on any page?

5 Best Practices to Prevent Unauthorized Access

1. Strong `Password` Policy. ...
2. Two Factor `Authentication` (2FA) and Multifactor Authentication. ...
3. `Physical` Security Practices. ...
4. `Monitoring` User Activity. ...
5. `Endpoint` Security.

LAB-07

1 Which are the steps to upload a single file?

1. Configure The "php. ini" File. ...
2. Check if File Already Exists. Now we can add some restrictions. ...
3. Limit File Size. The file input field in our HTML form above is named "fileToUpload". ...
4. Limit File Type. The code below only allows users to upload JPG, JPEG, PNG, and GIF files. ...
5. Complete Upload File PHP Script.

2 Which are the steps to upload multiple files?

1. `Browse` to the `page` where you `want to upload` the files.
2. Go to `Edit > More`, then select the Files tab. ...
3. `Select` Upload:
4. On the Upload a file screen, select `Browse/Choose` Files:

5. Browse to the files you want to upload from your computer and use Ctrl/Cmd +select to **choose multiple** files.
6. **Select Upload.**


3 Why do we **need to specify** method="post" during file upload?

4 Why do we need to specify **enctype="multipart/form-data"** during file upload?

enctype='multipart/form-data' is an encoding type that allows files to be **sent through a POST**. Quite simply, without this encoding the files **cannot** be sent through **POST**. If you want to allow a user to upload a file via a form, you must use this enctype.

5 How can we access file specific properties?

to view information about a file or folder, **right-click it and select Properties**. You can also select the file and press **Alt + Enter**. The file properties window shows you information like the type of file, the size of the file, and when you last modified it.

 6 How can we perform validation on size, type, etc... while file upload operation?

7 What is the purpose of **move_uploaded_file()** for file upload tasks?

The **move_uploaded_file()** function **moves an uploaded file to a new destination**. Note: This function only works on files uploaded via PHP's **HTTP POST** upload mechanism. Note: If the destination file already exists, it will be overwritten.

 8 Which are the different ways possible for allowing download operation on file?

9 What is the purpose of **flush()**?

Flushes the **output stream** and forces **any buffered output bytes to be written out**. The general contract of flush is that calling it is an indication that, if any bytes previously written have been buffered by the implementation of the output stream, such bytes should immediately be written to their intended destination.

10 Which are the different use cases of **header()**?

There are two types of header calls. The first header starts with string "**HTTP/**", which is used to figure out the HTTP status code to send. The second case of header is the "**Location:**".

...

Uses:

- Change **page location**.
- Set **timezone**.
- Set caching control.
- Initiate force download.
- Send HTTP Status.

LAB-08

1 What is the importance of validations in a web application?

Web site validation techniques help ensure your **code is correct** and will work on **as many browsers** as possible - this is what makes a **good website**. By validating you are making your code behind the website as clean and uncluttered as possible.

2 Which are the different types of validations?

- A) **Prospective** validation (or premarket validation)

- B) **Retrospective** validation.
- C) **Concurrent** validation.
- D) **Revalidation**.

3 Explain the difference between **client side and server side validations**.

Validations can be performed on the server side or on the client side (web browser). The user input validation take place on the **Server Side** during a **post back session** is called Server Side Validation and the user input validation take place on the **Client Side (web browser)** is called Client Side Validation.

4 What is the use of the **filter_var()** and **filter_input()** functions in php?

filter_var. If a variable doesn't exist, the **filter_input()** function returns **null** while the **filter_var()** function returns an **empty string and issues** a notice of an undefined index.

5 Which content normally resides in a **header.php** file?

6 Which content normally resides in a **footer.php** file?

the **footer area** of a website is usually defined in the template file footer.php .

7 Which content normally resides in an **index.php** file?

8 What is the null **coalescing** operator in php? How is it useful?

In PHP 7, a new feature, null coalescing operator (**??**) has been introduced. It is used to **replace the ternary** operation in conjunction with **isset()** function. The Null coalescing operator returns its first operand if it exists and is not NULL; otherwise it returns its second operand.

9 How can we sanitize and validate an email?

10 What is the difference between validate and sanitize in PHP?

Sanitizing will remove any illegal character from the data. Validating will determine if the data is in proper form.

11 What is the alternative syntax for control structures in PHP? How is it useful?

PHP offers an alternative syntax for some of its control structures; namely, `if` , `while` , `for` , `foreach` , and `switch` . In each case, the basic form of the alternate syntax is to change the opening brace to a colon (:) and the closing brace to `endif`; , `endwhile`; , `endfor`; , `endforeach`; , or `endswitch`; , respectively.

LAB-09

1 Give examples of instances which may cause error(s) in application.

2 What is the difference between runtime error and syntax error?

A syntax error is something caught by the compiler/interpreter and it's incorrect use of the language itself. For example, `for:` , which is invalid Python. A runtime error is a problem that cannot be detected before the code runs but causes an issue that is caught during the program run

3 What is the error level? Which are the different error levels in php?

Basically there are four types of errors in PHP, which are as follows:

- Parse Error (Syntax Error)
- Fatal Error.
- Warning Error.
- Notice Error.

4 What is the role of `die()` function in php?

The `die()` function prints a message and exits the current script.

5 What is a custom error handler? How is it useful?

With a custom error handler, you can choose what to do with an error, whether it may be as simple as logging the error to console or sending the error to another error monitoring service.

6 List the parameters handled by a custom error handler in php.

Possible error types:

- `E_USER_ERROR` - Fatal user-generated run-time error. ...
- `E_USER_WARNING` - Non-fatal user-generated run-time warning. ...
- `E_USER_NOTICE` - Default.

7 How can we tell PHP to use a custom error handler function?

Set Error Handler

However, in this example we are going to use our custom error handler for all errors:

`set_error_handler("customError");` Since we want our custom function to handle all errors, the `set_error_handler()` only needed one parameter, a second parameter could be added to specify an error level.

8 What is error logging? How is it useful?

Error logs are useful in many respects. In the case of servers and office networks, error logs track issues faced by users and help in root causes analysis of those issues. A network or system administrator can resolve errors more quickly and easily with the information available from the error logs.

9 How can we log error messages to a file?

When the `log_errors` directive is set to On , any errors reported by PHP would be logged to the server log or the file specified with `error_log` . You can set these options with `ini_set` too, if you need to.

10 How can we log error messages to an email?

11 How can we trigger an error from within a PHP script?

In a script where users can input data it is useful to trigger errors when an illegal input occurs. In PHP, this is done by the `trigger_error()` function.

12 What is exception handling in PHP? How is it useful and handled?

Exception handling is a powerful mechanism of PHP, which is used to handle runtime errors (runtime errors are called exceptions). So that the normal flow of the application can be maintained. The main purpose of using exception handling is to maintain the normal execution of the application.

13 How can we know information about sql errors?

View the SQL Server error log by using SQL Server Management Studio or any text editor. For more information about how to view the error log, see Open Log File Viewer. By default, the error log is located at Program Files\Microsoft SQL Server\MSSQL. n \MSSQL\LOG\ERRORLOG and ERRORLOG.

LAB-10

1 How can we combat spam for websites?

5 Ways to Stop Website Spam

1. Keep your domain private. You may not realize this but when you registered your website's domain name (the `www.YourName.com`), if you didn't make it private then your email address is public record. ...
2. Use a honeypot. ...
3. Block bad countries. ...

4. Use CAPTCHA on your forms. ...

5. Prevent email harvesting.

2 What is CAPTCHA? What is the need for the same?

CAPTCHA stands for the Completely Automated Public Turing test to tell Computers and Humans Apart.

CAPTCHAs are tools you can use to differentiate between real users and automated users, such as bots.

CAPTCHAs provide challenges that are difficult for computers to perform but relatively easy for humans

3 What is the importance of the PHP GD library?

It is used to create and manipulate image files in a variety of different image formats, including GIF, PNG, JPEG, WBMP, and XPM.

• Fonts in GD are identified by numbers. For Reference: <https://www.php.net/manual/en/book.image.php>

4 What are the usages of md5(), sha1(), etc...?

Both MD5 stands for Message Digest and SHA1 stands for Secure Hash Algorithm square measure the hashing algorithms wherever The speed of MD5 is fast in comparison of SHA1's speed. However, SHA1 provides more security than MD5.

5 How to render an image in PHP?

```
php header("Content-Type: image/jpeg"); $url = "http://i.stack.imgur.com/PIFN0.jpg"; $imgContents =  
file_get_contents($url); $image = @imagecreatefromstring($imgContents); imagejpeg($image); ?> Show activity  
on this post. header('Content-type: image/jpeg'); readfile($_GET['id']);
```

6 How can we render an image with captcha in a registration form along with other inputs?

7 How can we compare captcha text with user input?

8 How can we change the font of the captcha text?

9 How can we change the angle of the captcha text?

10 Which are the different types of captcha used in different applications?

Types of CAPTCHAs :

- Fundamental math : It is one of most widely recognized types of captcha being utilized in better places like sites, forms, and so forth. ...
- Word issue : ...
- Social media sign in : ...
- Time-based : ...
- Honeypot : ...
- Picture conspicuous confirmation : ...
- No captcha Recaptcha : ...
- Invisible Recaptcha :