IMPORTANT QUESTIONS WITH ANSWERS

1. A) What is PHP?

PHP is an open-source, interpreted, and object-oriented scripting language that can be executed at the server-side. PHP is well suited for web development. Therefore, it is used to develop web applications (an application that executes on the server and generates the dynamic page.).

B) Which programming language does PHP resemble to?

The language was deliberately designed to resemble C in structure, making it an easy adoption for developers familiar with C, Perl, and similar languages.

C) How can PHP interact with HTML?

You can add PHP tags to your HTML Page. You simply need to enclose the PHP code with the PHP start tag <?php and the PHP end tag?>. The code wrapped between these two tags is considered to be PHP code, and it will be executed on the server-side before the requested file is sent to the client browser. To use PHP in HTML, you have to use the .php extension because In PHP the code is interpreted and run on the server-side.

D) Write down the advantages of PHP.

The most important advantage of PHP is that it's open-source and free from cost. It can be downloaded anywhere and is readily available to use for events or web applications.

- It is platform-independent. PHP-based applications can run on any OS like UNIX, Linux, Windows, etc.
- Applications can easily be loaded which are based on PHP and connected to the database. It's mainly used due to its faster rate of loading over slow internet speed than other programming language.
- It is more stable for a few years with the assistance of providing continuous support to various versions.
- It helps in reusing an equivalent code and not got have to write lengthy code and sophisticated structure for events of web applications.
- It helps in managing code easily.
- It has powerful library support to use various function modules for data representation.

E) Write down the disadvantages of PHP.

- It is not that secure due to its open-source, because the ASCII text file is often easily available.
- It is not suitable for giant content-based web applications.
- It has a weak type, which can cause incorrect data and knowledge to users.
- PHP frameworks got to learn to use PHP built-in functionalities to avoid writing additional code.
- Using more features of PHP framework and tools cause poor performance of online applications.
- PHP doesn't allow change or modification in the core behaviour of online applications.

F) What is a PHP file?

A file with the .php file extension is a plain-text file that contains the source code written in the PHP programming language. PHP is often used to develop web applications that are processed by a PHP engine on the web server. PHP files are processed by web servers using an interpreter, which executes the code and then combines the results with dynamically generated HTML to form the webpage you see. This prevents any of the PHP code from actually being viewed by the user, even when looking at a page's source code.

IMPORTANT QUESTIONS WITH ANSWERS

A) What do you mean by server-side scripting?

Ans.
Web servers are used to execute server-side scripting. They are basically used to create dynamic pages. It can also access the file system residing at the webserver. A server-side environment that runs on a scripting language is a web server.
Scripts can be written in any of a number of server-side scripting languages available. It is used to retrieve and generate content for dynamic pages. It is used to require to download plugins. In this load times are generally faster than client-side scripting. When you need to store and retrieve information a database will be used to contain data. It can use huge resources of the server. It reduces client-side computation overhead. The server sends pages to the request of the user/client.

B) Differentiate between client-side scripting and server-side scripting:

Client-side scripting	Server-side scripting
Source code is visible to the user.	Source code is not visible to the user because its output of server-side is an HTML page.
Its main function is to provide the requested output to the end user.	Its primary function is to manipulate and provide access to the respective database as per the request.
It usually depends on the browser and its version.	In this any server-side technology can be used and it does not depend on the client.
It runs on the user's computer.	It runs on the webserver.
HTML, CSS, and javascript are used.	PHP, Python, Java, Ruby is used.
No need of interaction with the server.	It is all about interacting with the servers.

C) Give examples of few server-side scripting languages.

Ans. PHP, Node. Js, Python, Ruby, Java, Golang, ASP.NET/C#.

D) What is the difference between "echo" and "print" in PHP?

Ans. We frequently use the echo statement to display the output. There are two basic ways to get the output in PHP.

echo

- echo is a statement, which is used to display the output.
- echo can be used with or without parentheses.

- echo does not return any value.
- We can pass multiple strings separated by comma (,) in echo.
- echo is faster than print statement.

print

- print is also a statement, used as an alternative to echo at many times to display the output.
- print can be used with or without parentheses.
- print always returns an integer value, which is 1.
- Using print, we cannot pass multiple arguments.
- print is slower than echo statement.

IMPORTANT QUESTIONS WITH ANSWERS

A) Write down the rules for declaring variables in PHP.

Ans. **Rules for declaring PHP variable**

- A variable must start with a dollar ($) sign, followed by the variable name.
- It can only contain alpha-numeric character and underscore (A-z, 0-9, _).
- A variable name must start with a letter or underscore (_) character.
- A PHP variable name cannot contain spaces.
- One thing to be kept in mind that the variable name cannot start with a number or special symbols.
- PHP variables are case-sensitive, so $name and $NAME both are treated as different variable.

B) What are the different datatypes available in PHP?

Ans. PHP Data Types

PHP data types are used to hold different types of data or values. PHP supports 8 primitive data types that **can be categorized further in 3 types:**

I. Scalar Types (predefined)
II. Compound Types (user-defined)
III. Special Types

I. PHP Data Types: Scalar Types

It holds only single value. **There are 4 scalar data types in PHP.**

a) Boolean
b) integer
c) float
d) string

II.PHP Data Types: Compound Types

It can hold multiple values. **There are 2 compound data types in PHP.**

a) array
b) object

III.PHP Data Types: Special Types

There are 2 special data types in PHP.

a) resource
b) NULL

C) Is PHP a case sensitive language? Explain.

Ans.

In PHP, all variable names are case-sensitive. If you define a variable in lowercase, then you need to use it in lowercase everywhere in the program. On the other hand, in PHP, keywords (e.g., if, else, while, echo, etc.), classes, functions, and user-defined functions are not case-sensitive If you define function name in lowercase, but calling them in uppercase it will work fine. but definitely all variable names are case-sensitive. Hence, we can day that php is a case sensitive language.

C) What do you mean by back-end web development?

Ans.

Back-end Development refers to the server-side development. It focuses on databases, scripting, website architecture. It contains behind-the-scene activities that occur when performing any action on a website. It can be an account login or making a purchase from an online store. Code written by back-end developers helps browsers to communicate with database information.

IMPORTANT QUESTIONS WITH ANSWERS

A) Differentiate between programming language & scripting language.

Ans.

Programming Language	Scripting Language
A programming language is a type of computer language that consists of a set of instructions for communicating with computers.	A scripting language is a kind of programming language that is used to automate the execution of operations in a runtime environment.
Most programming languages are compiled. The translation overhead is incurred just once when the source is compiled; after that, it merely needs to be loaded and run.	Most scripting languages are interpreted languages. They must be parsed, interpreted, and executed each time the program is run.
Traditional programming languages are based on low-level languages.	Scripting languages generally prefer high-level languages.
Execution of a program takes more time since they are compiled.	Execution of a script takes less time as scripts are generally short.
Examples include C, C++, Java, Python, etc.	Examples include Perl, PHP, JavaScript, etc.

B) Is PHP a strongly typed language or loosely typed language? Explain.

Ans. A programming language that does not demand the definition of a variable is known as a loosely typed language. A programming language for computers that does not require to specify the data type of a variable is referred to as being loosely typed language. On the other hand, in strongly typed languages like c, c++, java etc the variables and other data structures must be declared to be of a specific type. In php, while declaring any variable there is no need of specifying its datatype along with the variable name. The datatype of variable determined on the basis of the type of value assigned to that variable. Hence php is a loosely typed language.

C) Write down the advantages of using PHP?

Ans.

- **Open Source and Free of Cost**: One of the most vital advantages of PHP is that it is accessible to all. People can download it from an open-source and get it for free. One can download it anywhere and readily use it for web application development.
- **Platform Independence:** Another important factor is that since PHP-based applications can run on any OS such as UNIX, Windows, Linux, etc., people can use it without worrying about a platform where one can use it.
- **Easy loading**: One can load the PHP-based applications easily and connect them to a database. People mainly use it since it has a fast rate of loading even if it is over a slow internet connection and speed than other programming languages.
- **User-friendly:** It has a less learning curve, and one can learn it quickly. The language is straightforward to use, and if one knows about C programming, they can catch on to PHP language quickly for application development.
- **Increased Job opportunity:** Since PHP is very popular, many developers and developing communities have evolved who have knowledge of this language. People who know the simple language can become potential candidates for jobs.
- **Database connection:** It has a built-in database connection that helps to connect databases and reduce the trouble and the time to develop web applications or content-based sites altogether.
- **Library support:** PHP has strong library support using which one can utilize the various function modules for data representation.

D) What are the differences between using single & double quotes in PHP.

The biggest difference between single-quoted and double-quoted strings is that single-quoted strings are slightly faster and use slightly less memory. This is because single-quoted strings don't support string interpolation, which means that you cannot use variables or special characters inside a single-quoted string and have them interpreted as their corresponding values. Instead, the variables and special characters are treated as plain text.

On the other hand, double-quoted strings do support string interpolation, which means that you can use variables and special characters inside the string and they will be interpreted as their corresponding values. However, this means that double-quoted strings are slightly slower and use slightly more memory than single-quoted strings.

A) Differentiate between static and dynamic websites.

Ans.

Difference between Static and Dynamic Web Pages:

SL.NO	Static Web Page	Dynamic Web Page
1.	In static web pages, Pages will remain same until someone changes it manually.	In dynamic web pages, Content of pages are different for different visitors.
2.	Static Web Pages are simple in terms of complexity.	Dynamic web pages are complicated.
3.	In static web pages, Information is changed rarely.	In dynamic web page, Information is changed frequently.
4.	Static Web Page takes less time for loading than dynamic web page.	Dynamic web page takes more time for loading.
5.	In Static Web Pages, database is not used.	In dynamic web pages, database is used.
6.	Static web pages are written in languages such as: HTML, JavaScript, CSS, etc.	Dynamic web pages are written in languages such as: CGI, AJAX, ASP, ASP.NET, etc.

B) Write a program in PHP using for loop to display first 10 natural numbers.

Ans.

```
<?php
for ($x = 0; $x <= 10; $x++) {
  echo "The number is: $x <br>";
}
?>
```

Output:

The number is: 0
The number is: 1
The number is: 2
The number is: 3
The number is: 4
The number is: 5
The number is: 6
The number is: 7
The number is: 8

The number is: 9
The number is: 10

C) Write down the syntax of switch case in php.

Switch statement is used to select one of many blocks of code to be executed.

Syntax

```
switch (n) {
  case label1:
    code to be executed if n=label1;
    break;
  case label2:
    code to be executed if n=label2;
    break;
  case label3:
    code to be executed if n=label3;
    break;
    ...
  default:
    code to be executed if n is different from all labels;
}
```

This is how it works: First we have a single expression n (most often a variable), that is evaluated once. The value of the expression is then compared with the values for each case in the structure. If there is a match, the block of code associated with that case is executed. Use break to prevent the code from running into the next case automatically. The default statement is used if no match is found.

Example

```
<?php
$favcolor = "red";
switch ($favcolor) {
  case "red":
    echo "Your favorite color is red!";
    break;
  case "blue":
    echo "Your favorite color is blue!";
    break;
  case "green":
    echo "Your favorite color is green!";
    break;
  default:
    echo "Your favorite color is neither red, blue, nor green!";
}
?>
```

Output:

Your favorite color is red!

D) What are the ways to define a constant in PHP?

A constant is an identifier (name) for a simple value. The value cannot be changed during the script.

A valid constant name starts with a letter or underscore (no $ sign before the constant name).
Note: Unlike variables, constants are automatically global across the entire script.

- **Create a PHP Constant**

To create a constant, use the define() function.

- **Syntax**

define(name, value, case-insensitive)
Create a constant

```
<?php
define("GREETING", "Welcome to bbit!");
echo GREETING;
?>
```

Output: **Welcome to bbit!**

IMPORTANT QUESTIONS WITH ANSWERS

A) What do you mean by Apache Web Server?

Ans.
Apache is free and open-source software of web server that is used by approx. 40% of websites all over the world. Apache HTTP Server is its official name. It is developed and maintained by the Apache Software Foundation. Apache permits the owners of the websites for serving content over the web. It is the reason why it is known as a "web server." One of the most reliable and old versions of the Apache web server was published in 1995.
If someone wishes to visit any website, they fill-out the name of the domain in their browser address bar. The web server will bring the requested files by performing as the virtual delivery person.

B) Write down the working principle of Apache.

Ans.
Apache is not any physical server; it is software that executes on the server. However, we define it as a web server. Its objective is to build a connection among the website visitor browsers (Safari, Google Chrome, Firefox, etc.) and the server. Apache can be defined as cross-platform software, so it can work on Windows servers and UNIX.

When any visitor wishes for loading a page on our website, the homepage, for instance, or our "About Us" page, the visitor's browser will send a request on our server. Apache will return a response along with each requested file (images, files, etc.). The client and server communicate by HTTP protocol, and Apache is liable for secure and smooth communication among t both the machines.

Apache is software that is highly customizable. It contains the module-based structure. Various modules permit server administrators for turning additional functionality off and on. Apache includes modules for caching, security, password authentication, URL rewriting, and other purposes. Also, we can set up our own configuration of the server with the help of a file known as .htaccess. It is a supported configuration file of Apache.

C) Write down the pros & cons of using Apache Web Server.

Ans.

Pros:

- Stable and reliable software.
- Free and open-source, even for economic use.
- Regular security patches, frequently updated.
- Beginner-friendly, easy to configure.
- Flexible because of the module-based structure.
- Works out of a box with the WordPress sites.
- Cross-platform (implements on Windows servers and Unix).
- Easily available support and huge community in the case of any issue.

Cons:

- Various performance issues on extremely heavy-traffic websites.
- Several options of configuration can cause security susceptibility.

C) What do you mean by a virtual host in Apache?

Ans.
The term Virtual Host refers to the practice of running more than one web site (such as company1.example.com and company2.example.com) on a single machine. Virtual hosts can be "IP-based", meaning that you have a different IP address for every web site, or "name-based", meaning that you have multiple names running on each IP address. The fact that they are running on the same physical server is not apparent to the end user.

Apache was one of the first servers to support IP-based virtual hosts right out of the box. Versions 1.1 and later of Apache support both IP-based and name-based virtual hosts (vhosts). The latter variant of virtual hosts is sometimes also called host-based or non-IP virtual hosts.

D) Mention a few predefined PHP Functions.

Ans.

Built in functions are predefined functions in PHP that exist in the installation package.
These PHP inbuilt functions are what make PHP a very efficient and productive scripting language.
The built in functions of PHP can be classified into many categories. Few examples are
rand, round, sqrt, is_number etc.

IMPORTANT QUESTIONS WITH ANSWERS

A) How many different types of loops are there in php?

Ans.

Loops are used to execute the same block of code again and again, as long as a certain condition is true.

In PHP, we have the following loop types:

- while - loops through a block of code as long as the specified condition is true
- do...while - loops through a block of code once, and then repeats the loop as long as the specified condition is true
- for - loops through a block of code a specified number of times
- foreach - loops through a block of code for each element in an array

B) Define function in PHP.

Ans.

PHP function is a piece of code that can be reused many times. It can take input as argument list and return value. There are thousands of built-in functions in PHP. In PHP, we can define Conditional function, Function within Function and Recursive function also.

C) Write down the advantages of functions in php.

Ans.

Advantages of PHP Functions

- Code Reusability: PHP functions are defined only once and can be invoked many times, like in other programming languages.
- Less Code: It saves a lot of code because you don't need to write the logic many times. By the use of function, you can write the logic only once and reuse it.
- Easy to understand: PHP functions separate the programming logic. So it is easier to understand the flow of the application because every logic is divided in the form of functions.

D) How to define a default argument value in a function in PHP?

Ans.

PHP allows you to define C++ style default argument values. In such case, if you don't pass any value to the function, it will use default argument value.

Example:

```
<?php
function sayHello($name="Ram"){
echo "Hello $name<br/>";
}
sayHello("Sonia");
sayHello();//passing no value
sayHello("Vimal");
?>
```

Output:

```
Hello Sonia
Hello Ram
Hello Vimal
```

E) Write a program where a function returns a value in PHP.

Ans.

Program:

```
<!DOCTYPE html>
```

```
<html>
<body>
<?php
function add1($x) {
  return $x + 1;
}
echo "5 + 1 is " . add1(5);
?>
</body>
</html>
```

Output:

5 + 1 is 6

IMPORTANT QUESTIONS WITH ANSWERS

A) What is array in php? How to declare an array in PHP?

Ans.
An array is a data structure that stores one or more similar type of values in a single value. For example, if you want to store 100 numbers then instead of defining 100 variables it's easy to define an array of 100 length.

Declaring an array in php

```
<?php
$cars = array ("Volvo", "BMW", "Toyota");
echo "I like " . $cars[0] . ", " . $cars[1] . " and " . $cars[2] . ".";
?>
```

Output:
I like Volvo, BMW and Toyota.

B) Differentiate between indexed array and associative array.

Ans.
Indexed array: Indexed array is an array with a numeric key. It is basically an array wherein each of the keys is associated with its own specific value.

Example:

```
<?php
// Declaring an array
$arr = array(1, 2, 3, 4, 5);
echo('Array : ');
// Print the array
print_r($arr);
?>
```

Output:

```
Array : Array
(
    [0] => 1
    [1] => 2
    [2] => 3
    [3] => 4
    [4] => 5
)
```

Associative array: An associative array is stored in the form of key-value pair. This type of array is where the key is stored in the numeric or string format.

Example:

```
<?php
// Declaring an array
$arr = array(
     "Java" => "Spring Boot",
     "Python" => "Django",
     "PHP" => "CodeIgniter"
);
// Assigning values
```

```
print("Array : ");
print_r($arr);
 ?>
```

Output:

```
Array : Array
(
   [Java] => Spring Boot
   [Python] => Django
   [PHP] => CodeIgniter
)
```

C) What is web form?

Ans.

A web form, also called an HTML form, is an online page that allows for user input. It is an interactive page that mimics a paper document or form, where users fill out particular fields. Web forms can be rendered in modern browsers using HTML and related web-oriented languages.

Typically, a web form contains a combination of form elements such as a checkbox, submit button, text box, etc. For added interactivity, web designers may use elements or classes such as “input” along with “action” and “method” attributes. They can also use the “GET” or “POST” method for submitting data.

IMPORTANT QUESTIONS WITH ANSWERS

A) What is MySQL?

Ans.
MySQL is an Oracle-backed open-source relational database management system (RDBMS) based on Structured Query Language (SQL). MySQL runs on virtually all platforms, including Linux, UNIX and Windows. Although it can be used in a wide range of applications, MySQL is most often associated with web applications and online publishing.

B) What is the difference between MySQL and SQL?

Ans.
SQL is known as the standard query language. It is used to interact with the database like MySQL.
MySQL is a database that stores various types of data and keeps it safe.
A PHP script is required to store and retrieve the values inside the database.
SQL is a computer language, whereas MySQL is a software or an application
SQL is used for the creation of database management systems whereas MySQL is used to enable data handling, storing, deleting and modifying data.

C) Why do we use the MySQL database server? (Advantages of MySQL server)

Ans.

- First of all, the MYSQL server is free to use for developers and small enterprises.
- MySQL server is open source.
- MySQL's community is tremendous and supportive; hence any help regarding MySQL is resolved as soon as possible.
- MySQL has very stable versions available, as MySQL has been in the market for a long time. All bugs arising in the previous builds have been continuously removed, and a very stable version is provided after every update.
- The MySQL database server is very fast, reliable, and easy to use. You can easily use and modify the software. MySQL software can be downloaded free of cost from the internet.

D) What are the disadvantages of MySQL?

Ans.

- MySQL is not so efficient for large scale databases.
- It does not support COMMIT and STORED PROCEDURES functions version less than 5.0.
- Transactions are not handled very efficiently.
- The functionality of MySQL is highly dependent on other addons.
- Development is not community-driven.

E) What are the technical features of MySQL?

Ans.

- MySQL database software is a client or server system which includes
- Multithreaded SQL server supporting various client programs and libraries
- Different backend
- Wide range of application programming interfaces and
- Administrative tools.

IMPORTANT QUESTIONS WITH ANSWERS

A) Differentiate between PHP & ASP.

Ans.

PHP	ASP.NET
PHP is a server-side coding/programming language.	ASP.NET is a web application framework.
First release was on November, 1997.	First release was on January, 2002.
Its base language is C language.	Its base language is C language.
It is interpreted code.	It is compiled code.
PHP is focused on UI and client side.	ASP.NET is focused on functionality and security.
Freely available all over the web.	License cost attached.
It is not that much secure as ASP.Net	It is highly secure in terms of security.

B) What are cookies?

Ans.

A cookie is often used to identify a user. A cookie is a small file that the server embeds on the user's computer. Each time the same computer requests a page with a browser, it will send the cookie too.

When cookies were invented, they were basically little documents containing information about a clint and his/her preferences. For instance, when one selects the language in which they want to view any website, the website would save the information in a document called a cookie on client's computer, and the next time when he/she visits the website, it would be able to read a cookie saved earlier. That way the website could remember client's language and let them view the website in their preferred language without having to select the language again.

C) How to create a cookie in php?

Ans.

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);

- Name: It is used to set the name of the cookie.
- Value: It is used to set the value of the cookie.
- Expire: It is used to set the expiry timestamp of the cookie after which the cookie can't be accessed.
- Path: It is used to specify the path on the server for which the cookie will be available.
- Domain: It is used to specify the domain for which the cookie is available.
- Security: It is used to indicate that the cookie should be sent only if a secure HTTPS connection exists.

D) Write short notes on Get and Post Methods in PHP.

Ans.

PHP provides two methods through which a client (browser) can send information to the server. These methods are- (i) GET method

(ii) POST method

Get and Post methods are the HTTP request methods used inside the <form> tag to send form data to the server. HTTP protocol enables the communication between the client and the server where a browser can be the client, and an application running on a computer system that hosts your website can be the server.

- **GET method**

The GET method is used to submit the HTML form data. This data is collected by the predefined $_GET variable for processing.

The information sent from an HTML form using the GET method is visible to everyone in the browser's address bar, which means that all the variable names and their values will be displayed in the URL. Therefore, the get method is not secured to send sensitive information.

- **POST method**

Similar to the GET method, the POST method is also used to submit the HTML form data. But the data submitted by this method is collected by the predefined super global variable $_POST instead of $_GET.

Unlike the GET method, it does not have a limit on the amount of information to be sent. The information sent from an HTML form using the POST method is not visible to anyone.

E) Write down the advantages & disadvantages of using GET & POST methods respectively.

Ans.

Advantages of GET method (method = "get")

- One can bookmark the page with the specific query string because the data sent by the GET method is displayed in URL.
- GET requests can be cached.
- GET requests are always remained in the browser history.

Disadvantages of GET Method

- The GET method should not be used while sending any sensitive information.
- A limited amount of data can be sent using method = "get". This limit should not exceed 2048 characters.

Advantages of POST method (method = "post")

- The POST method is useful for sending any sensitive information because the information sent using the POST method is not visible to anyone.
- There is no limitation on size of data to be sent using the POST Method. You can send a large amount of information using this method.
- Data security depends on the HTTP protocol because the information sent using the POST method goes through the HTTP header. By using secure HTTP, you can ensure that your data is safe.

Disadvantages of POST Method

- POST requests do not cache.
- POST requests never remain in the browser history.

- It is not possible to bookmark the page because the variables are not displayed in URL.

IMPORTANT QUESTIONS WITH ANSWERS

A) Write a brief comparison between MYSQL & SQL SERVER.

Ans.

MS SQL Server	MySQL
Developed by Microsoft.	Developed by Oracle.
It supports programming languages like C++, JAVA, Ruby, Visual Basic, Delphi, R etc.	MySQL offers extended running support for languages like Perl, Tcl, Haskey etc.
Expects a large amount of operational storage space.	Expects less amount of operational storage space.
It is not free.	It is open source. It is freely available.
It is a highly secured and doesn't allow any kind of database file manipulation while running.	It allows database file manipulation while running.
It is available in multiple editions, such as Enterprise, Standard, Web, Workgroup, or Express.	It is available in MySQL Standard Edition, MySQL Enterprise Edition, and MySQL Cluster Grade Edition.

B) How do you create a Database using MySQL and PHP?

Ans.

Create a MySQL Database Using MySQLi and PDO

The CREATE DATABASE statement is used to create a database in MySQL.

The following examples create a database named "myDB":

```
<?php
$servername = "localhost";
$username = "username";
$password = "password";
// Create connection
$conn = new mysqli($servername, $username, $password);
// Check connection
if ($conn->connect_error) {
  die("Connection failed: " . $conn->connect_error);
}
// Create database
$sql = "CREATE DATABASE myDB";
if ($conn->query($sql) === TRUE) {
  echo "Database created successfully";
} else {
  echo "Error creating database: " . $conn->error;
}
$conn->close();
?>
```

Note: When you create a new database, you must only specify the first three arguments to the mysqli object (servername, username and password).

C) Write down the steps for xampp installation.

Ans.

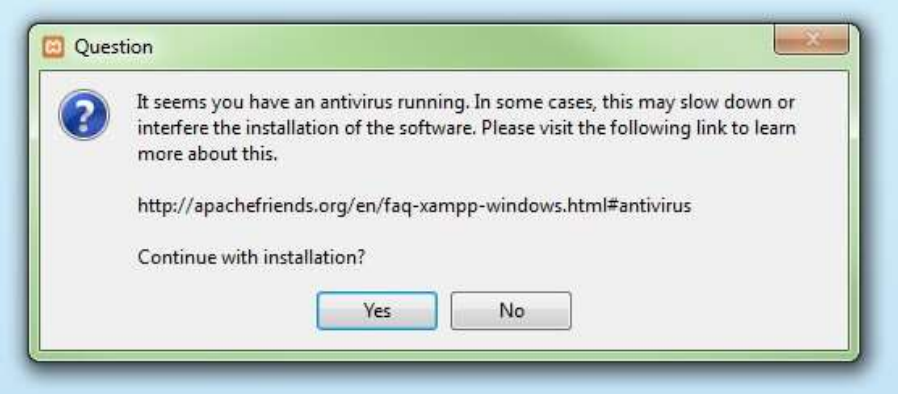
Step 1: Download

XAMPP is a release made available by the non-profit project Apache Friends. Versions with PHP 5.5, 5.6, or 7 are available for download on the Apache Friends website.

Step 2: Run .exe file

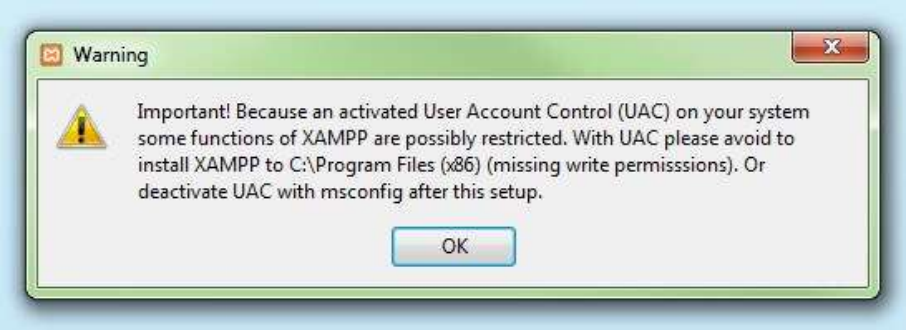
Once the software bundle has been downloaded, you can start the installation by double clicking on the file with the ending .exe.

Step 3: Deactivate any antivirus software
Since an active antivirus program can negatively affect the installation process, it's recommended to temporarily pause any antivirus software until all XAMPP components have successfully been installed.



Before installing XAMPP, it is advisable to disable the anti-virus program temporarily

Step 4: Deactivate UAC
User Account Control (UAC) can interfere with the XAMPP installation because it limits writing access to the C: drive, so we recommend you deactivate this too for the duration of the installation process. To find out how to turn off your UAC, head to the Microsoft Windows support pages.

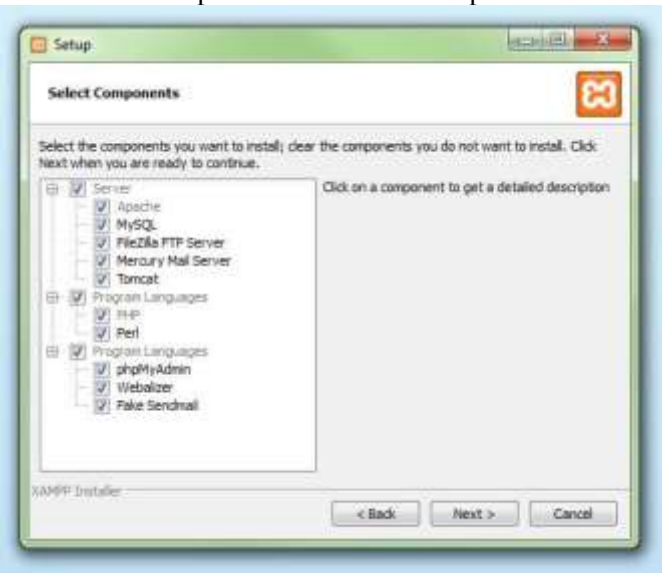


User account control can affect the installation of XAMPP

Step 5: Start the setup wizard
After you've opened the .exe file (after deactivating your antivirus program(s) and taken note of the User Account Control, the start screen of the XAMPP setup wizard should appear automatically. Click on 'Next' to configure the installation settings.

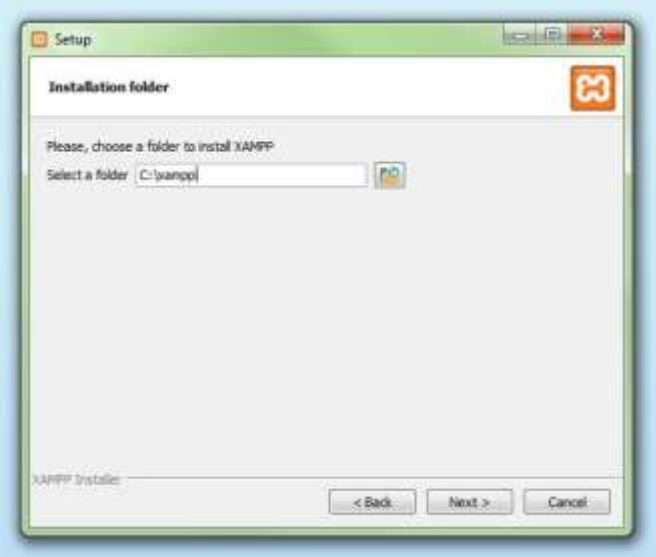
You can start the setup on the startup screen

Step 6: Choose software components
Under ‘Select Components’, you have the option to exclude individual components of the XAMPP software bundle from the installation. But for a full local test server, we recommend you install using the standard setup and all available components. After making your choice, click ‘Next’.



In the dialog window entitled 'select components', you can choose the software components before installation.

Step 7: Choose the installation directory
In this next step, you have the chance to choose where you’d like the XAMPP software packet to be installed. If you opt for the standard setup, then a folder with the name XAMPP will be created under C:\ for you. After you’ve chosen a location, click ‘Next’.



For the next step, you need to select the directory where XAMPP should be installed

Step 8: Start the installation process
Once all the aforementioned preferences have been decided, click to start the installation. The setup wizard will unpack and install the selected components and save them to the designated directory. This process can take several minutes in total. You can follow the progress of this installation by keeping an eye on the green loading bar in the middle of the screen.

According to the default settings, the selected software components are unpacked and installed in the target folder

Step 9: Windows Firewall blocking
Your Firewall may interrupt the installation process to block some components of the XAMPP. Use the corresponding check box to enable communication between the Apache server and your private network or work network. Remember that making your XAMPP server available for public networks isn't recommended.

Step 10: Complete installation
Once all the components are unpacked and installed, you can close the setup wizard by clicking on 'Finish'. Click to tick the corresponding check box and open the XAMPP Control Panel once the installation process is finished.

By clicking on 'finish', the XAMPP Setup Wizard is completed

IMPORTANT QUESTIONS WITH ANSWERS

A) How to find the length of words or sentences in PHP?

Ans.

```
<html>
<body>
<?php
echo strlen("Hello");
?>
</body>
</html>
```

Output:

5

B) What is SQL Injection?

Ans.

- SQL injection is a code injection technique that might destroy your database.
- SQL injection is one of the most common web hacking techniques.
- SQL injection is the placement of malicious code in SQL statements, via web page input.
- The SQL Injection is a code penetration technique that might cause loss to our database.

C) Write down the different types of SQL injection attacks.

Ans.

SQL injections can do more harm other than passing the login algorithms. Some of the SQL injection attacks include:

- Updating, deleting, and inserting the data: An attack can modify the cookies to poison a web application's database query.
- It is executing commands on the server that can download and install malicious programs such as Trojans.
- We are exporting valuable data such as credit card details, email, and passwords to the attacker's remote server.
- Getting user login details: It is the simplest form of SQL injection. Web application typically accepts user input through a form, and the front end passes the user input to the back-end database for processing.

D) Write a short note on content management system (CMS).

Ans.

A content management system (CMS) is a software application that enables users to create, edit, collaborate on, publish and store digital content. CMSes are typically used for enterprise content management (ECM) and web content management (WCM).

- A CMS provides a graphical user interface with tools to create, edit and publish web content without the need to write code from scratch.
    - A CMS has two components: a content management application (CMA) and a content delivery application (CDA).
    - The CMA is a graphical user interface that enables users to design, create, modify and remove content from a website without HTML knowledge.
    - The CDA component provides the back-end services that support management and delivery of the content once a user creates it in the CMA.

E) Write down the features of CMS (content management system).

Ans.

Features can vary amongst the various CMS offerings, but core functions include:

- **Inuitive indexing, search and retrieval.** These features index all data for easy access through search functions and enable users to search by attributes such as publication dates, keywords or author.
- **Format management.** This helps turn scanned paper documents and legacy electronic documents into HTML or PDF documents.
- **Revision features.** These features enable content to be updated and edited after initial publication. Revision control also tracks any changes individuals make to files.
- **Publishing.** This functionality enables individuals to use a template or a set of templates that an organization approves -- as well as wizards and other tools -- for content creation and modification.

F) Name the popular Content Management Systems (CMS) in PHP.

Ans.

Following are the few popular content management systems in PHP
WordPress, Joomla, ModX, Concrete5, MotoCMS, ContaoExpressionEngine etc.

G) Write down few examples of e-commerce websites.

Ans.
Amazon, Spotify, Vegan Essentials, Flipkart, Myntra, Meesho, Pepperfry etc.

IMPORTANT QUESTIONS WITH ANSWERS

A) What is AJAX?

Ans.

AJAX is an acronym for Asynchronous JavaScript and XML. It is a group of inter-related technologies like JavaScript, DOM, XML, HTML/XHTML, CSS, XMLHttpRequest etc.

AJAX allows you to send and receive data asynchronously without reloading the web page. So, it is fast.

AJAX allows you to send only important information to the server not the entire page. So only valuable data from the client side is routed to the server side. It makes your application interactive and faster.

B) Where it is used?

Ans.

There are too many web applications running on the web that are using ajax technology like gmail, Facebook, twitter, google map, YouTube etc.

B) Mention the AJAX Technologies.

Ans.

Ajax is not a technology but group of inter-related technologies. AJAX technologies include:

- HTML/XHTML and CSS - These technologies are used for displaying content and style.
- DOM - It is used for dynamic display and interaction with data.
- XML - It is used for carrying data to and from server
- XMLHttpRequest - It is used for asynchronous communication between client and server.
- JavaScript - It is used mainly for client-side validation

C) What are the advantages & disadvantages of AJAX?

Ans.

Advantages −

- Quick Response
- Bandwidth utilization
- The user is not blocked until data is retrieved from the server.
- It allows us to send only important data to the server.
- It makes the application interactive and faster.

Disadvantages−

- Dependent on JavaScript
- Security issues
- Debugging is difficult

D) What are the real web applications of AJAX currently running in the market?

Ans.

Twitter, Facebook, Gmail, YouTube etc are the few real web applications of AJAX currently running in the market.

E) What does PDO stand for in PHP?

Ans.
PDO in PHP (PHP Data Objects) is a lightweight, consistent framework for accessing databases in PHP.

F) What do you mean by session in PHP?

Ans.
A session is a way to store information (in variables) to be used across multiple pages.
Unlike a cookie, the information is not stored on the user's computer.
When you work with an application, you open it, do some changes, and then you close it. This is much like a Session. The computer knows who you are. It knows when you start the application and when you end. But on the internet, there is one problem: the web server does not know who you are or what you do, because the HTTP address doesn't maintain state.
Session variables solve this problem by storing user information to be used across multiple pages (e.g., username, favorite colour, etc). By default, session variables last until the user closes the browser. So; Session variables hold information about one single user, and are available to all pages in one application.

IMPORTANT QUESTIONS WITH ANSWERS

A) What do you mean by PHP Framework?

Ans.

A PHP framework is built on the open-source language PHP and offers built-in features to improve your software development lifecycle. These features increase development speed and improve performance within your team by lowering the workload of your developers.

B) Why use a PHP framework?

PHP frameworks can improve your development pipeline. These improvements cover everything from security to productivity within your organization. Each framework has different focuses — some may focus on development workflow and others on scalability.

All of these frameworks offer is excellent security, which is vital for software development. Maintaining security from the beginning of your development pipeline is akin to a DevSecOps approach that leads to improved performance.

B) What is CodeIgniter?

Ans.

For building a web application you spend a lot of time in writing the same code again and again. Frameworks provide you a starting block and minimize the amount of code needed to build a website.

CodeIgniter is PHP driven framework but it's not a PHP substitute. Diving into CodeIgniter doesn't mean you are leaving PHP behind. PHP is a server-side scripting language for building dynamic web-based applications.

CodeIgniter contains libraries, simple interface and logical structure to access these libraries, plug-ins, helpers and some other resources which solve the complex functions of PHP more easily maintaining a high performance. It simplifies the PHP code and brings out a fully interactive, dynamic website at a much shorter time.

C) What are the most prominent features of CodeIgniter?

Ans.

- Free to use

It is licensed under MIT license, so it is free to use.

- Follows MVC Pattern

It uses Model-View-Controller which basically separates logic and presentation parts. Request comes to controller; database action is performed through model and output is displayed through views.

But in normal PHP scripting, every page represents MVC which increases complexity.

- Light weight

It is extremely light-weighted. CodeIgniter core system requires very small library, other libraries may be added upon dynamic request based upon your needs. That is why it is quite fast and light weighted.

D) Explain MVC in CodeIgniter.

Ans.

The Model-View-Controller (MVC) is an architectural pattern that separates an application into three main logical components: the model, the view, and the controller. Each of these components are built to handle specific development aspects of an application. MVC is one of the most frequently used industry-standard web development frameworks to create scalable and extensible projects.

- **Model**

The Model component corresponds to all the data-related logic that the user works with. This can represent either the data that is being transferred between the View and Controller components or any other business logic-related data. For example, a customer object will retrieve the customer information from the database, manipulate it and update it data back to the database or use it to render data.

- **View**

The View component is used for all the UI logic of the application. For example, the Customer view will include all the UI components such as text boxes, dropdowns, etc. that the final user interacts with.

- **Controller**

Controllers act as an interface between Model and View components to process all the business logic and incoming requests, manipulate data using the Model component and interact with the Views to render the final output. For example, the Customer controller will handle all the interactions and inputs from the Customer View and update the database using the Customer Model. The same controller will be used to view the Customer data.