PHP Course Outline (CW-IK)

Session 1 - Introduction to PHP

1. Evolution of PHP
PHP ka full form 'Hypertext Preprocessor' hai. Yeh ek server-side scripting language hai jo websites aur web applications banane ke liye use hoti hai. PHP ko 1994 mein Rasmus Lerdorf ne develop kiya tha. Pehle iska naam 'Personal Home Page' tha, jo baad mein PHP bana.

2. Important Milestones in PHP Development
• 1995 – PHP ka pehla version launch hua
• 1997 – PHP/FI (Form Interpreter) aaya
• 1998 – PHP 3 release hua
• 2000 – PHP 4 introduce hua, jo zyada powerful tha
• 2004 – PHP 5 aaya jisme OOP (Object-Oriented Programming) aur MySQL support mili
• 2015 – PHP 7 introduce hua jisme speed aur performance improve hui
• 2020 – PHP 8 launch hua jo JIT Compilation aur naye features ke sath aaya

3. Enhancements in PHP 8.0
• JIT (Just-In-Time) Compilation
• Nullsafe Operator (->?)
• Match Expression (Switch ka advanced version)
• Attributes (Meta Data define karne ke liye)
• Named Arguments (Function parameters ko zyada control karna)

4. JIT Compilation
JIT Compilation ka matlab hai code ko runtime pe compile karna jo PHP scripts ko faster banata hai.

Example:

```php
<?php
function multiply($a, $b) {
    return $a * $b;
}
echo multiply(5, 10);
?>
```

5. Features and Uses of PHP 8.0
• Speed aur performance improve hui
• Better Error Handling
• Type Safety
• Advanced String Functions

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Session 2 – PHP Basics and Syntax

1. System Requirements for Running PHP

PHP ko run karne ke liye humein server chahiye jaise XAMPP ya WAMP. Required software:
• Web Server: Apache
• Database: MySQL
• Interpreter: PHP

2. Installing PHP on Different Platforms

• Windows: XAMPP install karo
• Linux: Terminal se 'sudo apt install php' command use karo
• Mac: Brew se install kar sakte hain

3. Basics of PHP

• PHP code '<?php ... ?>' ke andar likha jata hai
• Statements semicolon (;) se end hote hain
• Echo aur Print ka use output display karne ke liye hota hai

Example:

```
<?php
echo "Hello, World!";
?>
```

4. PHP Tags Comparison

```
<?php echo "Standard Tag"; ?>
<?= "Short Tag"; ?>
<% echo "ASP Style"; %>
```

5. How PHP Works with HTML

PHP ko HTML ke andar embed kar sakte hain.

Example:

```
<!DOCTYPE html>
<html>
<body>
   <h1><?php echo "Welcome to PHP!"; ?></h1>
</body></html>
```

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6. Writing and Running PHP Scripts

PHP script ko .php extension se save karo aur localhost pe run karo.

7. Adding Comments in PHP

```
// Single-line comment
# Another single-line comment
/*
   Multi-line comment
*/
```

Session 3 – PHP Data Types and Strings

1. PHP Data Types

• String ('Hello')
• Integer (123)
• Float (3.14)
• Boolean (true/false)
• Array (['Apple', 'Mango'])
• Object (OOP Concepts)
• NULL (No Value)

Example:

```php
<?php
$name = "Poppy";
$age = 25;
$price = 99.99;
$is_active = true;
?>
```

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2. String Functions in PHP

• strlen() → String ka length find karne ke liye
• strtoupper() → Uppercase me convert karne ke liye
• strtolower() → Lowercase me convert karne ke liye

Example:

```php
<?php
$text = "CodeWith_ik";
echo strlen($text);
echo strtoupper($text);
?>
```

3. Numbers and Math Functions in PHP

• abs(-10) → Absolute value
• pow(2,3) → Power (2^3 = 8)
• sqrt(25) → Square root

Example:

```php
<?php
echo abs(-5); // Output: 5
echo pow(2,3); // Output: 8
echo sqrt(25); // Output: 5
?>
```

4. Constants in PHP

Constants wo variables hain jin ki value change nahi hoti.

Example:

```php
<?php
define("SITE_NAME", "CodeWith_ik");
echo SITE_NAME;
?>
```