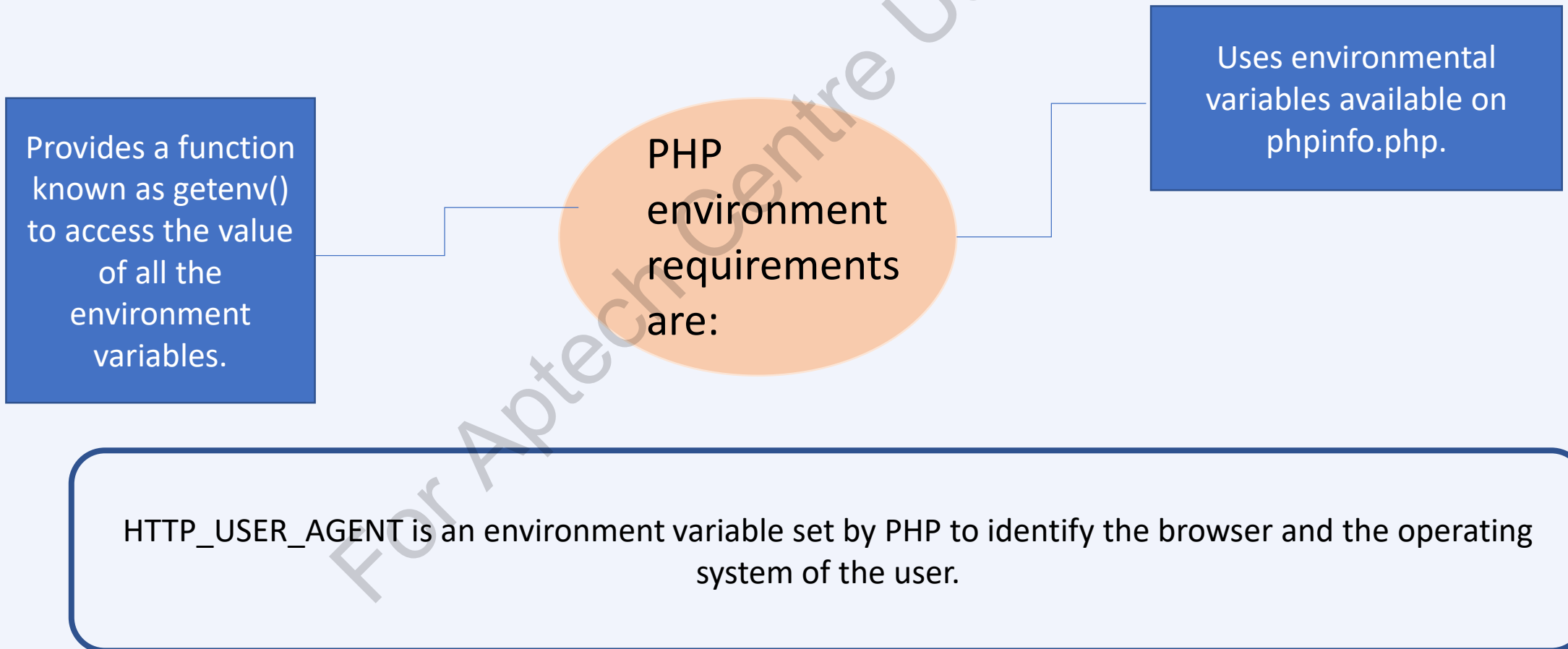# Session 14

PHP Web Concepts

Learning Objectives

In this session you learn to:

- Explain Browser and Platform Identification

- Elaborate how to display images randomly

- Identify the recent enhancements in PHP

- Define Browser Redirection

- Elaborate how to display the File Download dialog box

- Describe PHP and JSON

Browser and Platform Identification [1-2]

Provides a function known as getenv() to access the value of all the environment variables.

PHP environment requirements are:

Uses environmental variables available on phpinfo.php.

HTTP_USER_AGENT is an environment variable set by PHP to identify the browser and the operating system of the user.

Browser and Platform Identification [2-2]

Code snippet:

```php
<html>
<body>
<?php
$viewer = getenv( "HTTP_USER_AGENT" );
$browser = "An unidentified browser";
if( preg_match( "/MSIE/i", "$viewer" ) )
{
$browser = "Internet Explorer";
}
else if( preg_match( "/Netscape/i", "$viewer" ) )
{
$browser = "Netscape";
}
else if( preg_match( "/Mozilla/i", "$viewer" ) )
{
$browser = "Mozilla";
}
$platform = "An unidentified OS!";
if( preg_match( "/Windows/i", "$viewer" ) )
{
$platform = "Windows!";
}
else if ( preg_match( "/Linux/i", "$viewer" ) )
{
$platform = "Linux!";
}
echo("You are using $browser on $platform");
?>
</body>
</html>
```
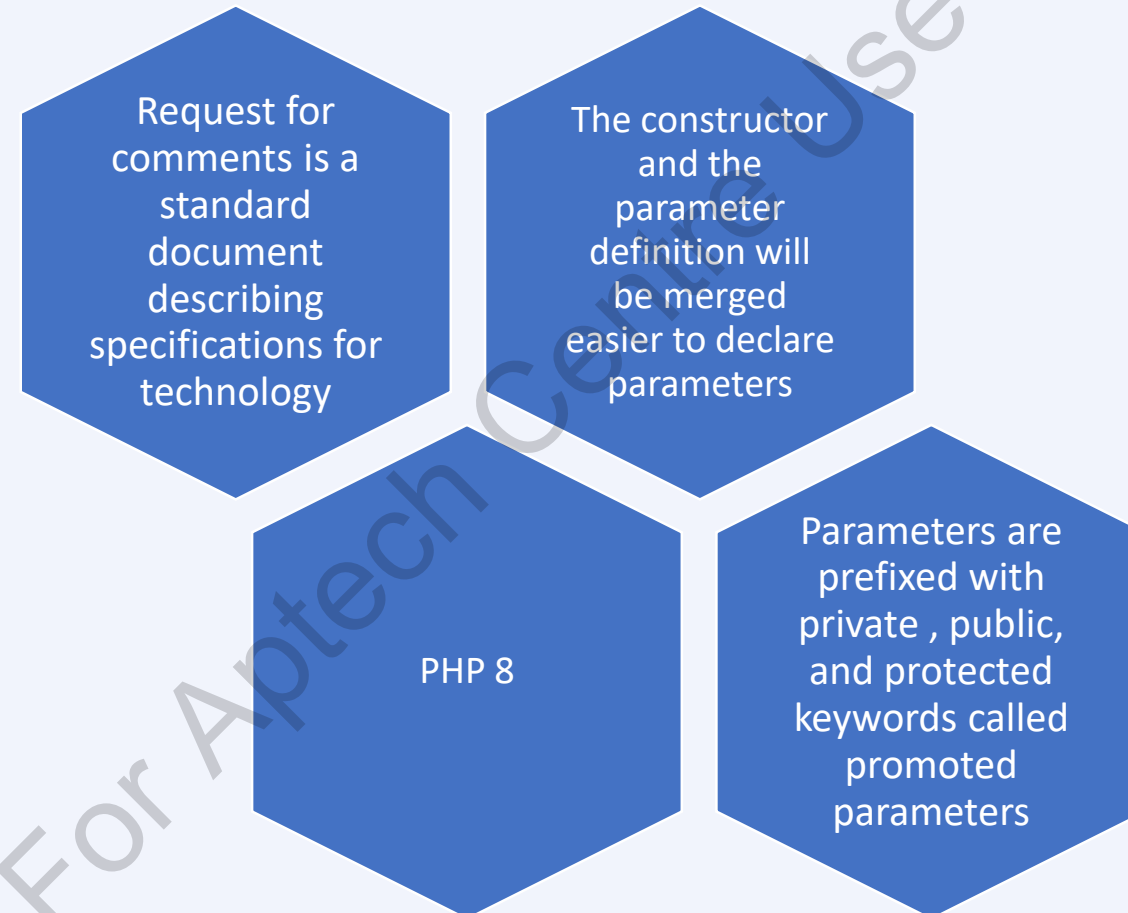
Displaying Images Randomly

`rand()` function

- Used to generate a random number within a range.

`srand()` function

- Used to generate a random number that sets the seed number as its argument.

Recent Enhancements in PHP 8

Request for comments is a standard document describing specifications for technology

The constructor and the parameter definition will be merged easier to declare parameters

PHP 8

Parameters are prefixed with private , public, and protected keywords called promoted parameters

Arrays Starting With a Negative Index

- With PHP 8, arrays beginning with negative index change their behavior.

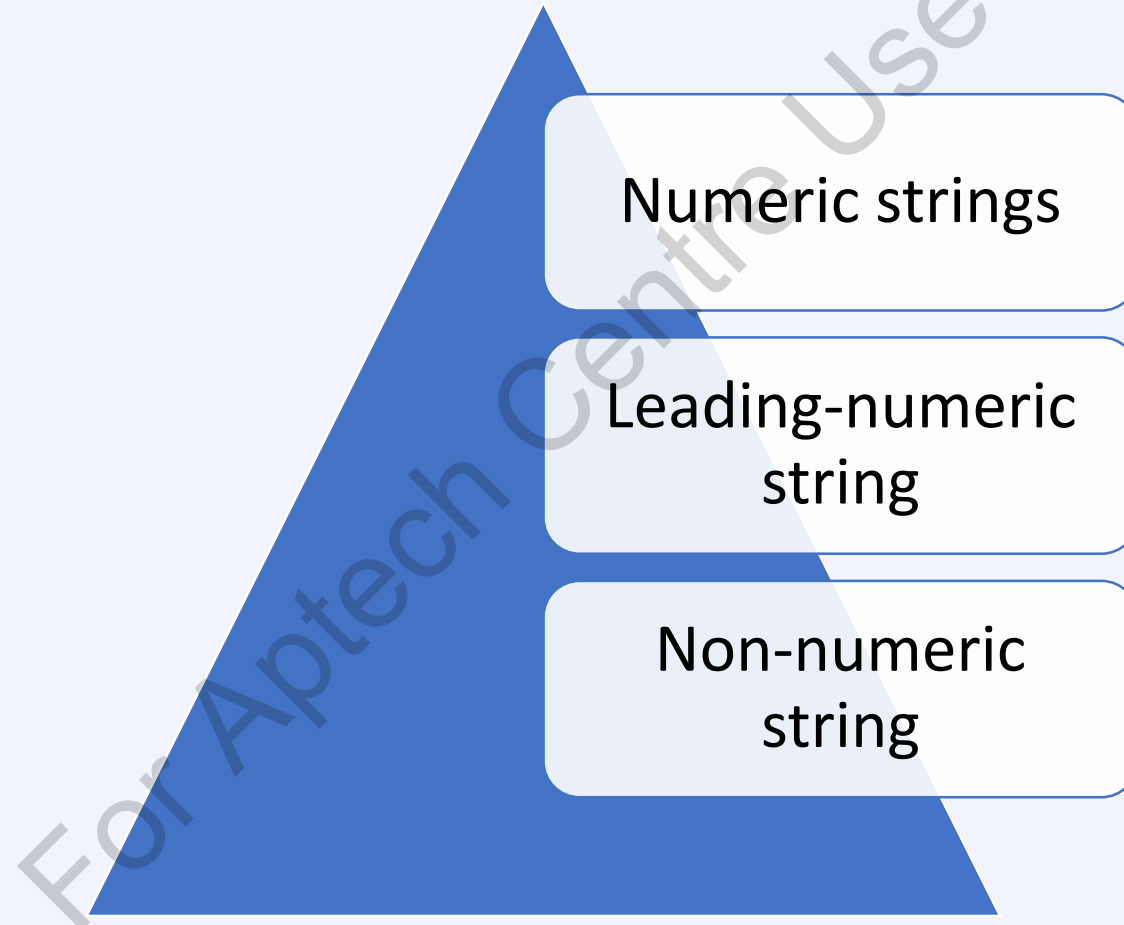- The remaining indices will start from 0.

Example:

```
$a = array_fill(-6, 5, true);
var_dump($a);
```

Nullsafe Operator

- PHP 8 introduces nullsafe operator `$->`.

- If an operator in a chain evaluates to `null`, then the execution of the chain stops and results in `null`.

Saner String to Number Comparisons

Numeric strings

Leading-numeric string

Non-numeric string

Trailing Comma in Parameter List

- Trailing commas are commas that are appended to the list of items during various circumstances.

- Trailing commas were introduced in list syntax, in PHP 7.2 and PHP 7.3.

- The trailing commas in parameter lists with methods, functions, and closures is introduced in PHP 8 version.

Consistent Type Errors for Internal Functions

Behavior of internal and user-defined functions when illegal Parameter type is passed:

To retrieve the name of a class, use the syntax:

```
Foo\Bar::class
```

Internal functions → Shows warning and returns null

User-defined functions → Shows TypeError
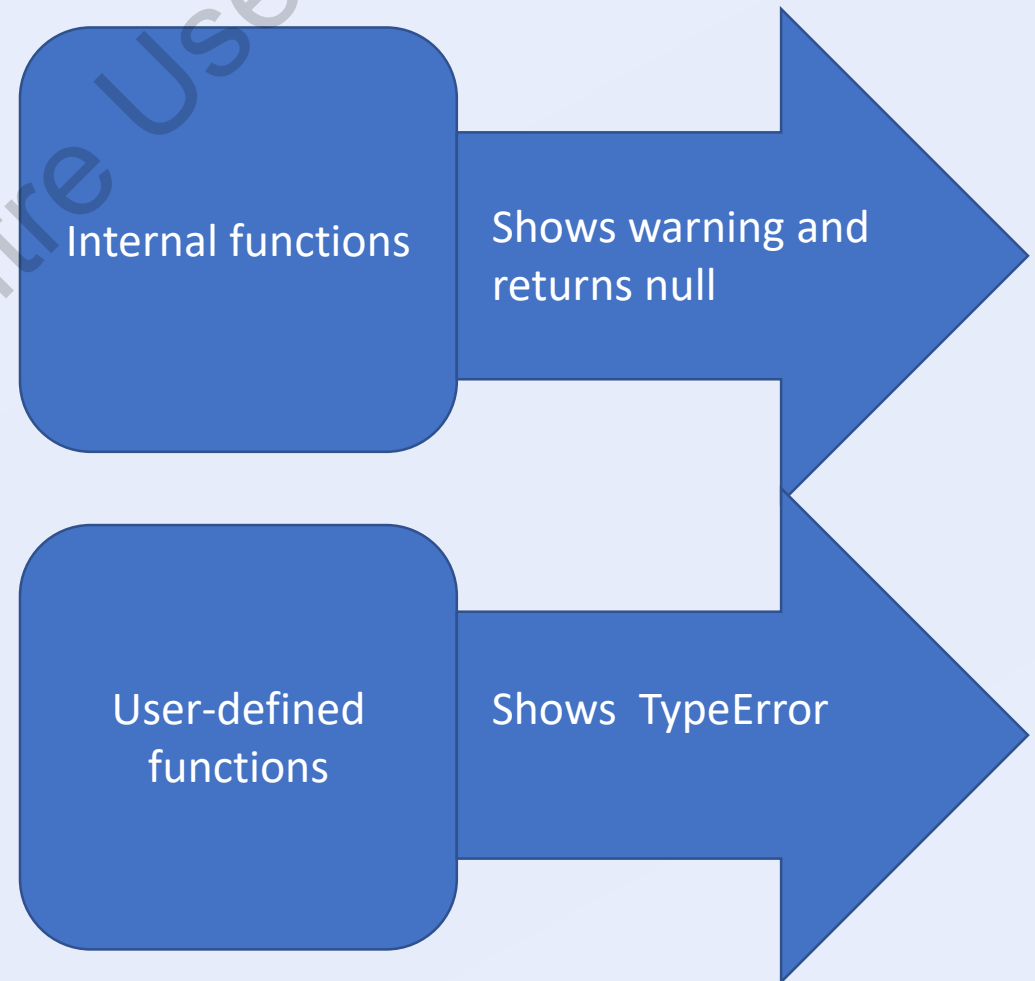
Browser Redirection [1-2]

- One of the functionalities that can be done smoothly in PHP.

- PHP uses `header()` function.

- The `header()` function of PHP helps to redirect the browser.

- By providing the raw HTTP headers to it.

- It helps to redirect to a different location.

Browser Redirection [2-2]

Code snippet:

```php
<?php
error_reporting(0);
if($_POST["location"] )
{
$location = $_POST["location"];
header( "Location:$location" );
exit();
}
?>
<html>
<body>
<p>Select a Website to visit :</p>
<form action="<?php $_PHP_SELF ?>"
method="POST">
```

```html
<select name="location">
<option value="http://w3c.org">
World Wide Web Consortium
</option>
<option value="http://www.google.com">
Google Search Page
<option value="http://www.sample.com">
Php tutorial page
</option>
</select>
<input type="submit" value="Submit"/>
</form>
</body>
</html>
```

Displaying 'File Download' Dialog Box [1-2]

The HTTP header ➜ Helps to create links

Displaying 'File Download' Dialog Box [2-2]

Code snippet:

```perl
#!/usr/bin/perl
# HTTP Header
print "Content-Type:application/octet-stream; name=\"FileName\"\r\n";
print "Content-Disposition: attachment; filename=\"FileName\"\r\n\n";
# Actual File Content
open( FILE, "<FileName" );
while(read(FILE, $buffer, 100) ){
print("$buffer");
}
```

PHP and JSON

JSON stands for JavaScript Object Notation:

- Is a syntax to store and exchange or interchange data.

- Helps to decode or parse the syntax.

- Is implemented with the help of the JSON extension in PHP.

PHP JSON Functions

Function	Description
`json_decode()`	Decodes a JSON string
`json_encodae()`	Encode a value to JSON format
`json_last_error()`	Returns the last error occurred
`json_last_error_msg()`	Returns the error string of the last `json_encode()` or `json_decode()` call

PHP – Accessing Decoded Values [1-2]

```php
<?php
$jsonobj = '{"John":29,"Nick":28,"Sean":31}';
$obj = json_decode($jsonobj);
echo $obj->John . " ";
echo $obj->Nick . " ";
echo $obj->Sean. " ";
?>
```

PHP – Accessing Decoded Values [2-2]

Constant	Type	Description
`JSON_ERROR_NONE`	Integer	No error has occurred
`JSON_ERROR_DEPTH`	Integer	Maximum stack depth has been exceeded
`JSON_ERROR_STATE_MISMATCH`	Integer	Invalid/Malformed JSON
`JSON_ERROR_CTRL_CHAR`	Integer	Control character error
`JSON_ERROR_SYNTAX`	Integer	Syntax error
`JSON_ERROR_UTF8`	Integer	Malformed UTF-8 characters. Valid since PHP 5.3
`JSON_ERROR_RECURSION`	Integer	Invalid recursive reference values. Valid since PHP 5.5
`JSON_ERROR_INF_OR_NAN`	Integer	Invalid NAN or INF values. Valid since PHP 5.5
`JSON_ERROR_UNSUPPORTED_TYPE`	Integer	Invalid type. Valid since PHP 5.5
`JSON_ERROR_INVALID_PROPERTY_NAME`	Integer	Invalid property name. Valid since PHP 7.0
`JSON_ERROR_UTF16`	Integer	Malformed UTF-16 characters. Valid since PHP 7.0

PHP - Looping Through JSON Values

```php
<?php

$jsonobj = '{"John":29,"Nick":28,"Sean":31}';

$obj = json_decode($jsonobj);

echo $obj->John . " ";

echo $obj->Nick . " ";

echo $obj->Sean. " ";

?>
```

Deploying PHP on a Remote Web Server Using the NetBeans IDE

Register an account on a hosting provisioner.

Deploy a database such as MySQL, on the remote server itself.

Upload options about On Run , On Save and Manually.

NetBeans is a popular IDE and provides facility to link to a Web server.

Summary

- PHP provides a function `getenv()` to access the value of all the environment variables

- PHP `rand`() and `srand`() functions are used to generate random numbers.

- Browser redirection can be achieved using the header() function.

- JSON is a popular data exchange format for the Web.

- `json_encode`() is used to encode JSON and `json_decode`() is used to decode JSON in PHP.

- JSON decoded values can be accessed either from an object or from an associative array.

- PHP `foreach`() loop is used to loop through the values of a JSON array or a list.

- Codes can now be methodical, definitive, and dependable with the new enhancements in PHP 8.

- User has to register an account on a hosting provisioner and deploy a database such as MySQL on the remote server.