	CSE 482L: Internet and Web Technology Lab	Lab Manual
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Goal:

- Handle database by PHP
- Debugging PHP

Handle database by PHP

Make the following 5 PHP files

File name: **connection.php** — **MySQLi**

```php
$servername = "localhost";
$username = "username";
$password = "password";
// Create connection
$conn = mysqli_connect($servername, $username, $password);
// Check connection
if (!$conn) {
  die("Connection failed: " . mysqli_connect_error());
}
echo "Connected successfully";
```

File name: **connection.php** — **PDO**

```php
$servername = "localhost";
$username = "username";
$password = "password";
try {
  $conn = new PDO("mysql:host=$servername;dbname=myDB", $username, $password);
  $conn->setAttribute(PDO::ATTR_ERRMODE, PDO::ERRMODE_EXCEPTION);
  echo "Connected successfully";
} catch(PDOException $e) {
  echo "Connection failed: " . $e->getMessage();
}
```

File name: **insert.php**

```php
$sql = "INSERT INTO MyGuests (firstname, lastname, email) VALUES ('John', 'Doe',
'john@example.com')";
if (mysqli_query($conn, $sql)) {
  echo "New record created successfully";
}
else {
  echo "Error: " . $sql . "<br>" . mysqli_error($conn);
}
```

File name: **select.php**

```php
$sql = "SELECT id, firstname, lastname FROM MyGuests";
$result = mysqli_query($conn, $sql);
if (mysqli_num_rows($result) > 0) {
  // output data of each row
   while($row = mysqli_fetch_assoc($result)) {
      echo "id: " . $row["id"]. " - Name: " .
      $row["firstname"]. " " . $row["lastname"]. "<br>";
    }
}
else {
   echo "0 results";
}
```

File name: **update.php**

```php
$sql = "UPDATE MyGuests SET lastname='Doe' WHERE id=2";
if (mysqli_query($conn, $sql)) {
   echo "Record updated successfully";
}
else {
   echo "Error updating record: " . mysqli_error($conn);
}
```

File name: **delete.php**

```php
$sql = "DELETE FROM MyGuests WHERE id=3";
if (mysqli_query($conn, $sql)) {
   echo "Record deleted successfully";
}
else {
   echo "Error deleting record: " . mysqli_error($conn);
}
```

Debugging PHP using Xdebug and VScode

1. **Configure XAMPP apache**

   Save the following file from your `htdocs` of XAMPP server. Use a browser to visit this file.

File name: **phpinfo.php**

```php
<?php phpinfo(); ?>
```

You will get a response similar response as below.

PHP Version 8.0.19

System	Windows NT IBCR-NAQIB 10.0 build 19045 (Windows 10) AMD64
Build Date	May 10 2022 08:43:34
Build System	Microsoft Windows Server 2019 Datacenter [10.0.17763]
Compiler	Visual C++ 2019
Architecture	x64
Configure Command	cscript /nologo /e:jscript configure.js "--enable-snapshot-build" "--enable-debug-pack" "--with-pdo-oci=..\..\..\instantclient\sdk,shared" "--with-oci8-19=..\..\..\instantclient\sdk,shared" "--enable-object-out-dir=../obj/" "--enable-com-dotnet=shared" "--without-analyzer" "--with-pgo"
Server API	Apache 2.0 Handler
Virtual Directory Support	enabled
Configuration File (php.ini) Path	*no value*
Loaded Configuration File	F:\xampp\php\php.ini
Scan this dir for additional .ini files	(none)
Additional .ini files parsed	(none)

On this page look for “Xdebug”

> “This program makes use of the Zend Scripting Language Engine:
> Zend Engine v4.0.19, Copyright (c) Zend Technologies
> with Xdebug v3.2.2, Copyright (c) 2002-2023, by Derick Rethans”

If it not there then you will need to enable debugging XAMPP on apache.[a]

Download Xdebug.dll file from https://xdebug.org/download[b]

(a) Download php_xdebug-3.2.2-8.0-vs16-x86_64.dll

(b) Move the downloaded file to [….\xampp\php\ext], and rename it to php_xdebug.dll

(c) Update F:\xampp\php\php.ini to have the line:

[Xdebug]

xdebug.mode = debug

xdebug.start_with_request = yes

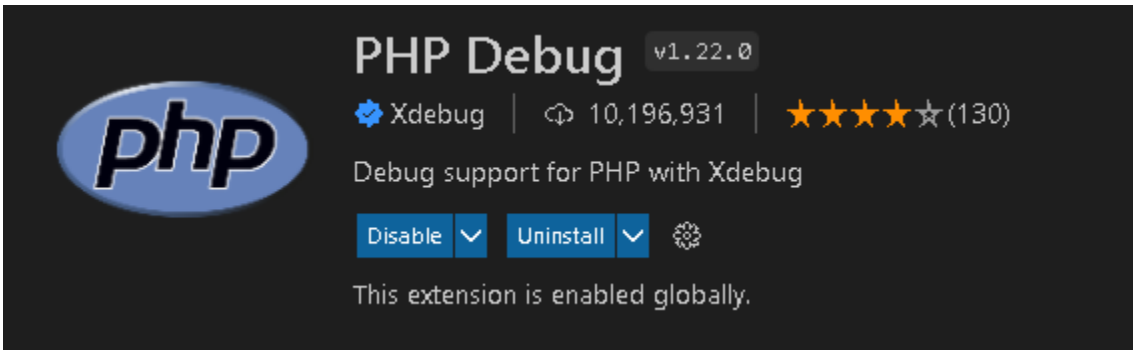
zend_extension = "[path to xampp\php\ext\php_xdebug.dll]"

zend_extension = xdebug

(d) Restart the Apache Webserver

2. Configure VSCode

Open VSCode extensions panel and install PHP Debug extension for Xdebug.



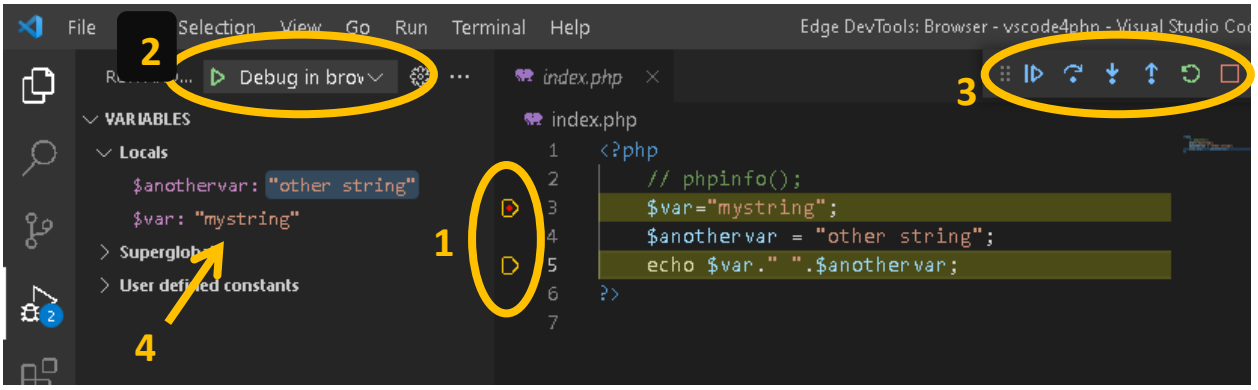
Click on debug panel button on VScode and open `launch.json`. Paste the following code in it and save.

File name: **`launch.json`**

```
{
    "version": "0.2.0",
    "configurations": [
        {
            "name": "Launch XDebugger",
            "type": "php",
            "request": "launch",
            "port": 9003
        }
    ]
}
```

3. **Ready to debug**

Now you should be able to debug using debugger from VScode. For further information on how to debug using VScode visit this url: https://code.visualstudio.com/docs/editor/debugging[d]



Add a breakpoint to the left side of a line.(1) You can do so by clicking on to the left of the line number. When you click on the green (2) (or F5 on windows keyboard) it will start debugging and halt at the breakpoint. You can navigate and control the flow of execution by using the controllers (3). You can inspect variables and super globals etc (4)

End Notes:

[a] Visit a wizard for Xdebug https://xdebug.org/wizard. This wizard accepts html source of <php phpinfo()?> and provides customized instructions

[b] Further documentation Xdebug. https://xdebug.org/docs/

[c] Php_xdebug.dll interacts on port 9003. Hence the VSCode extension must listen to that port. This comes as a default installation.

[d] Visit Visual Studio Code documentation for details at https://code.visualstudio.com/docs