

Web Application Lab Setup

Today we are going to show you how you can set up a vulnerable web application server in a Windows system using Xampp. Here we will be configuring the most popular web applications (DVWA, bwapp, SQLI, Mutillidae). So, let's do that.

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Requirement-Xampp server (Windows-X64)

Web Application

A web application is a computer program that utilizes web browsers and web technology to perform tasks over the Internet. Web apps can be built for a wider use which can be used by anyone; from an enterprise to an entity for a variety of reasons. Frequently used Web applications can include webmail.

Xampp Server Installation

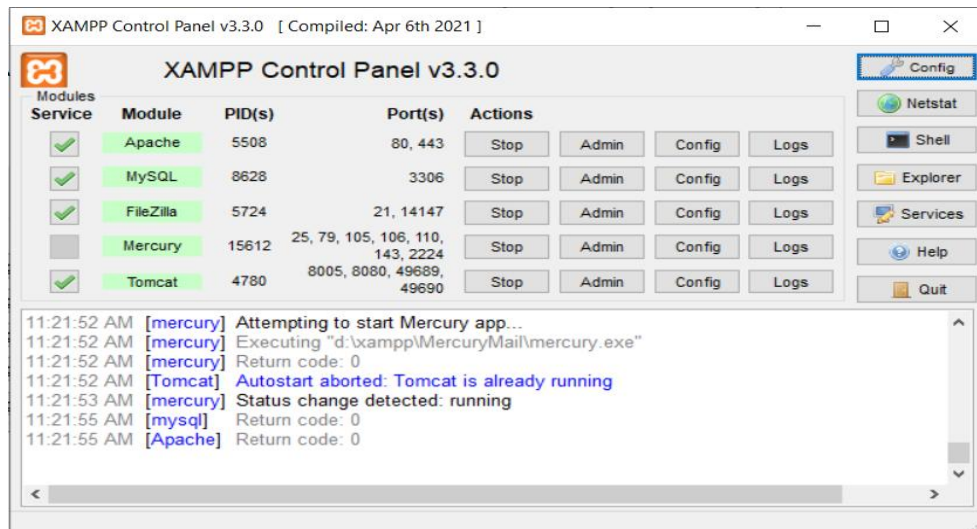
XAMPP stand for Apache + MariaDB + PHP + Perl

XAMPP is a free and open-source cross-platform web server solution stack package developed by Apache Friends, consisting mainly of the Apache HTTP Server, MariaDB database, and interpreters for scripts written in the PHP and Perl programming languages. Since most actual web server deployments use the same components as XAMPP, it makes transitioning from a local test server to a live server possible. (read more from Wikipedia)

Download from [here](#)

<https://www.apachefriends.org/download.html>

Once the installation is done, we need to start the service of Mysql and Apache service in Xampp server.



DVWA

DVWA is a web application that is damn sensitive to PHP / MySQL. The main objectives are to provide security professionals with assistance to test their skills and resources in a legal environment, enable web developers to better understand the processes of protecting web applications and assist teachers/students to teach/learn protection in the classroom.

Download from here

<https://github.com/digininja/DVWA>

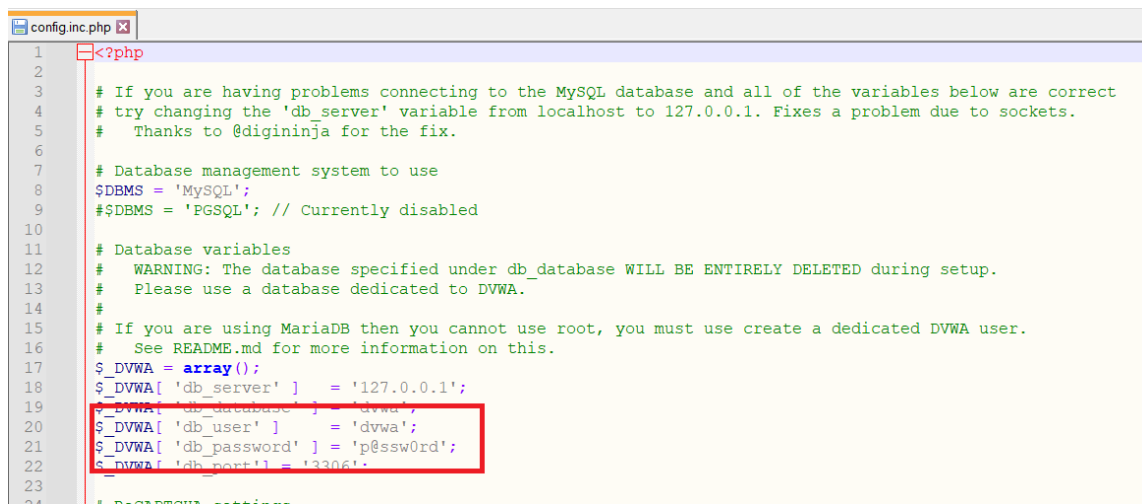
Once the dvwa is installed completely then we will navigate to C:/Xampp/htdocs/dvwa/config.inc.php.dist to change the username and password for the database.

Open the configuration file to set the Username and Password.

ISO (D:) > xampp > htdocs > DVWA > config

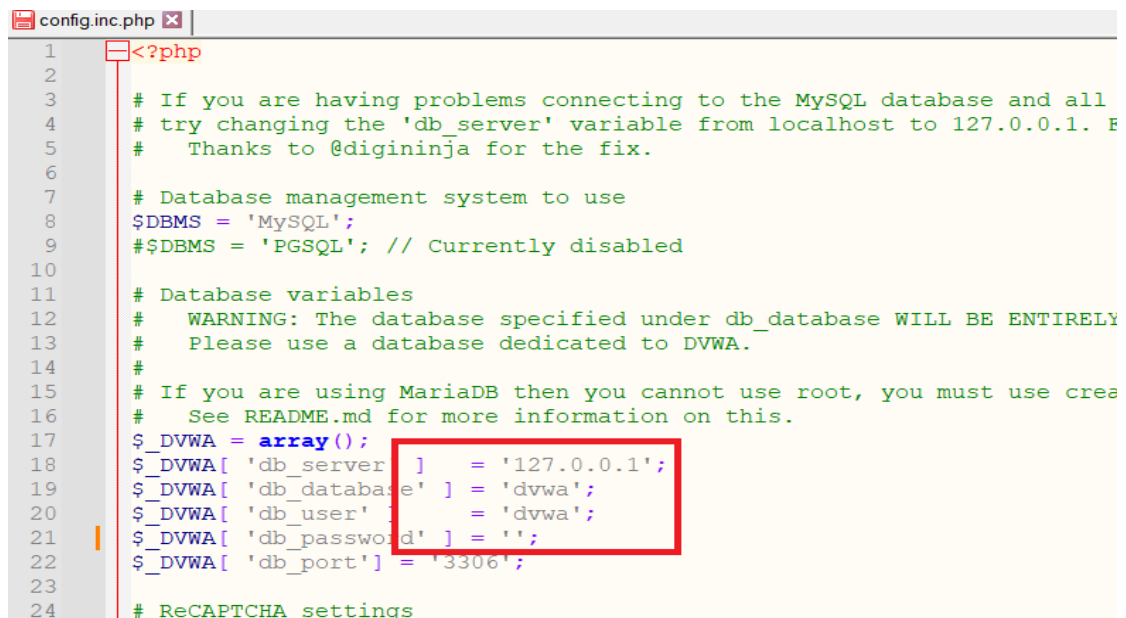
Name	Date modified
 config.inc.php.dist	4/3/2023 12:51 PM

Here, you can notice that the default username is root and password is password which we will modify.



```
1 <?php
2
3 # If you are having problems connecting to the MySQL database and all of the variables below are correct
4 # try changing the 'db_server' variable from localhost to 127.0.0.1. Fixes a problem due to sockets.
5 # Thanks to @diginiinja for the fix.
6
7 # Database management system to use
8 $DBMS = 'MySQL';
9 # $DBMS = 'PGSQL'; // Currently disabled
10
11 # Database variables
12 # WARNING: The database specified under db_database WILL BE ENTIRELY DELETED during setup.
13 # Please use a database dedicated to DVWA.
14 #
15 # If you are using MariaDB then you cannot use root, you must use create a dedicated DVWA user.
16 # See README.md for more information on this.
17 $_DVWA = array();
18 $_DVWA[ 'db_server' ] = '127.0.0.1';
19 $_DVWA[ 'db_database' ] = 'dvwa';
20 $_DVWA[ 'db_user' ] = 'dvwa';
21 $_DVWA[ 'db_password' ] = 'p@ssw0rd';
22 $_DVWA[ 'db_port' ] = '3306';
23
24 # ReCAPTCHA settings
```



Now here you may notice that we have set the password “blank” for user “root”. Now save these settings and quit.



```
1 <?php
2
3 # If you are having problems connecting to the MySQL database and all
4 # try changing the 'db_server' variable from localhost to 127.0.0.1. F
5 # Thanks to @diginiinja for the fix.
6
7 # Database management system to use
8 $DBMS = 'MySQL';
9 # $DBMS = 'PGSQL'; // Currently disabled
10
11 # Database variables
12 # WARNING: The database specified under db_database WILL BE ENTIRELY
13 # Please use a database dedicated to DVWA.
14 #
15 # If you are using MariaDB then you cannot use root, you must use crea
16 # See README.md for more information on this.
17 $_DVWA = array();
18 $_DVWA[ 'db_server' ] = '127.0.0.1';
19 $_DVWA[ 'db_database' ] = 'dvwa';
20 $_DVWA[ 'db_user' ] = 'dvwa';
21 $_DVWA[ 'db_password' ] = '';
22 $_DVWA[ 'db_port' ] = '3306';
23
24 # ReCAPTCHA settings
```

Rename the file as “config.inc.php” after making above changes and save it.

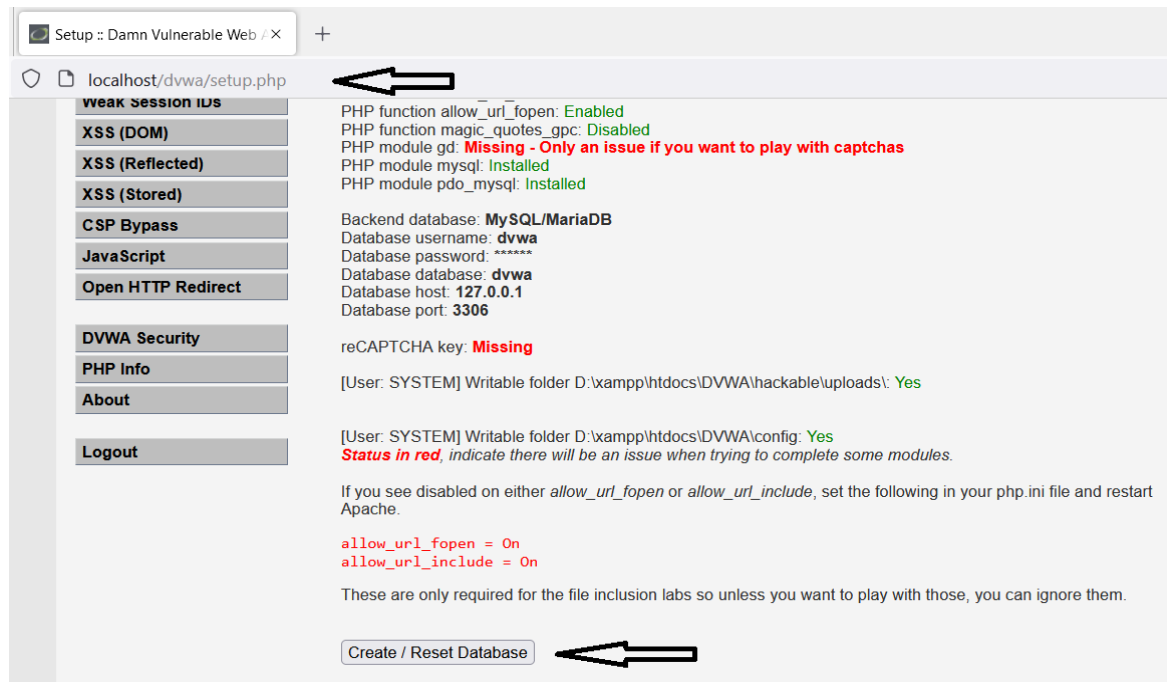
```
ISO (D:) > xampp > htdocs > DVWA > config
```

Name	Date modified	Type
 config.inc.php	4/3/2023 12:51 PM	PHP Source File
 config.inc.php.dist	4/3/2023 12:51 PM	DIST File

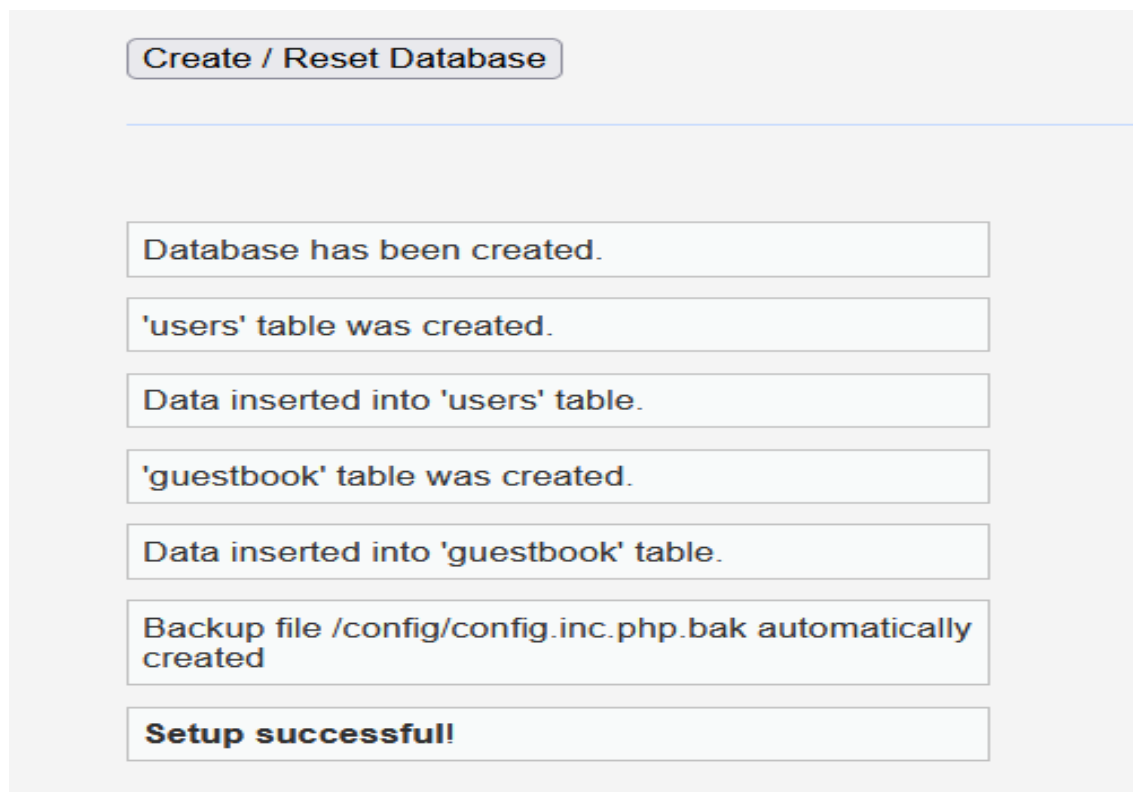
Now we need to open the DVWA application in our localhost to create the database

<http://localhost/dvwa/setup.php>

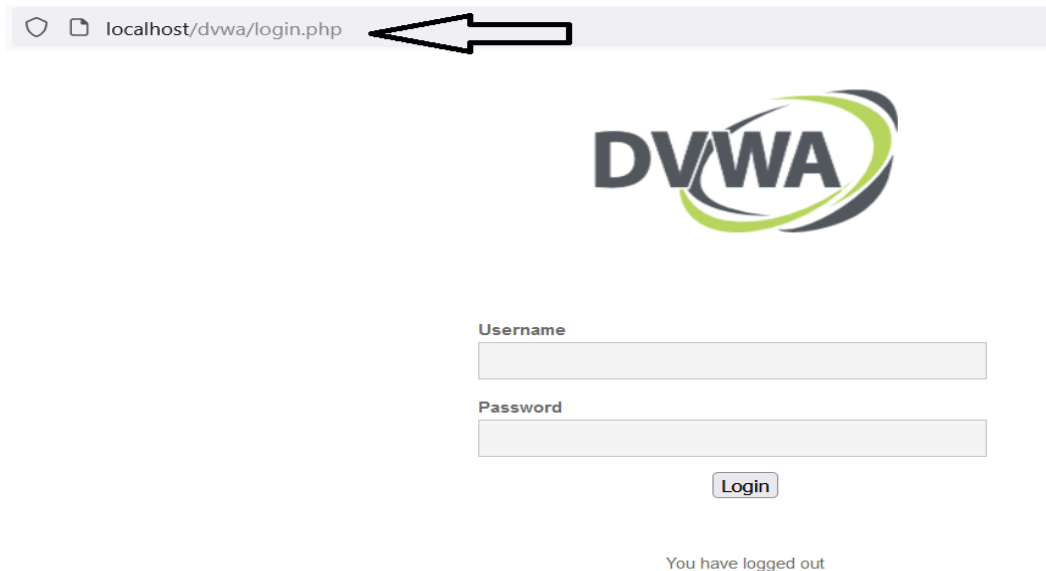
Now click on create database and database is created.



Now click on login and you are done with the setup.



For login, we will use the DVWA username which is **admin** and **password** which is DVWA password by default



localhost/dvwa/login.php

DVWA

Username

Password

Login

You have logged out

Bwapp




BWAPP is a free, open-source and intentionally unreliable web application, or a web buggy program. It helps security enthusiasts, designers and students discover Web bugs and stop them from doing so. BWAPP plans for positive penetration tests and cyber ethics initiatives.

Download it from here.

<http://www.itsecgames.com/>

<https://sourceforge.net/projects/bwapp/files/bWAPP/>

Now navigate to “C:/Xampp/htdocs/bwapp/admin” folder to change the default username and password for the database.

> ISO (D:) > xampp > htdocs > bWAPPv2.2 > bWAPP > admin	
Name	Date modified
 index.php	9/27/2014 5:58 PM
 phpinfo.php	5/1/2014 9:51 PM
 settings.php	9/29/2014 11:00 AM

Now you can see that the default username is root and password is bug which we will modify.

```
Enjoy!

Malik Mesellem
Twitter: @MME_IT

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-*/

// Database connection settings
$db_server = "localhost";
$db_username = "root";
$db_password = "bug";
$db_name = "bWAPP";

// SQLite database name
$db_sqlite = "db/bwapp.sqlite";

// SMTP settings
$smtp_sender = "bwapp@mailinator.com";
$smtp_recipient = "bwapp@mailinator.com";
$smtp_server = "";
```

Now here the username is root and password we have set blank. Now save the settings and quit.

```
Malik Mesellem
Twitter: @MME_IT

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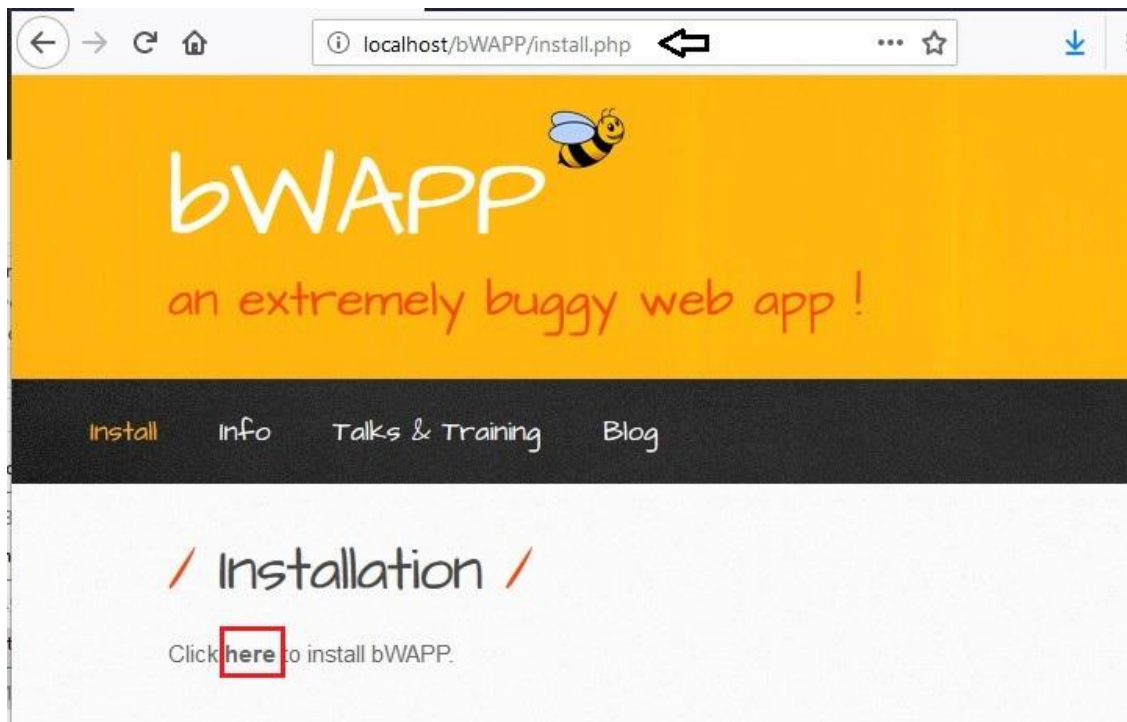
-*/

// Database connection settings
$db_server = "localhost";
$db_username = "root";
$db_password = "";
$db_name = "bWAPP";

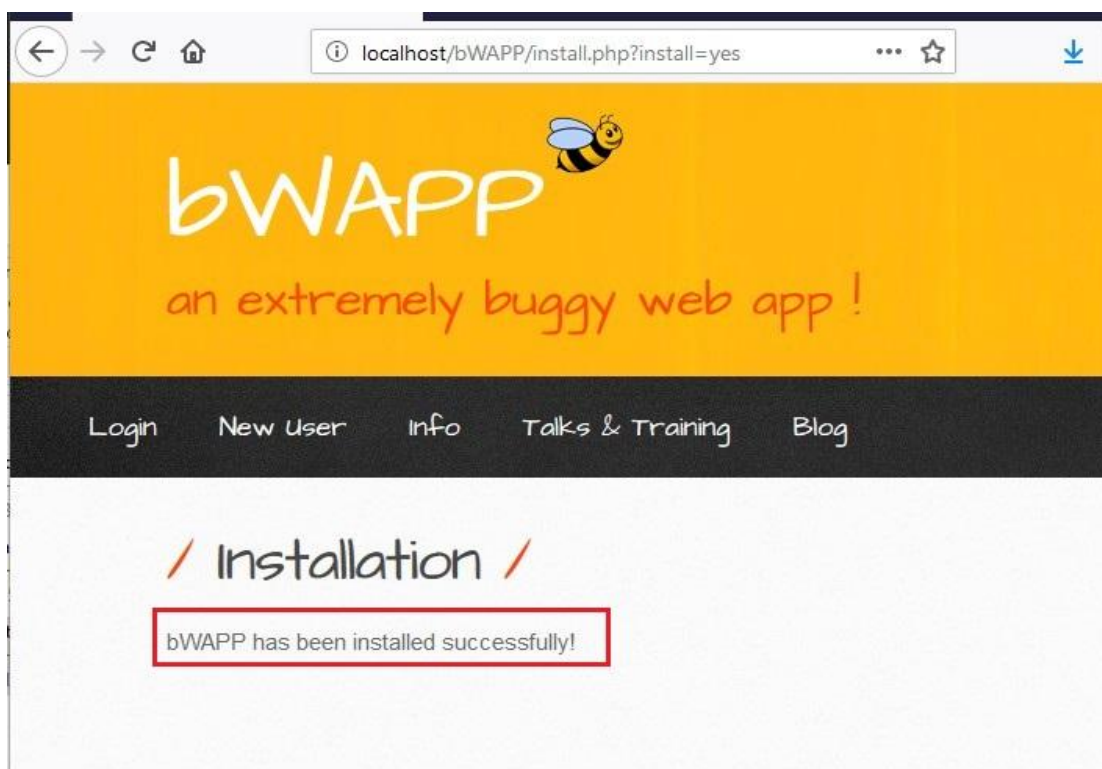
// SQLite database name
$db_sqlite = "db/bwapp.sqlite";

// SMTP settings
```

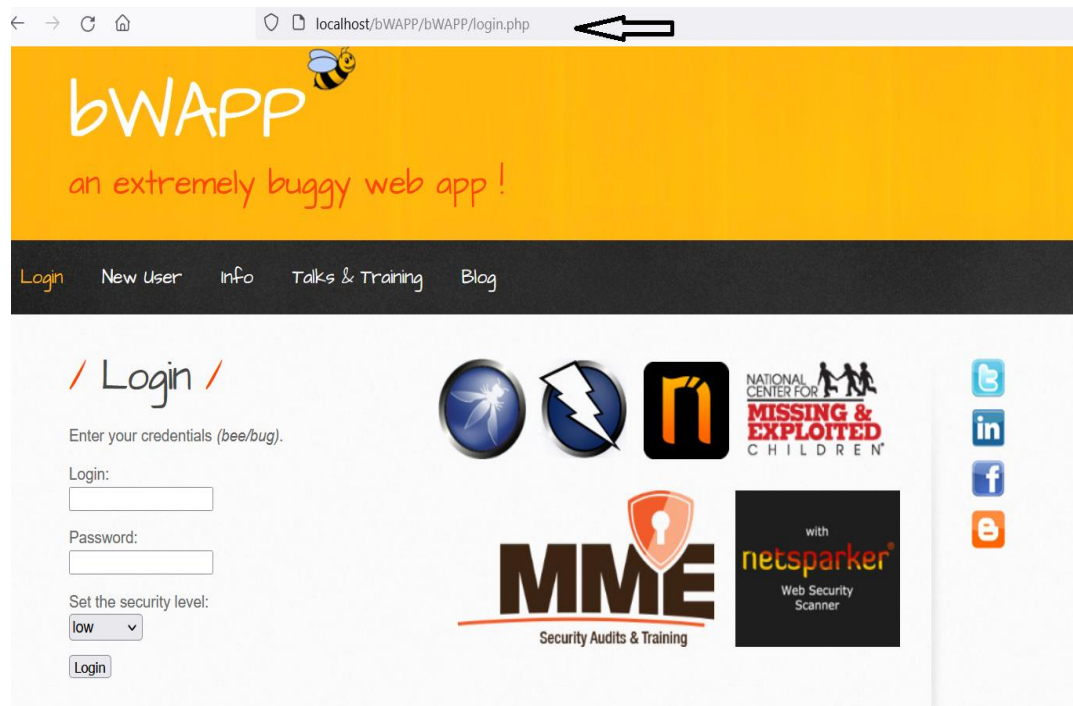
Now let's open "bwapp/install.php" in the localhost and click on "here" to complete the installation.



Now the installation is complete.



When you will login as bee:bug; you will get the portal to test your penetration testing skill



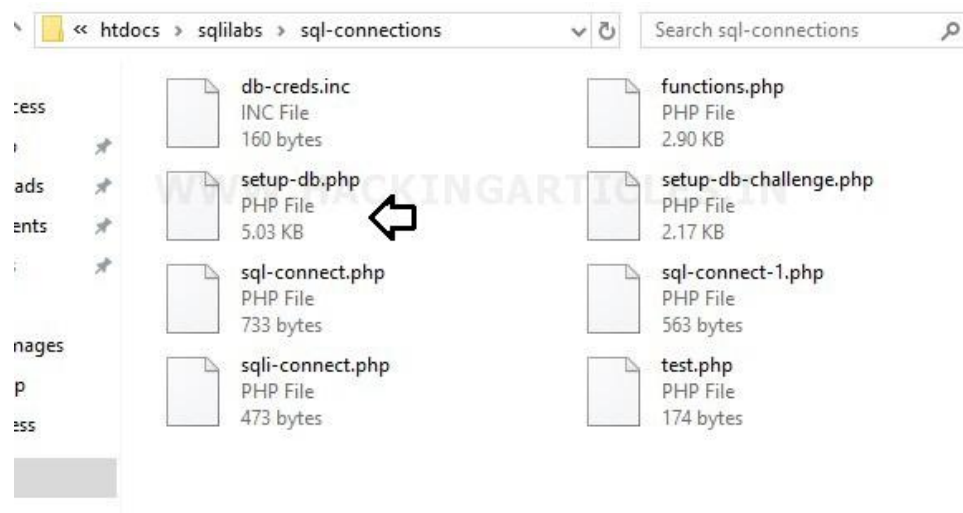
Here you can click on bugs and all bugs will be displayed to you which are there in bwapp web application.



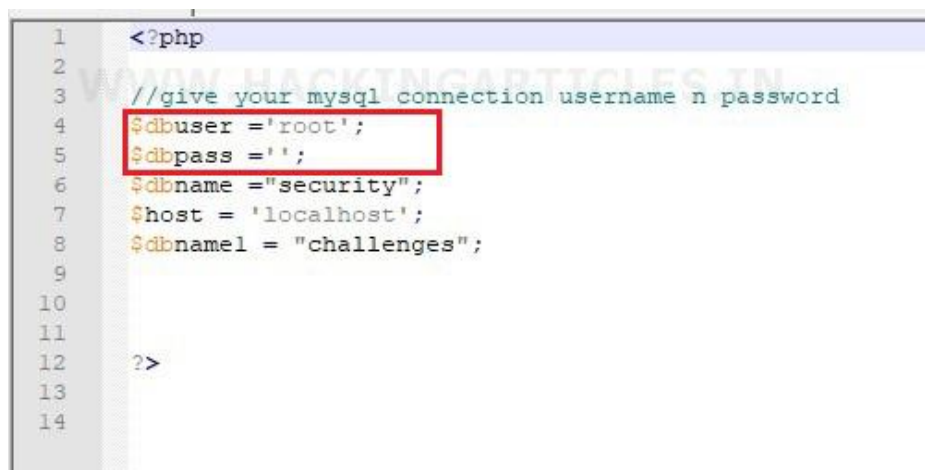
SQLI

SQLi: A facility that provides a robust testing environment for those involved in SQL injection acquisition and enhancement. Let's start. First, we will download the SQLi lab through GitHub.

Now we will navigate to C:/htdocs/sqlilabs/sqli-connections to edit the setup-db.php.



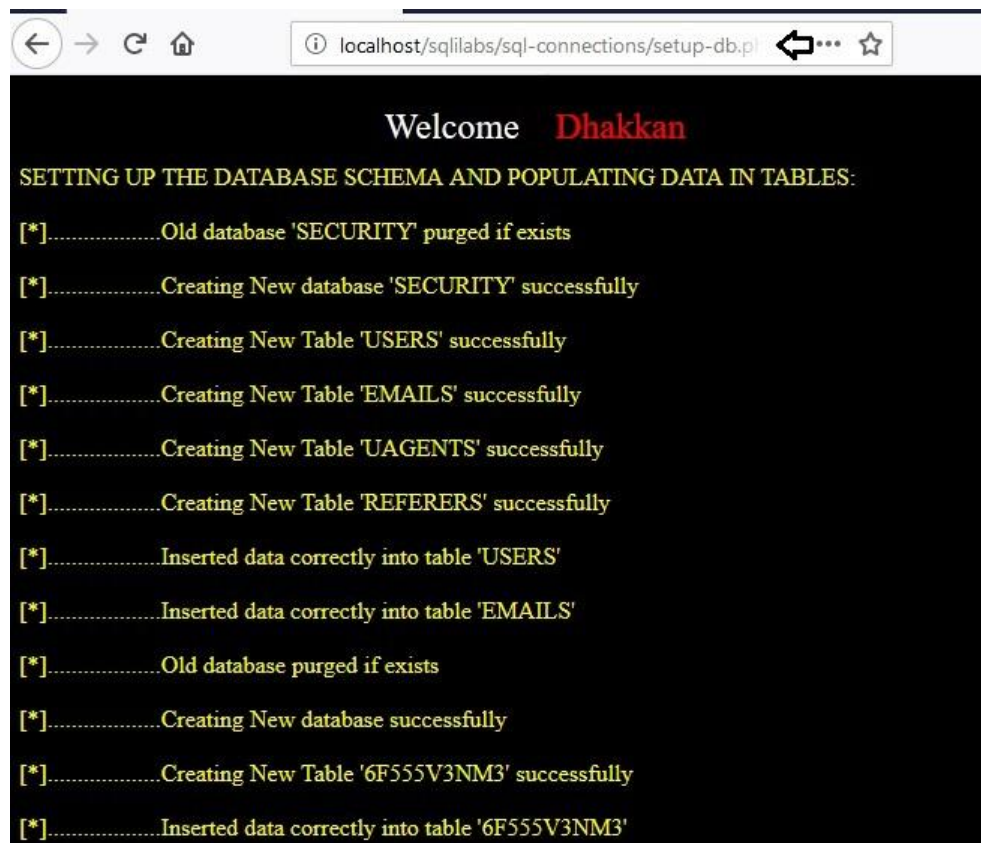
Now here we will set the password “blank” and save the changes and then quit.



Now browse this web application from through this URL: localhost/sqli and click on Setup/reset Databases for labs.



Now the sqli lab is ready to use. Now a page will open up in your browser which is an indication that we can access different kinds of Sqli challenges



```
localhost/sqlilabs/sql-connections/setup-db.pl

Welcome Dhakkan

SETTING UP THE DATABASE SCHEMA AND POPULATING DATA IN TABLES:

[*].....Old database 'SECURITY' purged if exists
[*].....Creating New database 'SECURITY' successfully
[*].....Creating New Table 'USERS' successfully
[*].....Creating New Table 'EMAILS' successfully
[*].....Creating New Table 'UAGENTS' successfully
[*].....Creating New Table 'REFERERS' successfully
[*].....Inserted data correctly into table 'USERS'
[*].....Inserted data correctly into table 'EMAILS'
[*].....Old database purged if exists
[*].....Creating New database successfully
[*].....Creating New Table '6F555V3NM3' successfully
[*].....Inserted data correctly into table '6F555V3NM3'
```

Now you can see that we have opened lesson 1. So, we have successfully set Sqli labs for practice.



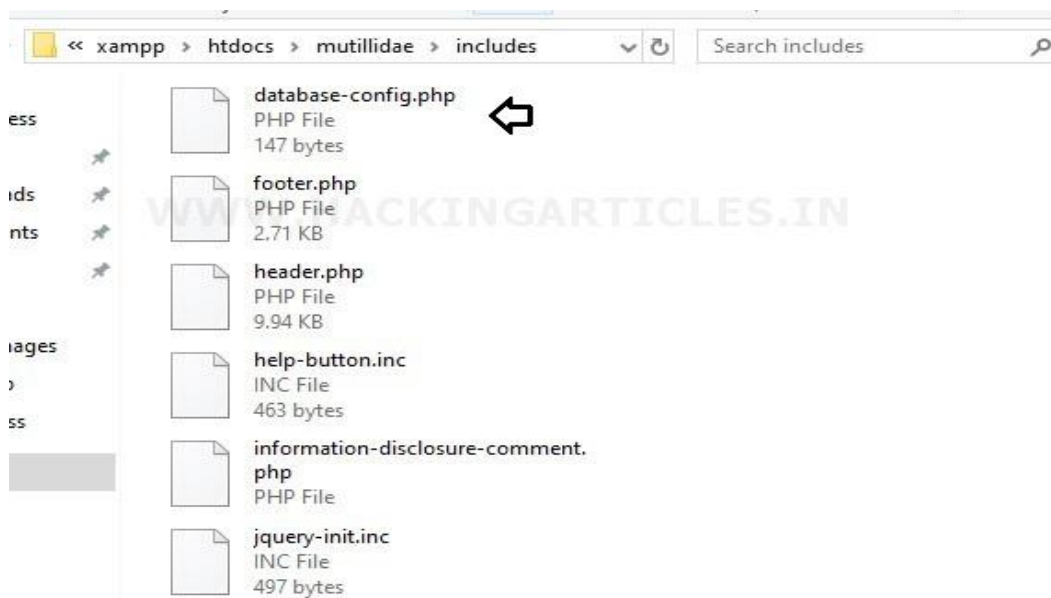
```
localhost/sqlilabs/Less-1/?id=1

Welcome Dhakkan
Your Login name:Dumb
Your Password:Dumb
```

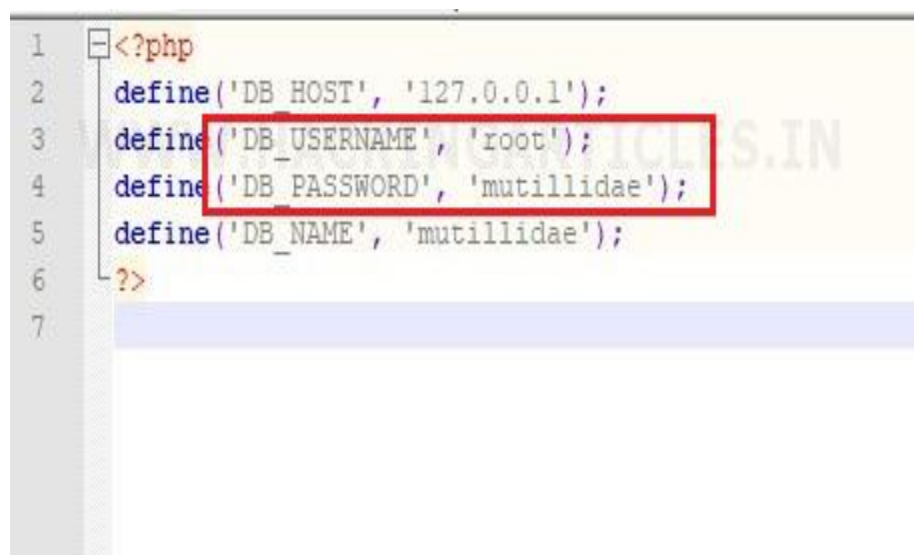
Mutillidae

OWASP Mutillidae is an open-source web application that is intentionally vulnerable and actively aims at web security. It's a laboratory for those involved in SQL injection acquisition and development, which offers a full test environment. This internet hacking framework is simple to use and is designed for labs, safety lovers, schools, CTFs and vulnerability assessments.

First, we will navigate to "C:/Xampp/htdocs/mutillidae/includes" to edit the "database-config.php" as shown below.



Here we can see that password is set mutillidae which we will replace with blank.



You can view that we have set the password "blank". Now save the settings and quit.

```

1 <?php
2 define('DB_HOST', '127.0.0.1');
3 define('DB_USERNAME', 'root');
4 define('DB_PASSWORD', '');
5 define('DB_NAME', 'mutillidae');
6 ?>
7

```

Now you can see the page where you need to click on opt out tap.

The screenshot shows a web browser window with the address bar displaying '127.0.0.1/mutillidae/database-offline.php'. The page content includes a list of instructions for resolving database connection issues. Below the instructions is a yellow box titled 'Error Message' containing the following text: 'Error: Failed to connect to MySQL database. Unable to select default database mutillidae. It appears that the database to which Mutillidae is configured to connect has not been created. Try to setup/reset the DB to see if that helps. Next, check that the database service is running and that the database username, password, database name, and database location are configured correctly. Note: File /mutillidae/classes/MySQLHandler.php contains the database configuration. Connection error:'. Below the error message is a pink box titled 'Opt out of database warnings' with the text 'You can opt out of database connection warnings for the remainder of this session'. At the bottom of this box is a blue button labeled 'Opt Out', which is highlighted with a red rectangle.

2. Be aware that MySQL disables password authentication for root user upon installation or update in some systems. This may happen even for a minor update. Please check the username and password to MySQL is the same as configured in includes/database-config.php

3. Try to [setup/reset the DB](#) to see if that helps

4. A [video is available](#) to help reset MySQL root password

5. The commands vary by system and version, but may be something similar to the following

- mysql -u root
- use mysql;
- update user set authentication_string=PASSWORD('mutillidae') where user='root';
- update user set plugin='mysql_native_password' where user='root';
- flush privileges;
- quit;

6. Check the error message below for more hints

7. If you think this message is a false-positive, you can opt-out of these warnings below

Error Message

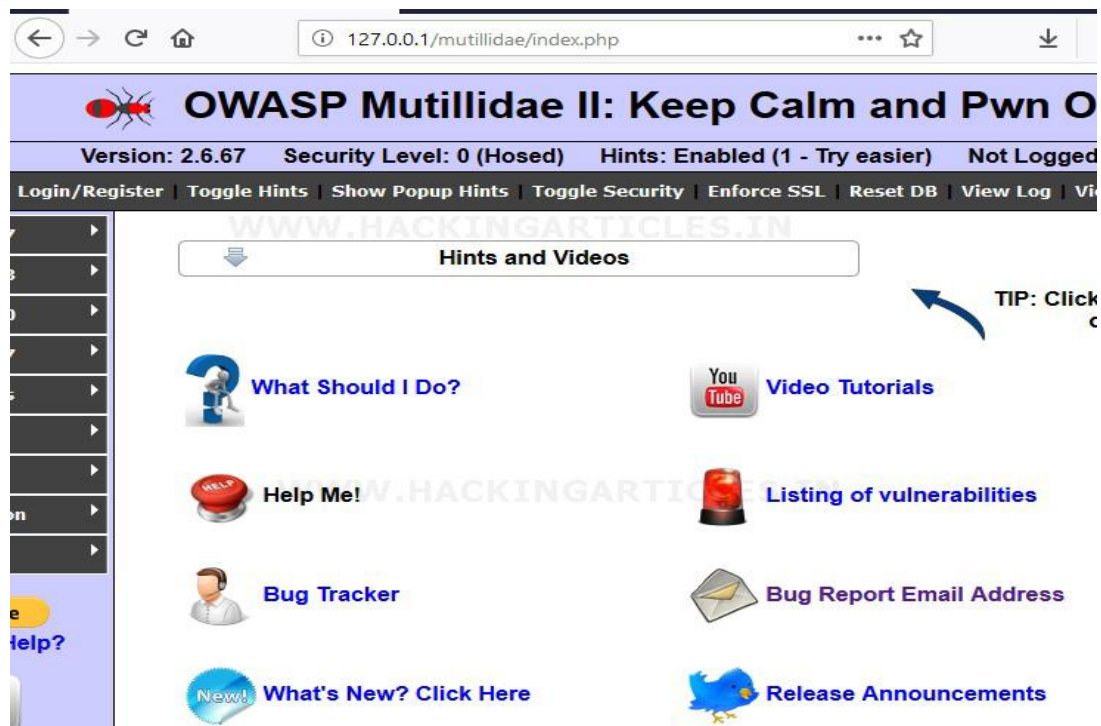
Error: Failed to connect to MySQL database. Unable to select default database mutillidae. It appears that the database to which Mutillidae is configured to connect has not been created. Try to [setup/reset the DB](#) to see if that helps. Next, check that the database service is running and that the database username, password, database name, and database location are configured correctly. Note: File /mutillidae/classes/MySQLHandler.php contains the database configuration. Connection error:

Opt out of database warnings

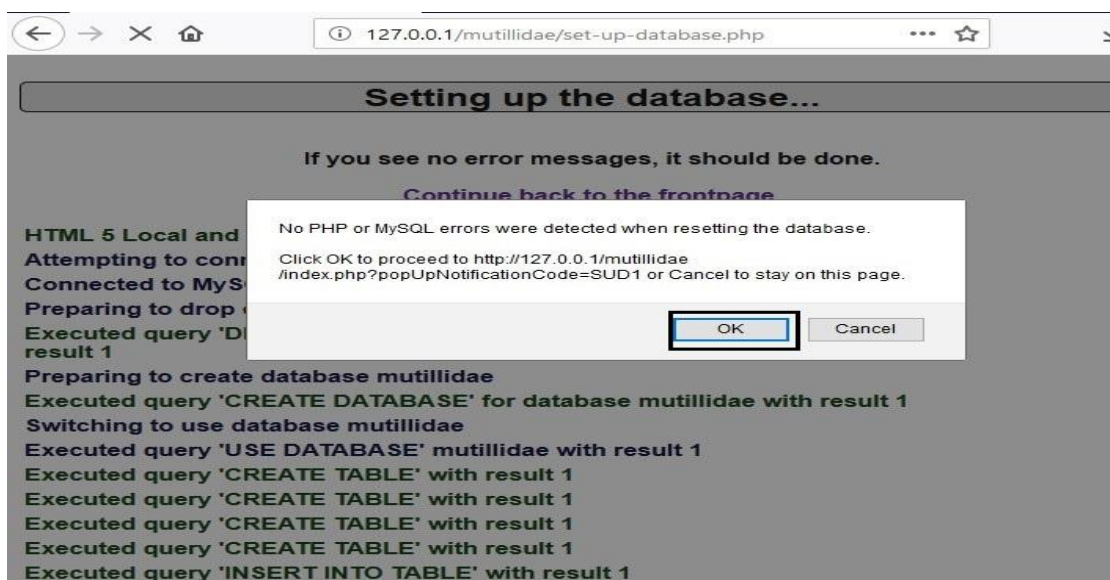
You can opt out of database connection warnings for the remainder of this session

Opt Out

Now we will open this our local browser by the following URL: localhost/mutillidae where we will find an option of reset database. Just click on it to reset the database. So, In this way, we can setup our vulnerable web application lab for penetration testing.



Now you will be redirected to a page which will ask you to click ok to proceed. Here you need to click on OK and you are done with the configuration of the Mutillidae lab.



We have successfully set all the web applications in Xampp server in Windows.

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Now click on login and you are done with the setup.

For login, we will use the DVWA username which is admin and password which is DVWA password by default.

Bwapp

Now let's set up a new lab which is BWAPP.

BWAPP is a free, open-source and intentionally unreliable web application, or a web buggy program. It helps security enthusiasts, designers and students discover Web bugs and stop them from doing so. BWAPP plans for positive penetration tests and cyber ethics initiatives.

Download it from [here](#).

Now navigate to “C:/Xampp/htdocs/bwapp/admin” folder to change the default username and password for the database.

Now you can see that the default username is root and password is bug which we will modify.