



SOEN 387

WEB-BASED ENTERPRISE APPLICATIONS DESIGN

Tutorial 3

Simple PHP application with Database(MySQL)

Agenda

- Understanding XAMPP Control Panel and Start Apache Server and MySQL
- Creating Databases and Tables in MySQL
- PHP **MySQLi** functions
- How to connect MySQL with PHP application ?





XAMMP

- **XAMPP** is a free and open source cross-platform webserver solution stack package, consisting mainly of the Apache HTTP Server, MySQL database, and interpreters for scripts written in the PHP and Perl programming languages.
- XAMPP's name is an acronym for:
- X ("Cross", meaning cross-platform)
- Apache HTTP Server
- MySQL
- PHP
- Perl
- Tomcat



XAMPP Control Panel v3.3.0 [Compiled: Apr 6th 2021]

XAMPP Control Panel v3.3.0

Modules

Service	Module	PID(s)	Port(s)	Actions
<input type="checkbox"/>	Apache	12992 13212	80, 443	<div>Stop</div> <div>Admin</div> <div>Config</div> <div>Logs</div>
<input type="checkbox"/>	MySQL	8216	3306	<div>Stop</div> <div>Admin</div> <div>Config</div> <div>Logs</div>
<input type="checkbox"/>	FileZilla			<div>Start</div> <div>Admin</div> <div>Config</div> <div>Logs</div>
<input type="checkbox"/>	Mercury			<div>Start</div> <div>Admin</div> <div>Config</div> <div>Logs</div>
<input type="checkbox"/>	Tomcat			<div>Start</div> <div>Admin</div> <div>Config</div> <div>Logs</div>

Config

Netstat

Shell

Explorer

Services

Help

Quit

12:33:02 PM [main] All prerequisites found

12:33:02 PM [main] Initializing Modules

12:33:02 PM [main] Starting Check-Timer

12:33:02 PM [main] Control Panel Ready

12:33:07 PM [Apache] Attempting to start Apache app...

12:33:08 PM [Apache] Status change detected: running

12:33:08 PM [mysql] Attempting to start MySQL app...

12:33:08 PM [mysql] Status change detected: running



phpmyadmin

The screenshot displays the phpMyAdmin web interface for a server at 127.0.0.1. The interface is organized into several sections:

- Top Navigation Bar:** Contains tabs for Databases, SQL, Status, User accounts, Export, Import, Settings, Replication, Variables,Charsets, and a More dropdown menu.
- Left Sidebar:** Features a tree view of databases and schemas, including 'information_schema', 'mysql', 'performance_schema', 'phpmyadmin', 'products', 'books', and 'test'. It also has 'Recent' and 'Favorites' buttons.
- General settings:** A panel showing 'Server connection collation' set to 'utf8mb4_unicode_ci' and a link to 'More settings'.
- Appearance settings:** A panel showing 'Language' set to 'English' and 'Theme' set to 'pmahomme', with a 'View all' button.
- Database server:** A panel listing server details: Server: 127.0.0.1 via TCP/IP, Server type: MariaDB, Server connection: SSL is not being used, Server version: 10.4.24-MariaDB - mariadb.org binary distribution, Protocol version: 10, User: root@localhost, and Server charset: UTF-8 Unicode (utf8mb4).
- Web server:** A panel listing web server details: Apache/2.4.53 (Win64) OpenSSL/1.1.1n PHP/8.1.6, Database client version: libmysql - mysqlnd 8.1.6, PHP extension: mysqli, curl, mbstring, and PHP version: 8.1.6.
- phpMyAdmin:** A panel showing version information (5.2.0), documentation, and the official homepage.
- Console:** A tab at the bottom left for viewing server logs.

Figure 2. phpmyadmin panel



Creating Database and Tables in phpmyadmin

phpMyAdmin

Server: 127.0.0.1

Databases SQL Status User accounts Export Import Settings Replication Variables Charsets Engines

Databases

Create database

Database name utf8mb4_general_ci Create

☐ Check all Search

	Database	Collation	Action
<input type="checkbox"/>	information_schema	utf8_general_ci	<input type="button" value="Check privileges"/>
<input type="checkbox"/>	mysql	utf8mb4_general_ci	<input type="button" value="Check privileges"/>
<input type="checkbox"/>	performance_schema	utf8_general_ci	<input type="button" value="Check privileges"/>
<input type="checkbox"/>	phpmyadmin	utf8_bin	<input type="button" value="Check privileges"/>
<input type="checkbox"/>	products	utf8mb4_general_ci	<input type="button" value="Check privileges"/>
<input type="checkbox"/>	test	latin1_swedish_ci	<input type="button" value="Check privileges"/>

Total: 6

Figure 3. Create Database

Server: 127.0.0.1 » Database: products

Structure

SQL

Search

Query

Export

Import

Operations

Privileges

Routines

Events

Triggers

More

Filters

Containing the word:

Table	Action	Rows	Type	Collation	Size	Overhead
<input type="checkbox"/> books	<div>★</div> <div>📄 Browse</div> <div>📊 Structure</div> <div>🔍 Search</div> <div>📥 Insert</div> <div>🗑 Empty</div> <div>🚫 Drop</div>	1	InnoDB	utf8mb4_general_ci	16.0 KiB	-
1 table	Sum	1	InnoDB	utf8mb4_general_ci	16.0 KiB	0 B

⬆

☐ Check all

With selected:

▼

🖨 Print

📖 Data dictionary

📄 Create new table

Table name

Number of columns

Create

Figure 4. Create Table

Server: 127.0.0.1 » Database: products

StructureSQLSearchQueryExportImportOperationsPrivilegesRoutinesEventsTriggers

Table name: booksAdd 1 column(s)Go

Structure

Name	Type	Length/Values	Default	Collation	Attributes	Null	Index
ID <small>Pick from Central Columns</small>	INT		None			<input type="checkbox"/>	<input type="checkbox"/>
Title <small>Pick from Central Columns</small>	TEXT		None			<input type="checkbox"/>	<input type="checkbox"/>
Category <small>Pick from Central Columns</small>	TEXT		None			<input type="checkbox"/>	<input type="checkbox"/>
ISBN <small>Pick from Central Columns</small>	TEXT		None			<input type="checkbox"/>	<input type="checkbox"/>

Table comments:

Collation:

Storage Engine:





MySQLi functions

1. `mysqli_connect()`
 - Open a new connection to the MySQL server
2. `mysqli_select_db()`
 - Selects the default database for database queries
3. `mysqli_query()`
 - Performs a query on the database
4. `mysqli_close()`
 - Closes a previously opened database connection





How to connect
MySQL with PHP
application ?


```
// Connect to MySQL
if ( !( $database = mysqli_connect( "localhost",
    "root", "" ) ) )
    die( "Could not connect to database </body></html>" );

// open Products database
if ( !mysqli_select_db( $database , "products" ) )
    die( "Could not open products database </body></html>" );
```

Syntax :

1. mysqli_connect(**Hostname**, **username**, **password**)
2. mysqli_select_db(**connection**, **database_name**)

So, to run the project completely, do the following steps:

- copy bookClient.html, bookServer1.php and bookServer2.php to directory <c:\xampp\htdocs>
- open Internet browser and type in <http://localhost/bookClient.htm>



Insert to MySQL database.

book ID

Book Title

Category

ISBN

Insert to DB

Querying a MySQL database.

Select a field to display:

Send Query

output

Thank You!

One Last Meme ☺

Programmers looking
at programming memes

