

An abstract network diagram with various sized nodes (black, blue, grey) connected by thin grey lines. Some nodes are highlighted with larger circles. The background is white with faint grey circles.

Fakultas Ilmu Komputer

Learning is the process of acquiring new understanding, knowledge, behaviors, skills, values, attitudes, and preferences.

(Class Practical #1)

Development & Monitoring Apache Error



Welcome to *the* **DevOps**
Engineering *course*

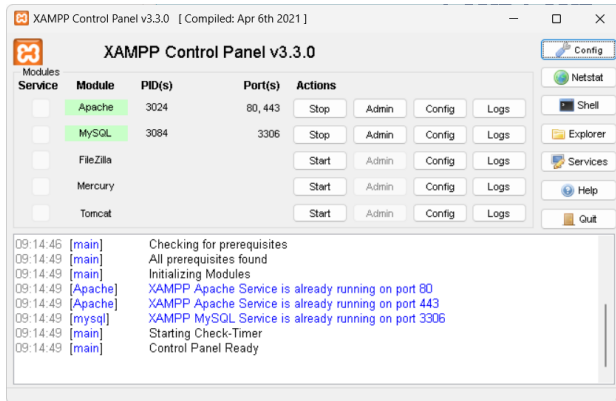
A decorative border of green leaves and branches at the top of the slide.

1 – Create New Database & Tables

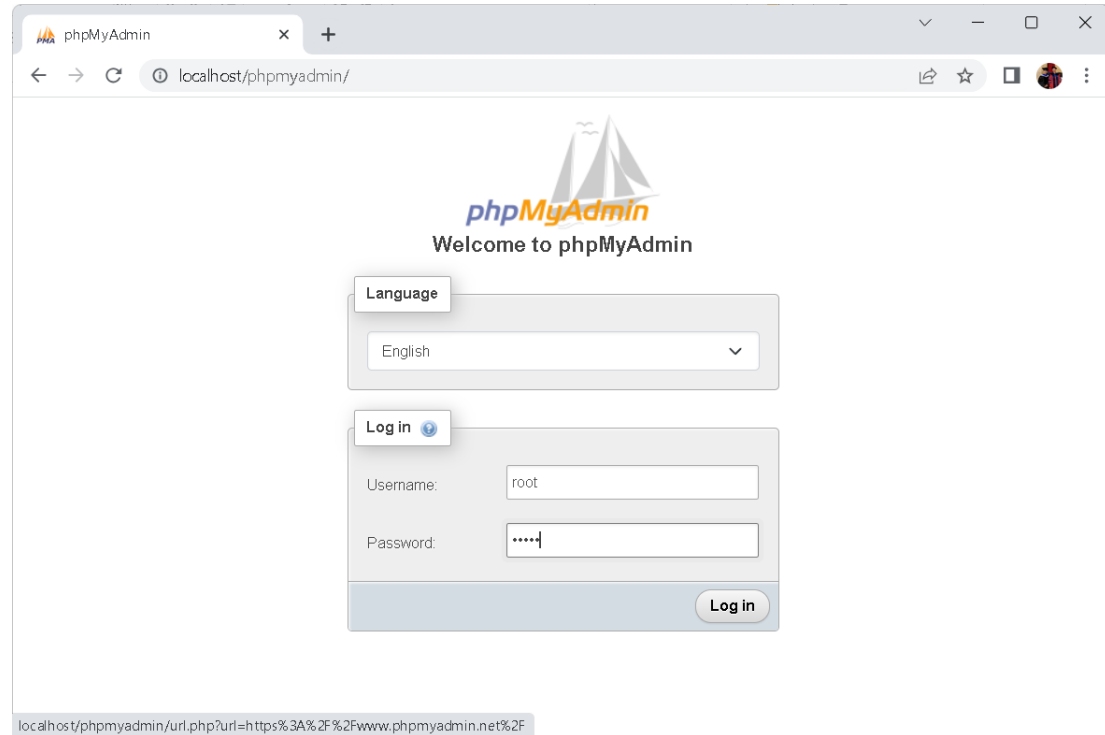
A decorative border of green leaves and branches at the bottom of the slide.

Start Services & Sign In

Xampp Control Panel

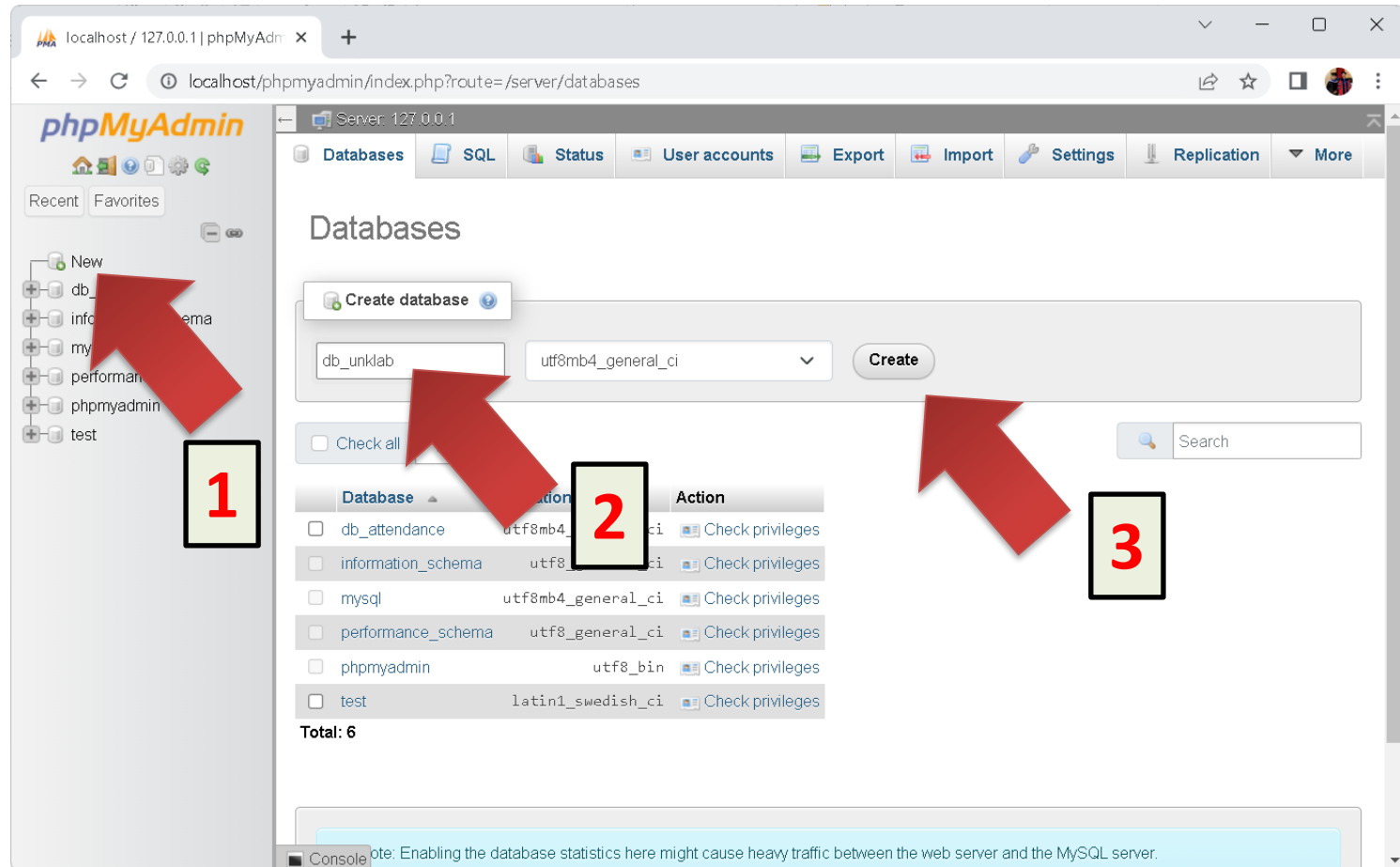


PHPMyAdmin Log In Page



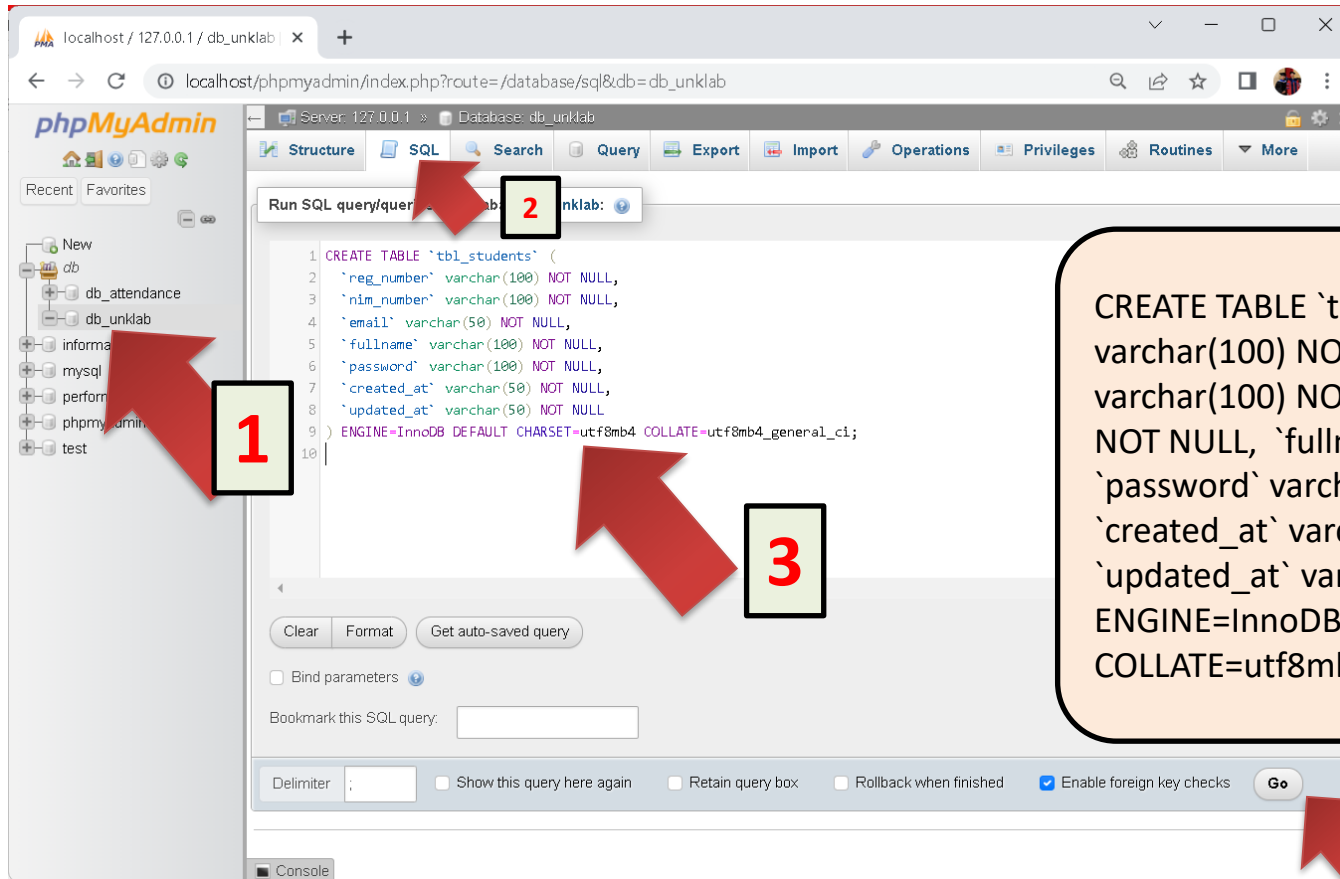
Halaman PHPMyAdmin **Log In** adalah halaman login yang digunakan untuk mengakses *user interface* web **PHPMyAdmin**, yang digunakan untuk mengelola dan mengakses database MySQL melalui *interface web* atau GUI.

Create New Database Name



Buat database baru dengan nama “***db_unklab***”, selanjutnya click button “***create***” untuk melanjutkan proses.

Create Table “tbl_students”



CREATE TABLE `tbl_students` (`reg_number` varchar(100) NOT NULL, `nim_number` varchar(100) NOT NULL, `email` varchar(50) NOT NULL, `fullname` varchar(100) NOT NULL, `password` varchar(100) NOT NULL, `created_at` varchar(50) NOT NULL, `updated_at` varchar(50) NOT NULL) ENGINE=InnoDB DEFAULT CHARSET=utf8mb4 COLLATE=utf8mb4_general_ci;

Pastikan bahwa anda harus click pada database name “*db_unklab*” dan selanjutnya click tab “SQL”.

Create Table “tbl_operator”

localhost / 127.0.0.1 / db_unklab

localhost/phpmyadmin/index.php?route=/database/sql&db=db_unklab

Server: 127.0.0.1 » Database: db_unklab

Structure SQL Search Query Export Import Operations Privileges Routines More

Run SQL query/query

```
1 CREATE TABLE `tbl_operator` (  
2   `nip` int(11) NOT NULL,  
3   `email` varchar(100) NOT NULL,  
4   `fullname` varchar(150) NOT NULL,  
5   `password` varchar(100) NOT NULL,  
6   `phone_number` varchar(50) NOT NULL,  
7   `role` varchar(30) NOT NULL,  
8   `created_at` varchar(100) NOT NULL,  
9   `updated_at` varchar(100) NOT NULL  
10  ) ENGINE=InnoDB DEFAULT CHARSET=utf8mb4 COLLATE=utf8mb4_general_ci;
```

Clear Format Get auto-saved query

☐ Bind parameters

Bookmark this SQL query:

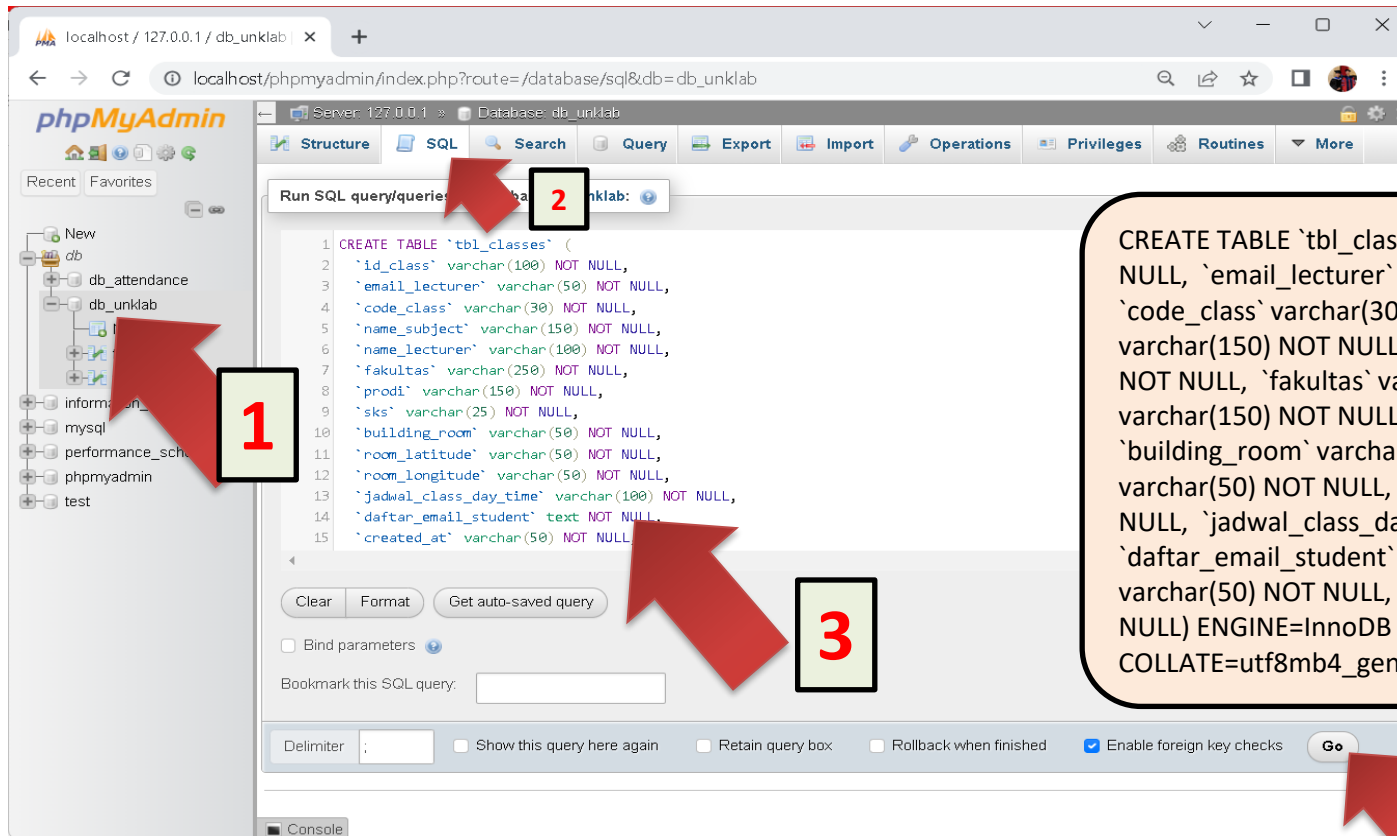
Delimiter: ☐ Show this query here again ☐ Retain query box ☐ Rollback when finished ☒ Enable foreign key checks Go

Console

CREATE TABLE `tbl_operator` (`nip` int(11) NOT NULL, `email` varchar(100) NOT NULL, `fullname` varchar(150) NOT NULL, `password` varchar(100) NOT NULL, `phone_number` varchar(50) NOT NULL, `role` varchar(30) NOT NULL, `created_at` varchar(100) NOT NULL, `updated_at` varchar(100) NOT NULL) ENGINE=InnoDB DEFAULT CHARSET=utf8mb4 COLLATE=utf8mb4_general_ci;

Pastikan bahwa anda harus click pada database name “*db_unklab*” dan selanjutnya click tab “SQL”.

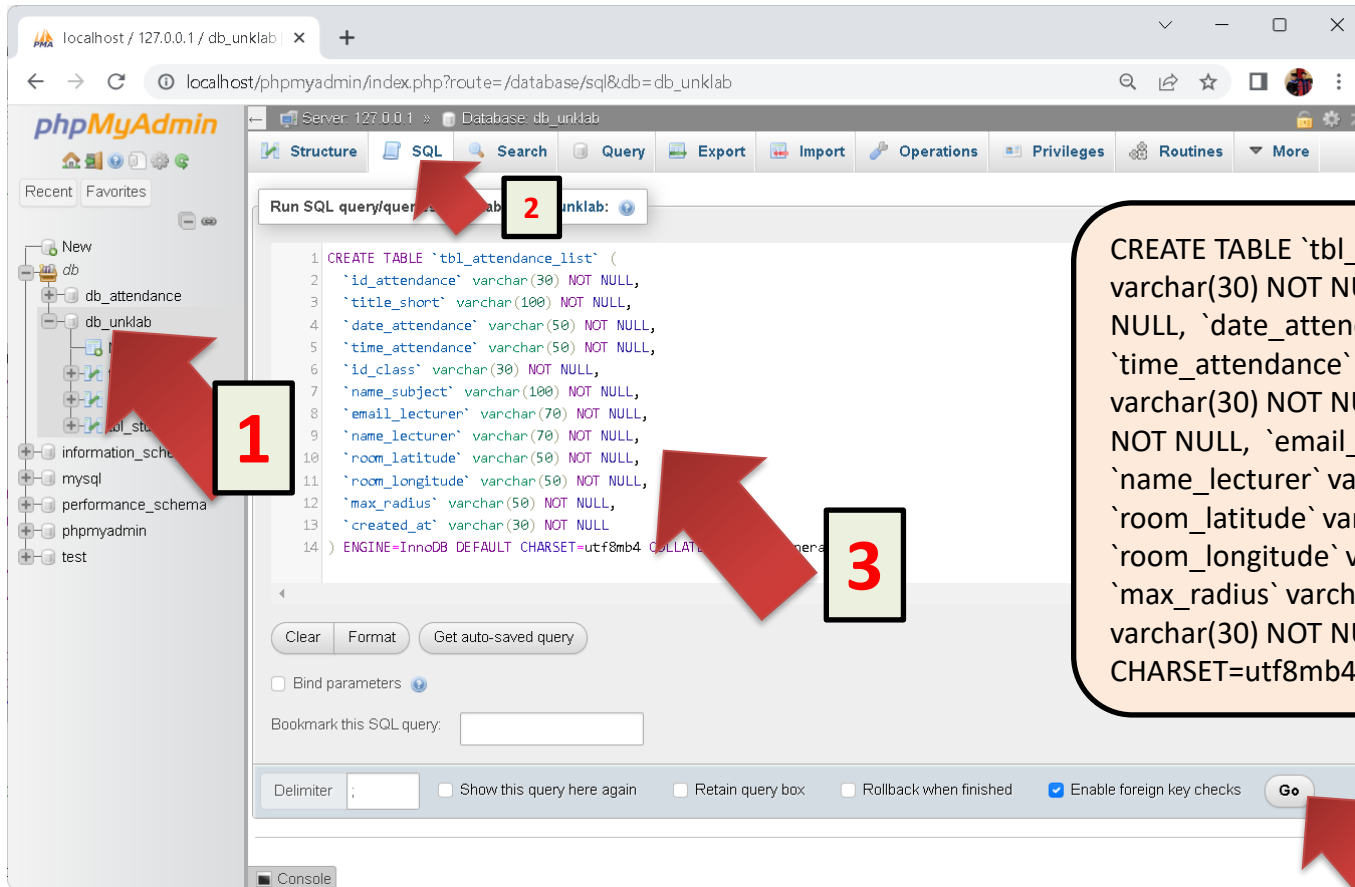
Create Table “tbl_classes”



```
CREATE TABLE `tbl_classes` ( `id_class` varchar(100) NOT  
NULL, `email_lecturer` varchar(50) NOT NULL,  
`code_class` varchar(30) NOT NULL, `name_subject`  
varchar(150) NOT NULL, `name_lecturer` varchar(100)  
NOT NULL, `fakultas` varchar(250) NOT NULL, `prodi`  
varchar(150) NOT NULL, `sks` varchar(25) NOT NULL,  
`building_room` varchar(50) NOT NULL, `room_latitude`  
varchar(50) NOT NULL, `room_longitude` varchar(50) NOT  
NULL, `jadwal_class_day_time` varchar(100) NOT NULL,  
`daftar_email_student` text NOT NULL, `created_at`  
varchar(50) NOT NULL, `status_class` varchar(30) NOT  
NULL) ENGINE=InnoDB DEFAULT CHARSET=utf8mb4  
COLLATE=utf8mb4_general_ci;
```

Pastikan bahwa anda harus click pada database name “db_unklab” dan selanjutnya click tab “SQL”.

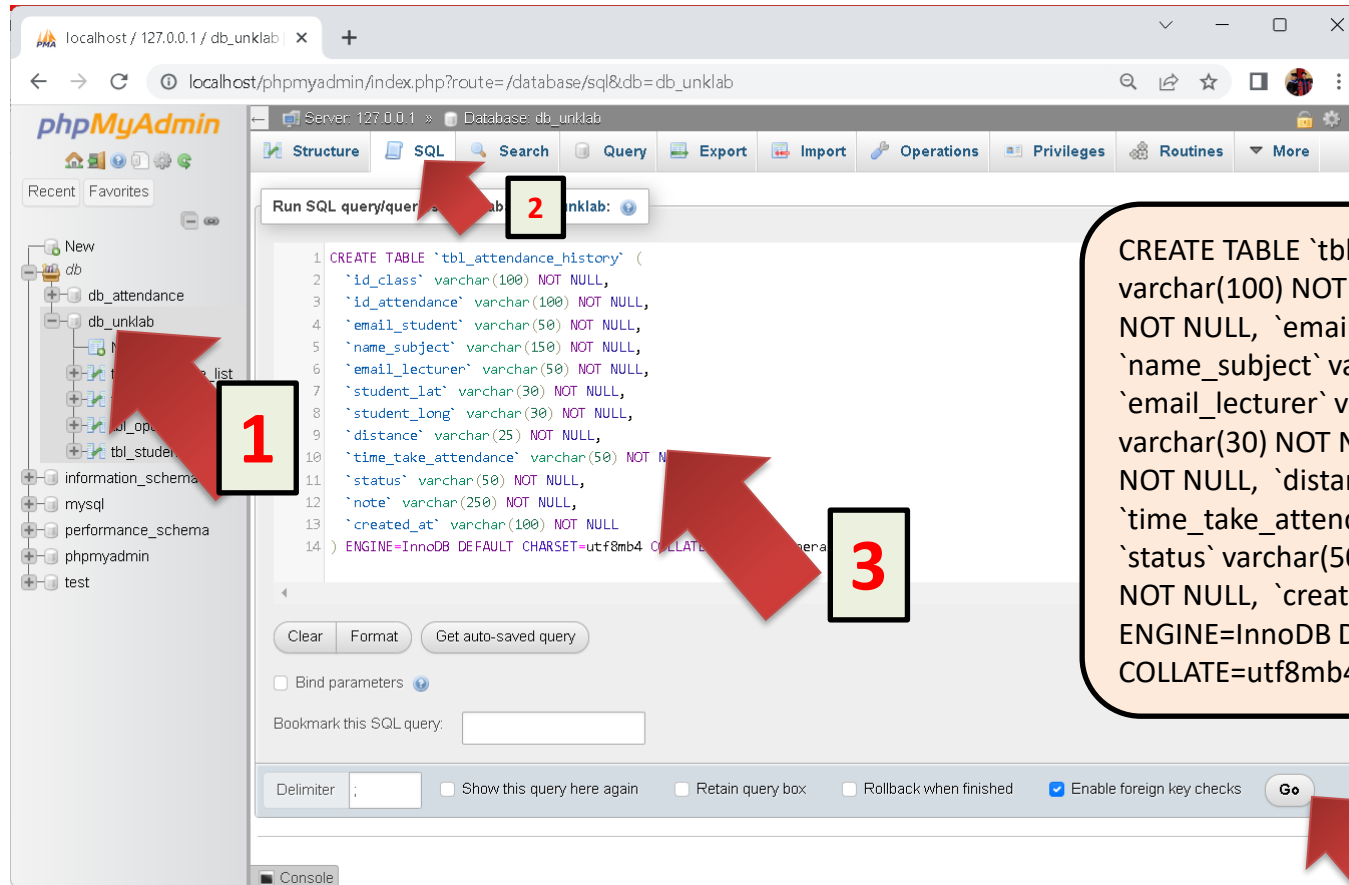
Create Table “tbl_attendance_list”



```
CREATE TABLE `tbl_attendance_list` (  
  `id_attendance` varchar(30) NOT NULL, `title_short` varchar(100) NOT  
  NULL, `date_attendance` varchar(50) NOT NULL,  
  `time_attendance` varchar(50) NOT NULL, `id_class`  
  varchar(30) NOT NULL, `name_subject` varchar(100)  
  NOT NULL, `email_lecturer` varchar(70) NOT NULL,  
  `name_lecturer` varchar(70) NOT NULL,  
  `room_latitude` varchar(50) NOT NULL,  
  `room_longitude` varchar(50) NOT NULL,  
  `max_radius` varchar(50) NOT NULL, `created_at`  
  varchar(30) NOT NULL) ENGINE=InnoDB DEFAULT  
  CHARSET=utf8mb4 COLLATE=utf8mb4_general_ci;
```

Pastikan bahwa anda harus click pada database name “db_unklab” dan selanjutnya click tab “SQL”.

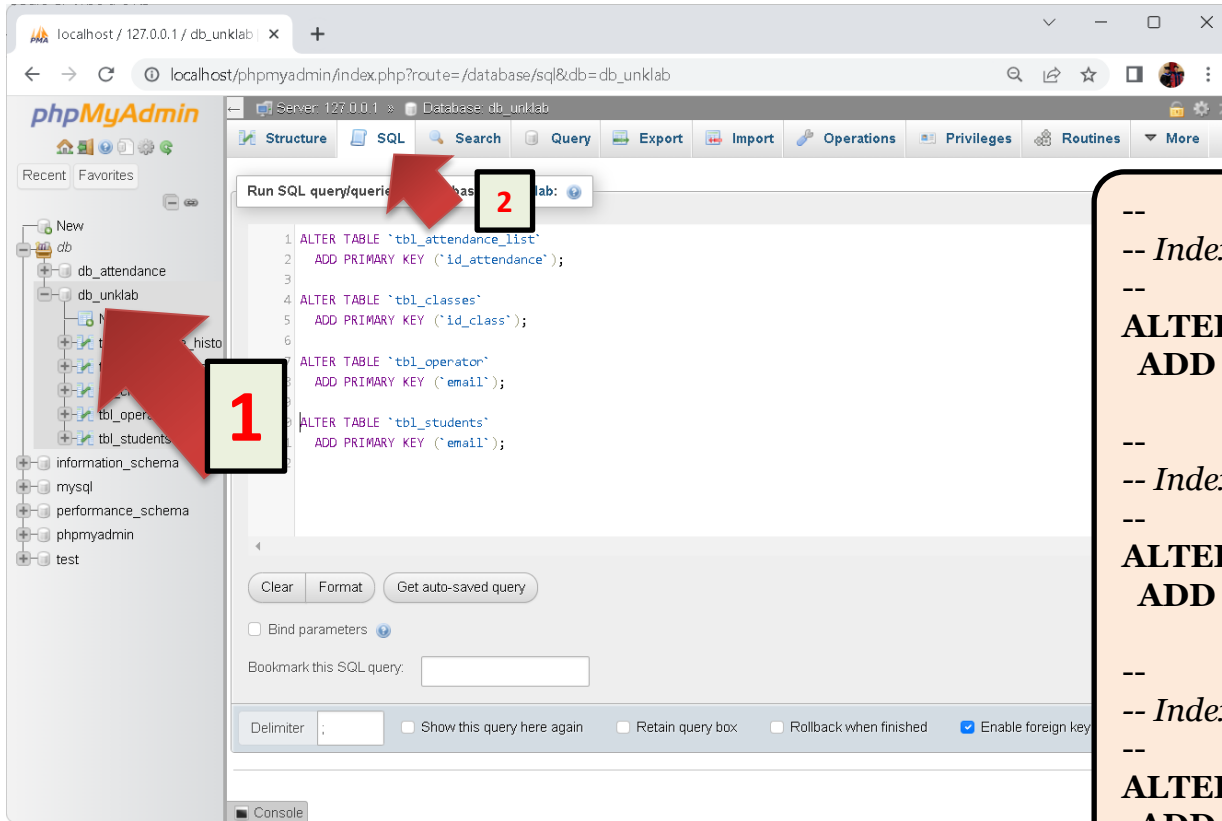
Create Table “tbl_attendance_history”



CREATE TABLE `tbl_attendance_history` (`id_class` varchar(100) NOT NULL, `id_attendance` varchar(100) NOT NULL, `email_student` varchar(50) NOT NULL, `name_subject` varchar(150) NOT NULL, `email_lecturer` varchar(50) NOT NULL, `student_lat` varchar(30) NOT NULL, `student_long` varchar(30) NOT NULL, `distance` varchar(25) NOT NULL, `time_take_attendance` varchar(50) NOT NULL, `status` varchar(50) NOT NULL, `note` varchar(250) NOT NULL, `created_at` varchar(100) NOT NULL) ENGINE=InnoDB DEFAULT CHARSET=utf8mb4 COLLATE=utf8mb4_general_ci;

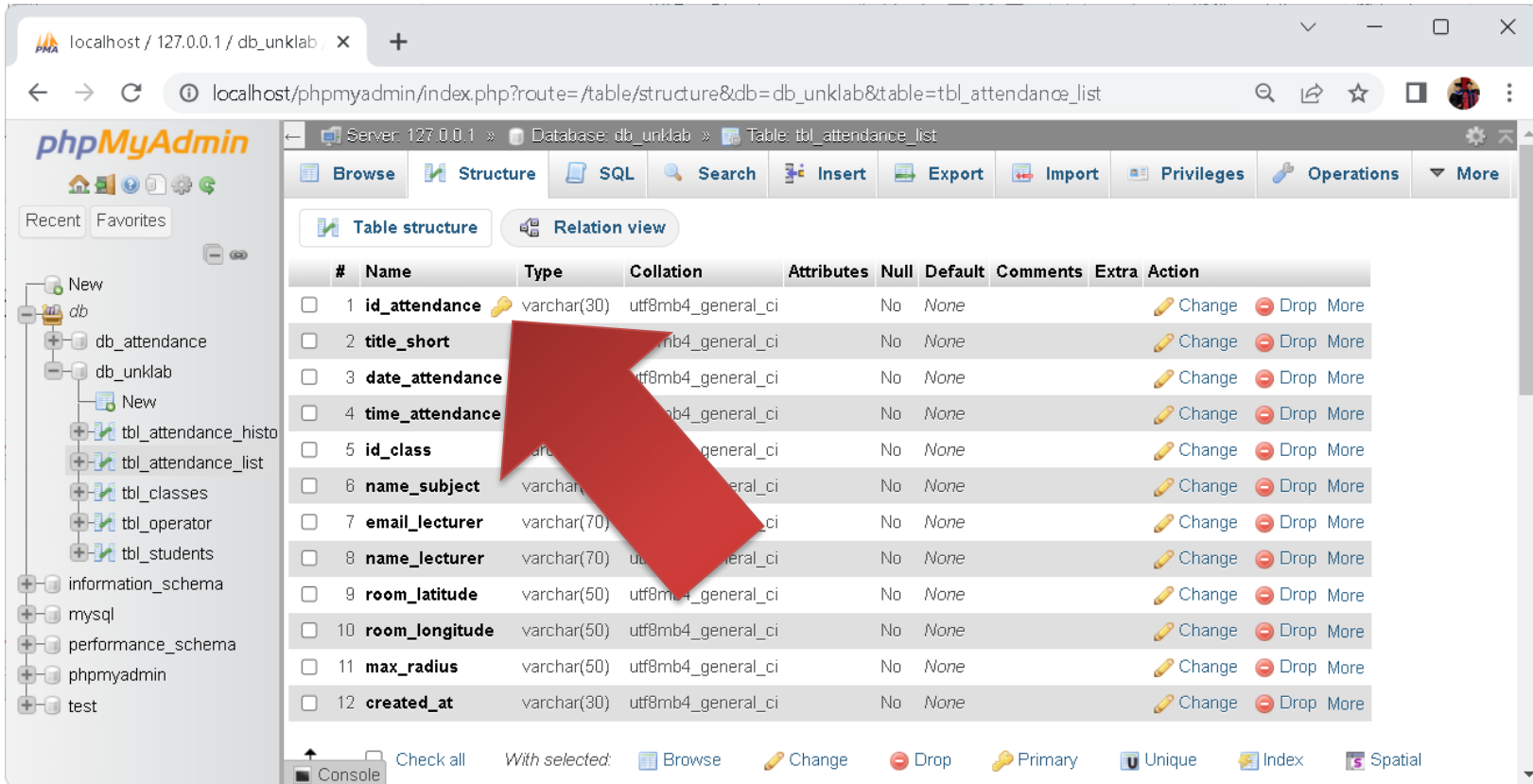
Pastikan bahwa anda harus *click* pada database name “db_unklab” dan selanjutnya click tab “SQL”.

Add Primary Key in Tables



```
--  
-- Indexes for table `tbl_attendance_list`  
--  
ALTER TABLE `tbl_attendance_list`  
ADD PRIMARY KEY (`id_attendance`);  
  
--  
-- Indexes for table `tbl_classes`  
--  
ALTER TABLE `tbl_classes`  
ADD PRIMARY KEY (`id_class`);  
  
--  
-- Indexes for table `tbl_operator`  
--  
ALTER TABLE `tbl_operator`  
ADD PRIMARY KEY (`email`);  
  
--  
-- Indexes for table `tbl_students`  
--  
ALTER TABLE `tbl_students`  
ADD PRIMARY KEY (`email`);
```

Check Primary Keys in Tables



The screenshot shows the phpMyAdmin interface for a database named 'db_unklab'. The table 'tbl_attendance_list' is selected, and its structure is displayed. The table has 12 columns. The first column, 'id_attendance', is marked as the primary key with a key icon. A large red arrow points to this column. The table structure is as follows:

#	Name	Type	Collation	Attributes	Null	Default	Comments	Extra	Action
1	id_attendance	varchar(30)	utf8mb4_general_ci		No	None			Change Drop More
2	title_short	varchar(30)	utf8mb4_general_ci		No	None			Change Drop More
3	date_attendance	date	utf8mb4_general_ci		No	None			Change Drop More
4	time_attendance	time	utf8mb4_general_ci		No	None			Change Drop More
5	id_class	varchar(30)	utf8mb4_general_ci		No	None			Change Drop More
6	name_subject	varchar(30)	utf8mb4_general_ci		No	None			Change Drop More
7	email_lecturer	varchar(70)	utf8mb4_general_ci		No	None			Change Drop More
8	name_lecturer	varchar(70)	utf8mb4_general_ci		No	None			Change Drop More
9	room_latitude	varchar(50)	utf8mb4_general_ci		No	None			Change Drop More
10	room_longitude	varchar(50)	utf8mb4_general_ci		No	None			Change Drop More
11	max_radius	varchar(50)	utf8mb4_general_ci		No	None			Change Drop More
12	created_at	varchar(30)	utf8mb4_general_ci		No	None			Change Drop More

The interface also shows a sidebar with a database tree, a top navigation bar with tabs for Browse, Structure, SQL, Search, Insert, Export, Import, Privileges, Operations, and More. The bottom of the interface has a console and a set of icons for table operations: Check all, With selected, Browse, Change, Drop, Primary, Unique, Index, and Spatial.

Structure Tables *in* Database

The screenshot shows the phpMyAdmin interface for the database `db_unklab`. The left sidebar displays the database structure, including `db_unklab` and its tables: `tbl_attendance_history`, `tbl_attendance_list`, `tbl_classes`, `tbl_operator`, and `tbl_students`. The main panel shows the 'Structure' tab for the database. A table of 5 tables is displayed, each with 16.0 K1B size and InnoDB engine. The table names and their corresponding actions are listed below.

Table	Action	Rows	Type	Collation	Size	Over
<input type="checkbox"/> <code>tbl_attendance_history</code>	★ Browse Structure Search Insert Empty Drop	0	InnoDB	utf8mb4_general_ci	16.0 K1B	
<input type="checkbox"/> <code>tbl_attendance_list</code>	★ Browse Structure Search Insert Empty Drop	0	InnoDB	utf8mb4_general_ci	16.0 K1B	
<input type="checkbox"/> <code>tbl_classes</code>	★ Browse Structure Search Insert Empty Drop	0	InnoDB	utf8mb4_general_ci	16.0 K1B	
<input type="checkbox"/> <code>tbl_operator</code>	★ Browse Structure Search Insert Empty Drop	0	InnoDB	utf8mb4_general_ci	16.0 K1B	
<input type="checkbox"/> <code>tbl_students</code>	★ Browse Structure Search Insert Empty Drop	0	InnoDB	utf8mb4_general_ci	16.0 K1B	
5 tables	Sum	0	InnoDB	utf8mb4_general_ci	80.0 K1B	

Below the table, there is a 'Check all' checkbox and a 'With selected:' dropdown menu. At the bottom, there is a 'Create new table' button and a form to create a new table with fields for 'Table name' and 'Number of columns' (set to 4).

Terdapat 5 *tables* yang telah dibuat pada `db_unklab`.

A decorative border of green leaves and branches at the top of the slide.

2 – Insert Data *in* Tables

A decorative border of green leaves and branches at the bottom of the slide.

How to Insert Data in Table?

The screenshot shows the phpMyAdmin interface for a database named 'db_unklab'. The 'tbl_students' table is selected in the database tree. The 'SQL' tab is active, and an SQL query is pasted into the query box. The query is an INSERT statement that adds multiple rows of student data into the 'tbl_students' table. The query is as follows:

```
1 INSERT INTO `tbl_students` (`reg_number`, `nim_number`, `email`, `fullname`, `password`,  
`created_at`, `updated_at`) VALUES ('123456789012', '154321', 's154321@student.unklab.ac.id',  
'Radix Basalama', '12345', '2023-04-13 22:54:33', '2023-04-13 22:54:33'), ('105021710031',  
'21710268', 's21710268@student.unklab.ac.id', 'Pongantung, Jeremy', '1234qwer', '12-12-2023  
10:32-43', '12-12-2023 10:32-43'), ('123456789012', '254321', 's254321@student.unklab.ac.id',  
'Putra Podomi', '12345', '2023-04-13 22:54:33', '2023-04-13 22:54:33'), ('123456789012',  
'354321', 's354321@student.unklab.ac.id', 'ChinChin Long', '12345', '2023-04-13 22:54:33',  
'2023-04-13 22:54:33'), ('123456789012', '5454321@student.unklab.ac.id', 'Miehie  
Kawekiang Sie', '12345', '2023-04-13 22:54:33', '2023-04-13 22:54:33'), ('123456789012',  
'554321', 's554321@student.unklab.ac.id', 'Putra Podomi', '12345', '2023-04-13  
22:54:33', '2023-04-13 22:54:33'), ('123456789012', '644321', 's644321@student.unklab.ac.id',  
'Mangono Rahanjo', '12345', '2023-04-13 22:54:33', '2023-04-13 22:54:33'), ('123456789012',  
'644321', 's644321@student.unklab.ac.id', 'Sempoyok Ojok', '12345', '2023-04-13  
22:54:33', '2023-04-13 22:54:33'), ('123456789012', '54321', 's54321@student.unklab.ac.id',  
'Kawekiang', '12345', '12-12-2023 10:32-43', '12-12-2023 10:32-43'), ('123456789012',
```

The steps to insert data are highlighted with red arrows and numbered boxes:

- Click on the 'tbl_students' table in the database tree.
- Click on the 'SQL' tab.
- Paste the SQL INSERT query into the query box.
- Click the 'Go' button to execute the query.

Untuk menginputkan data ke dalam *table*, pastikan bahwa anda harus click pada ***table name*** yang menjadi target dan selanjutnya click tab “SQL”.

Insert Table “tbl_student”

Data for table `tbl_students`

```
INSERT INTO `tbl_students` (`reg_number`, `nim_number`, `email`, `fullname`, `password`, `created_at`, `updated_at`) VALUES('123456789012', '154321', 's154321@student.unklab.ac.id', 'Radix Basalama', '12345', '2023-04-13 22:54:33', '2023-04-13 22:54:33'),('105021710031', '21710268', 's21710268@student.unklab.ac.id', 'Pongantung, Jeremy', '1234qwer', '12-12-2023 10:32-43', '12-12-2023 10:32-43'),('123456789012', '254321', 's254321@student.unklab.ac.id', 'Putra Podomi', '12345', '2023-04-13 22:54:33', '2023-04-13 22:54:33'),('123456789012', '354321', 's354321@student.unklab.ac.id', 'ChinChin Long', '12345', '2023-04-13 22:54:33', '2023-04-13 22:54:33'),('123456789012', '454321', 's454321@student.unklab.ac.id', 'Miehie Kawekiang Sie', '12345', '2023-04-13 22:54:33', '2023-04-13 22:54:33'),('123456789012', '554321', 's554321@student.unklab.ac.id', 'Dinda Manopo Putri', '12345', '2023-04-13 22:54:33', '2023-04-13 22:54:33'),('123456789012', '604321', 's604321@student.unklab.ac.id', 'Margono Raharjo', '12345', '2023-04-13 22:54:33', '2023-04-13 22:54:33'),('123456789012', '644321', 's644321@student.unklab.ac.id', 'Sempoyonangan Ojomiso', '12345', '2023-04-13 22:54:33', '2023-04-13 22:54:33'),('123456789012', '654321', 's654321@student.unklab.ac.id', 'David Kawekiang', '12345', '12-12-2023 10:32-43', '12-12-2023 10:32-43'),('123456789012', '754321', 's754321@student.unklab.ac.id', 'Citra Lentari Anada', '12345', '2023-04-13 22:54:33', '2023-04-13 22:54:33'),('123456789012', '854321', 's854321@student.unklab.ac.id', 'Sandra Dewi', '12345', '2023-04-13 22:54:33', '2023-04-13 22:54:33'),('123456789012', '954321', 's954321@student.unklab.ac.id', 'Putri Moningka', '12345', '2023-04-13 22:54:33', '2023-04-13 22:54:33');
```

Insert Table “tbl_operator”

Data for table `tbl_operator`

```
INSERT INTO `tbl_operator` (`nip`, `email`, `fullname`, `password`, `phone_number`, `role`, `created_at`, `updated_at`) VALUES(12345, 'andrewws@unklab.ac.id', 'Andrew Liem', 'abcd123', '0852123456', 'admin', '12-04-2023 12:04:32', '12-04-2023 12:04:32'),(12345, 'gledis@unklab.ac.id', 'Gladis Sepang', 'abcw1243', '0852123456', 'admin', '12-04-2023 12:04:32', '12-04-2023 12:04:32'),(876578, 'juanmambu@unklab.ac.id', 'Juan Taju', 'acbc1213', '0852123456', 'admin', '12-04-2023 12:04:32\r\n', '12-04-2023 12:04:32\r\n'),(34567, 'reymond@unklab.ac.id', 'Reymond Rotikan', '123475', '0852123456', 'staff', '12-04-2023 12:04:32', '12-04-2023 12:04:32'),(12345, 'semmytaju@unklab.ac.id', 'Semmy Wellem Taju', 'abc1233', '0852123456', 'admin', '12-04-2023 12:04:32', '12-04-2023 12:04:32'),(23456, 'stenlyadam@unklab.ac.id', 'Stenly Adam', '123425', '0852123456', 'admin', '12-04-2023 12:04:32', '12-04-2023 12:04:32');
```

Insert Table “tbl_classes”

Data for table `tbl_classes`

```
INSERT INTO `tbl_classes` (`id_class`, `email_lecturer`, `code_class`, `name_subject`, `name_lecturer`, `fakultas`, `prodi`, `sks`, `building_room`,  
`room_latitude`, `room_longitude`, `jadwal_class_day_time`, `daftar_email_student`, `created_at`, `status_class`) VALUES('CLASS64381629449e2',  
'semmy@unklab.ac.id', '234ABCD', 'Java Programming', 'Semmy Wellem Taju', 'Fakultas Ekonomi', 'Pendidikan Keagamaan Kristen (Religious)', '3 SKS', 'GA Computer  
Lab 202/FIK', '1,4178155', '124,9844905', 'Selasa ~ Kamis, 08.00 - 10.00',  
'semmy@unklab.ac.id,yonatan@gmail.com,jeremy@yahoo.com,s254321@student.unklab.ac.id,s354321@student.unklab.ac.id,s454321@student.unklab.ac.id,tajusemmy@  
yahoo.com,budiman@yahoo.com', '2023-04-13 22:48:47', 'complete'),('CLASS64381721a4505', 'semmy@unklab.ac.id', '2345ABC', 'Python Programming', 'Adam Stelly',  
'Fakultas Pendidikan', 'Pendidikan Luar Sekolah (Non Formal Education)', '3 SKS', 'GK1-204 Comp. Lab (Hardware)', '1,4178155', '124,9844905', 'Senin ~ Rabu, 08.00 -  
09.00', 's254321@student.unklab.ac.id,juan@yahoo.com,putra@gmail.com', '2023-04-13 22:54:33', 'complete'),('CLASS64383858ec58d', 'semmy@unklab.ac.id',  
'AI3456S', 'Artificial Intelligence', 'Green Sandag', 'Fakultas Ilmu Komputer', 'Sistem Informasi (Information System)', '3 SKS', 'GK3-205', '1,4178155', '124,9844905', 'Senin  
~ Rabu, 14.30 - 16.00',  
'bobon@yhaoo.com,jeremy@yahoo.com,s154321@student.unklab.ac.id,s254321@student.unklab.ac.id,s354321@student.unklab.ac.id,semmy@yahoo.com,s454321@stude  
nt.unklab.ac.id,budihardo@ggamil.com,s554321@student.unklab.ac.id,patricia@yahoo.com,s644321@student.unklab.ac.id,s654321@student.unklab.ac.id,s754321@stude  
nt.unklab.ac.id', '2023-04-14 01:14:59', 'active'),('CLASS643838975a476', 'semmy@unklab.ac.id', 'PD23232S', 'Statistics and Probability', 'Semmy Wellem Taju', 'Fakultas  
Ilmu Komputer', 'Sistem Informasi (Information System)', '3 SKS', 'GK2-Tissue Culture Lab', '1,4178155', '124,9844905', 'Senin ~ Rabu, 08.00 - 09.00',  
's154321@student.unklab.ac.id,moningkatri@gmail.com,brendaabu@yahoo.com,saturundes@gmail.com,eugenie@gmail.com,semmy@yahoo.com,s754321@student.unkla  
b.ac.id,s954321@student.unklab.ac.id,ayu@yahoo.com,mandola@gamil.com,budi@gmail.chot.com', '2023-04-14 01:15:47', 'active'),('CLASS643a940726a3d',  
'semmy@unklab.ac.id', 'MLC4335', 'Machine Learning Algorithms', 'Semmy Wellem Taju', 'Fakultas Ilmu Komputer', 'Pendidikan Keagamaan Kristen (Religious)', '3 SKS',  
'GA Computer Lab 203/FIK', '1,4178155', '124,9844905', 'Selasa ~ Kamis, 07.00 - 08.30', 'semmy@yahoo.com,tajudespies@gmail.com', '2023-04-15 20:10:28',  
'active'),('CLASS643aa53d7f8c9', 'semmy@unklab.ac.id', 'DBA984', 'Big Data Analysis', 'Stelly Adam', 'Fakultas Ilmu Komputer', 'Sistem Informasi (Information System)',  
'3 SKS', 'GK3-203', '1,4191753', '124,9845743', 'Senin ~ Rabu, 17.00 - 18.00',  
'semmy@unklab.ac.id,s604321@student.unklab.ac.id,s654321@student.unklab.ac.id,s854321@student.unklab.ac.id,arnold@gmail.com,mawar@student.unklab.ac.id,sem  
mytaju@yahoo.com', '2023-04-15 21:23:54', 'active'),('CLASS643ac4d56e4a8', 'semmy@unklab.ac.id', 'FED3464', 'Front-end Web Development', 'Raissa Maringka',  
'Akademi Sekretari Manajemen Indonesia', 'Pendidikan Keagamaan Kristen (Religious)', '3 SKS', 'GA Computer Lab 202/FIK', '1,4174176', '124,9840658', 'Senin ~ Rabu,  
14.30 - 16.00', 'budy@gmail.com,s21710268@student.unklab.ac.id,jeremy@unklab.ac.id,semmy@yahoo.com', '2023-04-15 23:38:52', 'active'),('CLASS6445e32a2c21e',  
'juan@unklab.ac.id', 'CN1264D', 'Computer Networking', 'Juan Taju', 'Fakultas Ilmu Komputer', 'Sistem Informasi (Information System)', '3 SKS', 'GA Computer Lab  
202/FIK', '1,4174176', '124,9840658', 'Senin ~ Rabu, 10.00 - 12.00', ' ', '2023-04-24 10:03:03', 'active'),('CLASS6445e35cd31eb', 'juan@unklab.ac.id', 'HCI5644', 'Human  
Computer Interaction', 'Juan Taju', 'Fakultas Keperawatan', 'Pendidikan Ekonomi (Economy Education)', '3 SKS', 'GK1 Nursing Lab (Demo Room)', '1,4180611',  
'124,9845825', 'Senin ~ Rabu, 09.00 - 10.00', ' ', '2023-04-24 10:03:47', 'complete'),('CLASS6445e3981e4aa', 'juan@unklab.ac.id', 'NLP3456', 'Natural Language  
Processing', 'Juan Taju', 'Fakultas Ilmu Komputer', 'Pendidikan Keagamaan Kristen (Religious)', '3 SKS', 'GK2-104', '1,4171919', '124,9828838', 'Senin ~ Rabu, 09.30 -  
11.00', ' ', '2023-04-24 10:05:11', 'active'),('CLASS6445f499431e6', 'juan@unklab.ac.id', 'ABC564D', 'Data Analytics', 'Juan Taju', 'Fakultas Filsafat', 'Bahasa Inggris  
(English)', '3 SKS', 'GA Computer Lab 202/FIK', '1,4174176', '124,9840658', 'Jumat, 09.00 - 10.00', ' ', '2023-04-24 11:17:17', 'active'),('CLASS6445f87da49d6',  
'semmy@unklab.ac.id', 'GAC3678', 'Sentiment Analysis', 'Semmy Wellem Taju', 'Fakultas Ilmu Komputer', 'Filsafat (Philosophy)', '3 SKS', 'GK2-103', '1,4172063',  
'124,9828819', 'Selasa ~ Kamis, 09.00 - 10.00', 'buddyhars@gmail.com,eugenie@yahoo.com,patricia@gmail.com', '2023-04-24 11:34:05', 'active'),('CLASS6445f8b7ce4de',  
'semmy@unklab.ac.id', 'APC496', 'Fundamental Apache PHP5', 'Semmy Wellem Taju', 'Fakultas Ilmu Komputer', 'Pendidikan Keagamaan Kristen (Religious)', '3 SKS',  
'GK2-103', '1,4172063', '124,9828819', 'Senin ~ Rabu, 09.30 - 11.00', 'semmy@yahoo.com,putra@gmail.com,tampijeni@yahoo.com', '2023-04-24 11:34:57', 'active');
```

Insert Table “tbl_attendance_list”

Data for table `tbl_attendance_list`

```
INSERT INTO `tbl_attendance_list` (`id_attendance`, `title_short`, `date_attendance`, `time_attendance`, `id_class`, `name_subject`, `email_lecturer`,  
`name_lecturer`, `room_latitude`, `room_longitude`, `max_radius`, `created_at`) VALUES('ATD665ac4d56e4b7', 'Attendance #1', '21 April 2023', '10.30 - 11.30',  
'CLASS663ac4d56e4a8', 'Research Method', 'andrew@unklab.ac.id', 'Andrew Liem', '1,4174176', '124,9840658', '20', '12-12-2023 10:32:43'), ('ATD745ac4d56e4b7',  
'Attendance #1', '17 April 2023', '14.00 - 15.00', 'CLASS643ac4d56e4a8', 'Big Data Analysis', 'semmy@unklab.ac.id', 'Semmy Wellem Taju', '1,4174176', '124,9840658', '100',  
'12-12-2023 10:32:43'), ('ATD745ac4d56e4c7', 'Attendance #2', '26 April 2023', '09.30 - 10.40', 'CLASS643ac4d56e4a8', 'System Analysis and Design',  
'semmy@unklab.ac.id', 'Semmy Wellem Taju', '1,20438484', '124,343566', '200', '12-12-2023 10:32:43'), ('ATD788ac4d56e4b7', 'Attendance #1', '20 April 2023', '08.30 -  
19.30', 'CLASS883ac4d56e4a8', 'Front-end Web Development', 'reymond@unklab.ac.id', 'Reymond Rotikan', '1,4174176', '124,9840658', '50', '12-12-2023 10:32-  
43'), ('ATD995ac4d56e4b7', 'Attendance #1', '19 April 2023', '07.30 - 08.30', 'CLASS993ac4d56e4a8', 'Computer Networkings', 'stelly@unklab.ac.id', 'Stelly Adam',  
'1,4174176', '124,9840658', '40', '12-12-2023 10:32:43'), ('ATTE6444526a2e1b7', 'Attendance #3', '26 April 2023', '08.00 - 10.00', 'CLASS643aa53d7f8c9', 'Big Data  
Analysis', 'semmy@unklab.ac.id', 'Stelly Adam', '1,4191753', '124,9845743', '200', '2023-04-23 05:32:50'), ('ATTE64445305d6cee', 'Attendance #3', '29 April 2023', '07.00 -  
08.30', 'CLASS643ac4d56e4a8', 'Front-end Web Development', 'semmy@unklab.ac.id', 'Raissa Maringka', '1,4174176', '124,9840658', '250', '2023-04-23  
05:35:45'), ('ATTE6445b2210cf5c', 'Attendance #15', '18 April 2023', '20.00 - 21.00', 'CLASS643aa53d7f8c9', 'Big Data Analysis', 'semmy@unklab.ac.id', 'Stelly Adam',  
'1,4191753', '124,9845743', '150', '2023-04-24 06:33:58'), ('ATTE6445f3cb39bca', 'Attendance #1', '24 April 2023', '07.00 - 08.30', 'CLASS6445e3981e4aa', 'Natural Language  
Processing', 'juan@unklab.ac.id', 'Juan Taju', '1,4171919', '124,9828838', '100', '2023-04-24 11:13:42'), ('ATTE64462606d35a3', 'Attendance #1', '24 April 2023', '08.00 -  
09.00', 'CLASS64383858ec58d', 'Artificial Intelligence', 'semmy@unklab.ac.id', 'Green Sandag', '1,4178155', '124,9844905', '50', '2023-04-24  
14:47:56'), ('ATTE6446261c86db6', 'Attendance #2', '26 April 2023', '10.00 - 11.00', 'CLASS64383858ec58d', 'Artificial Intelligence', 'semmy@unklab.ac.id', 'Green Sandag',  
'1,4178155', '124,9844905', '60', '2023-04-24 14:48:44'), ('ATTE644647fba4842', 'Attendance #4', '30 April 2023', '13.00 - 14.30', 'CLASS643ac4d56e4a8', 'Front-end Web  
Development', 'semmy@unklab.ac.id', 'Raissa Maringka', '1,4174176', '124,9840658', '70', '2023-04-24 17:12:55'), ('ATTE6447363ab836f', 'Attendance #5', '26 April 2023',  
'08.00 - 09.00', 'CLASS643ac4d56e4a8', 'Front-end Web Development', 'semmy@unklab.ac.id', 'Raissa Maringka', '1,4174176', '124,9840658', '70', '2023-04-25  
10:11:08'), ('ATTE644754987cf94', 'Attendance #1', '25 April 2023', '07.00 - 08.30', 'CLASS6445f8b7ce4de', 'Fundamental Apache PHP5', 'semmy@unklab.ac.id', 'Semmy  
Wellem Taju', '1,4172063', '124,9828819', '60', '2023-04-25 12:18:56'), ('ATTE644754b0cdcab', 'Attendance #2', '27 April 2023', '08.00 - 09.00', 'CLASS6445f8b7ce4de',  
'Fundamental Apache PHP5', 'semmy@unklab.ac.id', 'Semmy Wellem Taju', '1,4172063', '124,9828819', '150', '2023-04-25 12:19:13'), ('ATTE6451d686525a0', 'Attendance  
#1', '04 May 2023', '07.00 - 08.30', 'CLASS643838975a476', 'Statistics and Probability', 'semmy@unklab.ac.id', 'Semmy Wellem Taju', '1,4178155', '124,9844905', '60',  
'2023-05-03 11:36:12'), ('ATTE6451d6b52ba51', 'Attendance #2', '04 May 2023', '08.00 - 09.00', 'CLASS643838975a476', 'Statistics and Probability', 'semmy@unklab.ac.id',  
'Semmy Wellem Taju', '1,4178155', '124,9844905', '70', '2023-05-03 11:36:46'), ('ATTE6451d6ce98d25', 'Pertemuan ke-3', '06 May 2023', '08.00 - 09.00',  
'CLASS643838975a476', 'Statistics and Probability', 'semmy@unklab.ac.id', 'Semmy Wellem Taju', '1,4178155', '124,9844905', '60', '2023-05-03  
11:37:06'), ('ATTE6451daee51boa', 'Attendance #3', '04 May 2023', '08.00 - 09.00', 'CLASS6445f8b7ce4de', 'Fundamental Apache PHP5', 'semmy@unklab.ac.id', 'Semmy  
Wellem Taju', '1,4172063', '124,9828819', '70', '2023-05-03 11:54:45'), ('ATTE6451db0537079', 'Attendance #4', '05 May 2023', '07.00 - 09.00', 'CLASS6445f8b7ce4de',  
'Fundamental Apache PHP5', 'semmy@unklab.ac.id', 'Semmy Wellem Taju', '1,4172063', '124,9828819', '60', '2023-05-03 11:54:57'), ('ATTE6451db115ba2c', 'Attendance  
#5', '04 May 2023', '07.00 - 09.00', 'CLASS6445f8b7ce4de', 'Fundamental Apache PHP5', 'semmy@unklab.ac.id', 'Semmy Wellem Taju', '1,4172063', '124,9828819', '60',  
'2023-05-03 11:55:08'), ('ATTE6451db1ca165d', 'Attendance #6', '08 May 2023', '08.00 - 09.00', 'CLASS6445f8b7ce4de', 'Fundamental Apache PHP5',  
'semmy@unklab.ac.id', 'Semmy Wellem Taju', '1,4172063', '124,9828819', '80', '2023-05-03 11:55:23'), ('ATTE6451db64f1047', 'Pertemuan ke-4', '05 May 2023', '07.00 -  
09.00', 'CLASS643838975a476', 'Statistics and Probability', 'semmy@unklab.ac.id', 'Semmy Wellem Taju', '1,4178155', '124,9844905', '60', '2023-05-03  
11:56:36'), ('ATTE6451db74d7759', 'Pertemuan ke-5', '05 May 2023', '07.00 - 09.00', 'CLASS643838975a476', 'Statistics and Probability', 'semmy@unklab.ac.id', 'Semmy  
Wellem Taju', '1,4178155', '124,9844905', '70', '2023-05-03 11:56:46');
```

Insert Table “tbl_attendance_history”

Data for table `tbl_attendance_history`

```
INSERT INTO `tbl_attendance_history` (`id_class`, `id_attendance`, `email_student`, `name_subject`, `email_lecturer`, `student_lat`, `student_long`, `distance`, `time_take_attendance`, `status`, `note`, `created_at`) VALUES('CLASS643ac4d56e4a8', 'ATD745ac4d56e4b7', 's354321@student.unklab.ac.id', 'Artificial Intelligence', 'semmy@unklab.ac.id', '1,239484', '124,348583', '10', '10:15:49', 'P', '', '2023-04-13 22:54:33'),('CLASS643ac4d56e4a8', 'ATD745ac4d56e4b7', 's154321@student.unklab.ac.id', 'Artificial Intelligence', 'semmy@unklab.ac.id', '1,239484', '124,348583', '16', '10:00:49', 'P', '', '2023-04-13 22:54:33'),('CLASS643ac4d56e4a8', 'ATD745ac4d56e4b7', 's254321@student.unklab.ac.id', 'Artificial Intelligence', 'semmy@unklab.ac.id', '1,239484', '124,348583', '12', '10:05:49', 'P', '', '2023-04-13 22:54:33'),('CLASS643ac4d56e4a8', 'ATD745ac4d56e4b7', 's354321@student.unklab.ac.id', 'Artificial Intelligence', 'semmy@unklab.ac.id', '1,239484', '124,348583', '20', '10:08:49', 'P', '', '2023-04-13 22:54:33'),('CLASS643ac4d56e4a8', 'ATD745ac4d56e4b7', 's454321@student.unklab.ac.id', 'Artificial Intelligence', 'semmy@unklab.ac.id', '1,239484', '124,348583', '15', '10:20:49', 'P', '', '2023-04-13 22:54:33'),('CLASS643ac4d56e4a8', 'ATD745ac4d56e4b7', 's554321@student.unklab.ac.id', 'Artificial Intelligence', 'semmy@unklab.ac.id', '1,239484', '124,348583', '6', '10:30:49', 'P', '', '2023-04-13 22:54:33'),('CLASS643ac4d56e4a8', 'ATD745ac4d56e4b7', 's644321@student.unklab.ac.id', 'Artificial Intelligence', 'semmy@unklab.ac.id', '1,239484', '124,348583', '7', '10:45:49', 'P', '', '2023-04-13 22:54:33'),('CLASS643ac4d56e4a8', 'ATD745ac4d56e4b7', 's654321@student.unklab.ac.id', 'Artificial Intelligence', 'semmy@unklab.ac.id', '1,239484', '124,348583', '8', '10:27:49', 'P', '', '2023-04-13 22:54:33'),('CLASS6438975a476', 'ATTE6451d6ce98d25', 's154321@student.unklab.ac.id', 'Statistics and Probability', 'semmy@unklab.ac.id', 'o', 'o', 'o', 'o', 'P', 'Hadir', '2023-05-03 11:37:39'),('CLASS6438975a476', 'ATTE6451d6ce98d25', 's754321@student.unklab.ac.id', 'Statistics and Probability', 'semmy@unklab.ac.id', 'o', 'o', 'o', 'o', 'L', 'Datang terlambat', '2023-05-03 11:37:58'),('CLASS6438975a476', 'ATTE6451d6ce98d25', 'mandola@gmail.com', 'Statistics and Probability', 'semmy@unklab.ac.id', 'o', 'o', 'o', 'o', 'E', 'Sakit', '2023-05-03 11:38:20'),('CLASS6445f8b7ce4de', 'ATTE6451db1ca165d', 'semmy@yahoo.com', 'Fundamental Apache PHP5', 'semmy@unklab.ac.id', 'o', 'o', 'o', 'o', 'P', '', '2023-05-03 11:55:46'),('CLASS6445f8b7ce4de', 'ATTE6451db1ca165d', 'putra@gmail.com', 'Fundamental Apache PHP5', 'semmy@unklab.ac.id', 'o', 'o', 'o', 'o', 'E', 'Sakit', '2023-05-03 11:55:54');
```


A decorative border of green leaves and branches at the top of the slide.

3 – Backup Database MySQL PHPMyAdmin

A decorative border of green leaves and branches at the bottom of the slide.

How to Backup Database MySQL?

- 1) **Buka PHPMyAdmin:** Akses halaman PHPMyAdmin melalui browser dengan memasukkan URL yang sesuai. Biasanya, alamat default adalah ***http://localhost/phpmyadmin*** atau sesuai dengan konfigurasi server.
- 2) **Masuk ke PHPMyAdmin:** Masukkan nama pengguna (username) dan kata sandi (password) MySQL yang valid untuk masuk ke antarmuka PHPMyAdmin.
- 3) **Pilih Database:** Setelah masuk, **pilih database yang ingin di backup** dari panel kiri. Jika tidak ada database yang terlihat, pastikan telah membuat dan mengimpor database sebelumnya.
- 4) **Pilih Tab "Export":** Di bagian atas antarmuka PHPMyAdmin, temukan tab **"Export"** dan klik. Ini secara otomatis akan diarahkan ke halaman ekspor database.

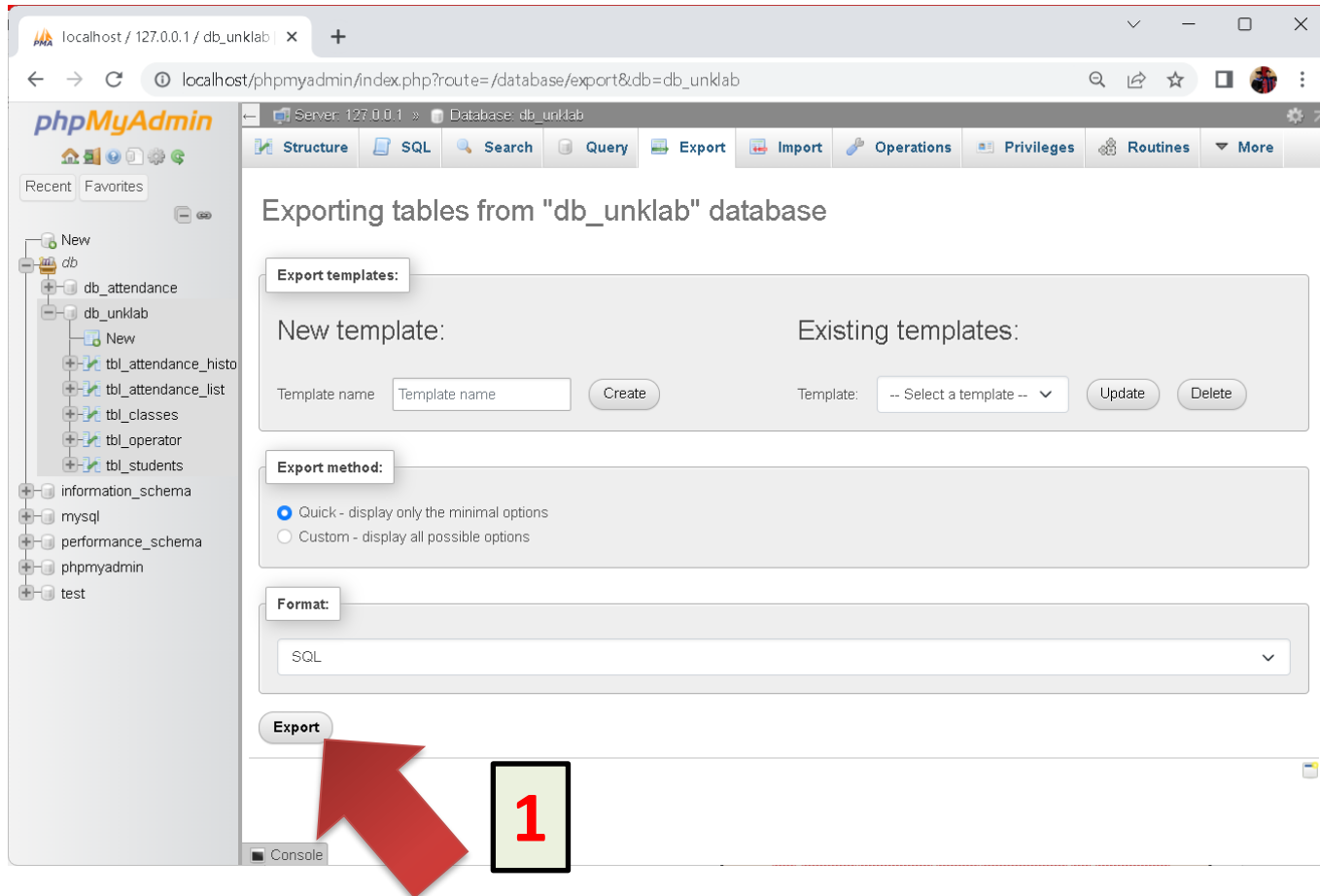
Export MySQL Database

The screenshot shows the phpMyAdmin interface for a MySQL database named 'db_unklab'. The 'Export' tab is selected in the top navigation bar. The left sidebar shows a tree view of databases, with 'db_unklab' highlighted. The main area displays a table structure for 'tbl_students'.

Table	Action	Rows	Type	Collation	Size	Over
attendance_history	★ Browse Structure Search Insert Empty Drop	13	InnoDB	utf8mb4_general_ci	16.0 KiB	
attendance_list	★ Browse Structure Search Insert Empty Drop	24	InnoDB	utf8mb4_general_ci	16.0 KiB	
ses	★ Browse Structure Search Insert Empty Drop	13	InnoDB	utf8mb4_general_ci	16.0 KiB	
tbl_students	★ Browse Structure Search Insert Empty Drop	6	InnoDB	utf8mb4_general_ci	16.0 KiB	
5 tables	Sum	68	InnoDB	utf8mb4_general_ci	80.0 KiB	

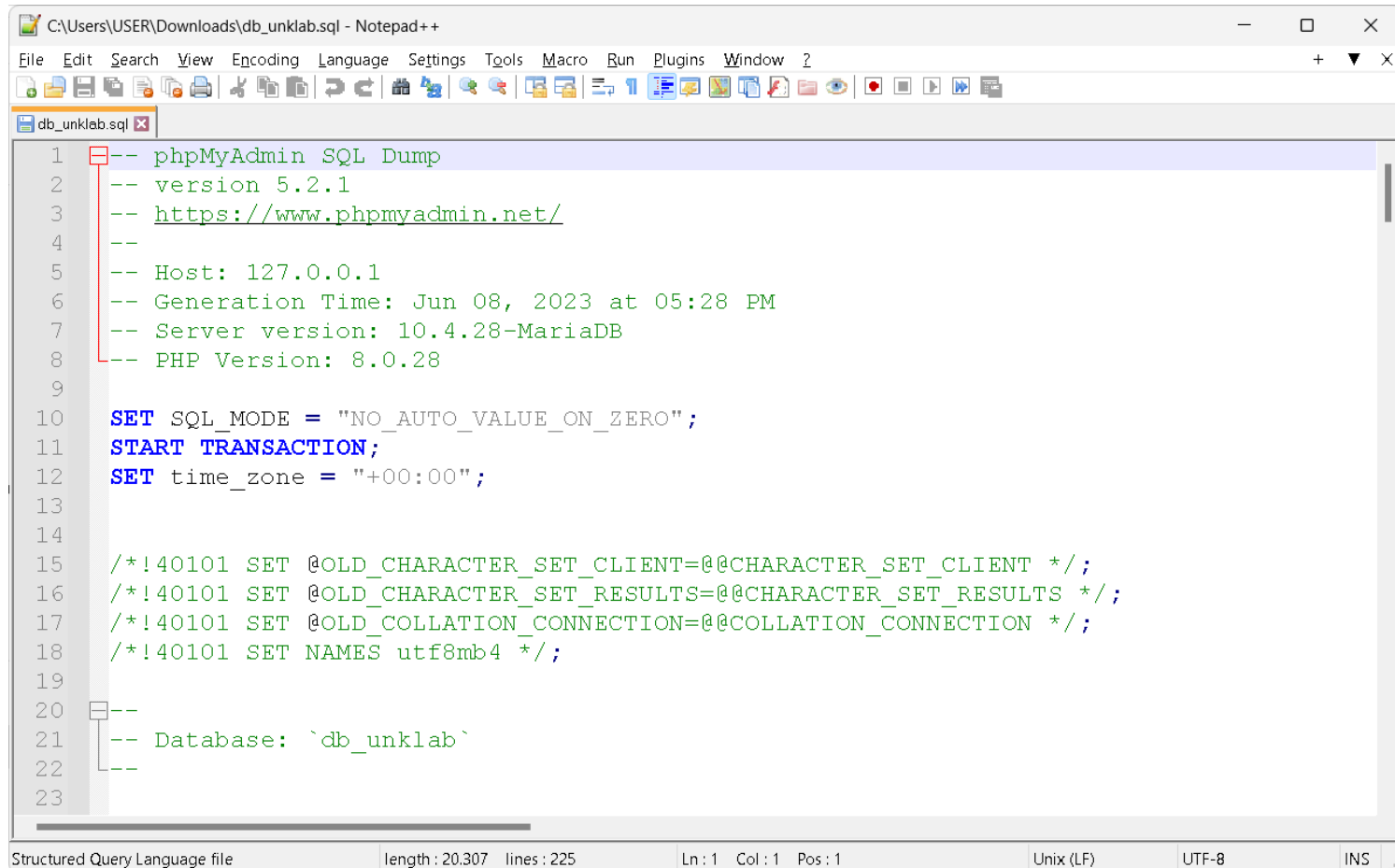
- 1) Pilih Database:** Pertama yang harus dilakukan adalah memilih database yang ingin di backup dari panel kiri. Jika tidak ada database yang terlihat, pastikan telah membuat dan mengimpor database sebelumnya.
- 2) Pilih Tab "Export":** Di bagian atas antarmuka PHPMyAdmin, temukan tab **"Export"** dan klik. Ini secara otomatis akan diarahkan ke halaman ekspor database.

Export MySQL Database



Pilih format *file* yang akan di export, selanjutnya Kalian bisa secara langsung click button “**Export**” dan sistem akan mendownload secara otomatis file dengan nama “***db_unklab.sql***”.

Backup File Downloaded



```
1  -- phpMyAdmin SQL Dump
2  -- version 5.2.1
3  -- https://www.phpmyadmin.net/
4  --
5  -- Host: 127.0.0.1
6  -- Generation Time: Jun 08, 2023 at 05:28 PM
7  -- Server version: 10.4.28-MariaDB
8  -- PHP Version: 8.0.28
9
10 SET SQL_MODE = "NO_AUTO_VALUE_ON_ZERO";
11 START TRANSACTION;
12 SET time_zone = "+00:00";
13
14
15 /*!40101 SET @OLD_CHARACTER_SET_CLIENT=@@CHARACTER_SET_CLIENT */;
16 /*!40101 SET @OLD_CHARACTER_SET_RESULTS=@@CHARACTER_SET_RESULTS */;
17 /*!40101 SET @OLD_COLLATION_CONNECTION=@@COLLATION_CONNECTION */;
18 /*!40101 SET NAMES utf8mb4 */;
19
20 --
21 -- Database: `db_unklab`
22 --
23
```

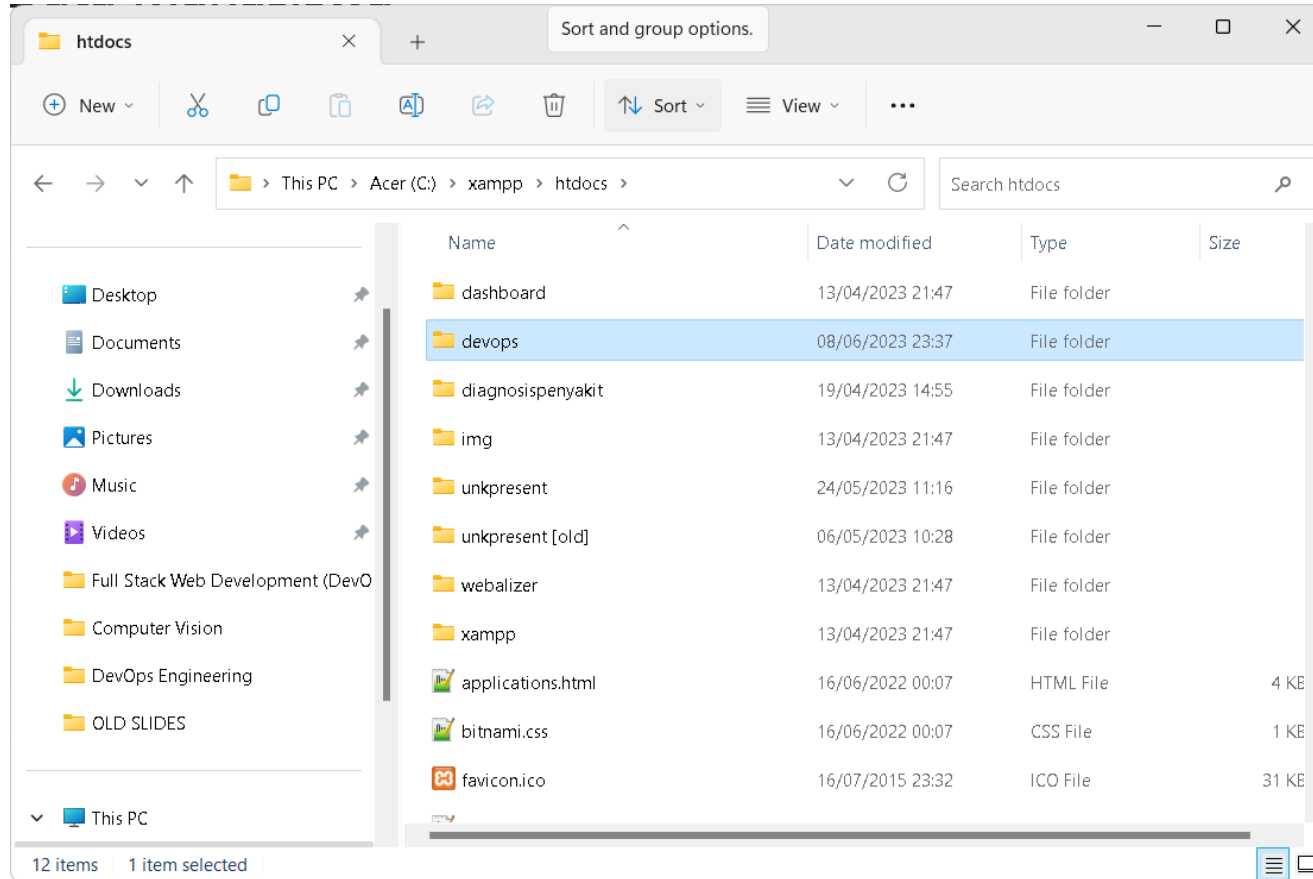
Structured Query Language file length: 20,307 lines: 225 Ln: 1 Col: 1 Pos: 1 Unix (LF) UTF-8 INS

A decorative border of green leaves and branches at the top of the slide.

4 – Display Data *in* Browser (HTML, Bootstrap 5 and PHP)

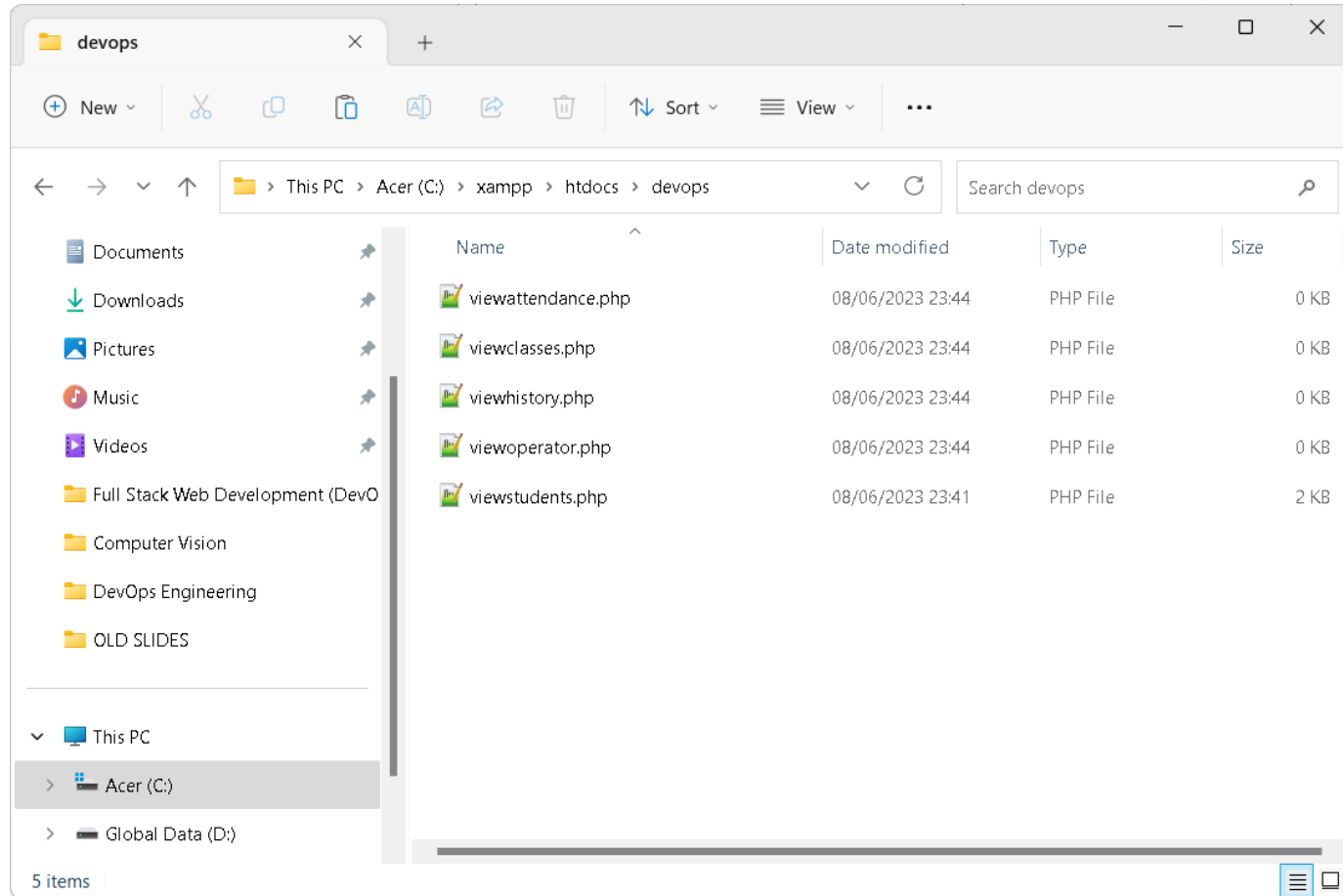
A decorative border of green leaves and branches at the bottom of the slide.

Create New Working Dir



Buat sebuah directory baru “**devops**” di dalam “**htdocs**”.

Create New Files



Buat 5 files di dalam working directory untuk menampilkan data pada setiap table.

Write File “viewstudents.php”

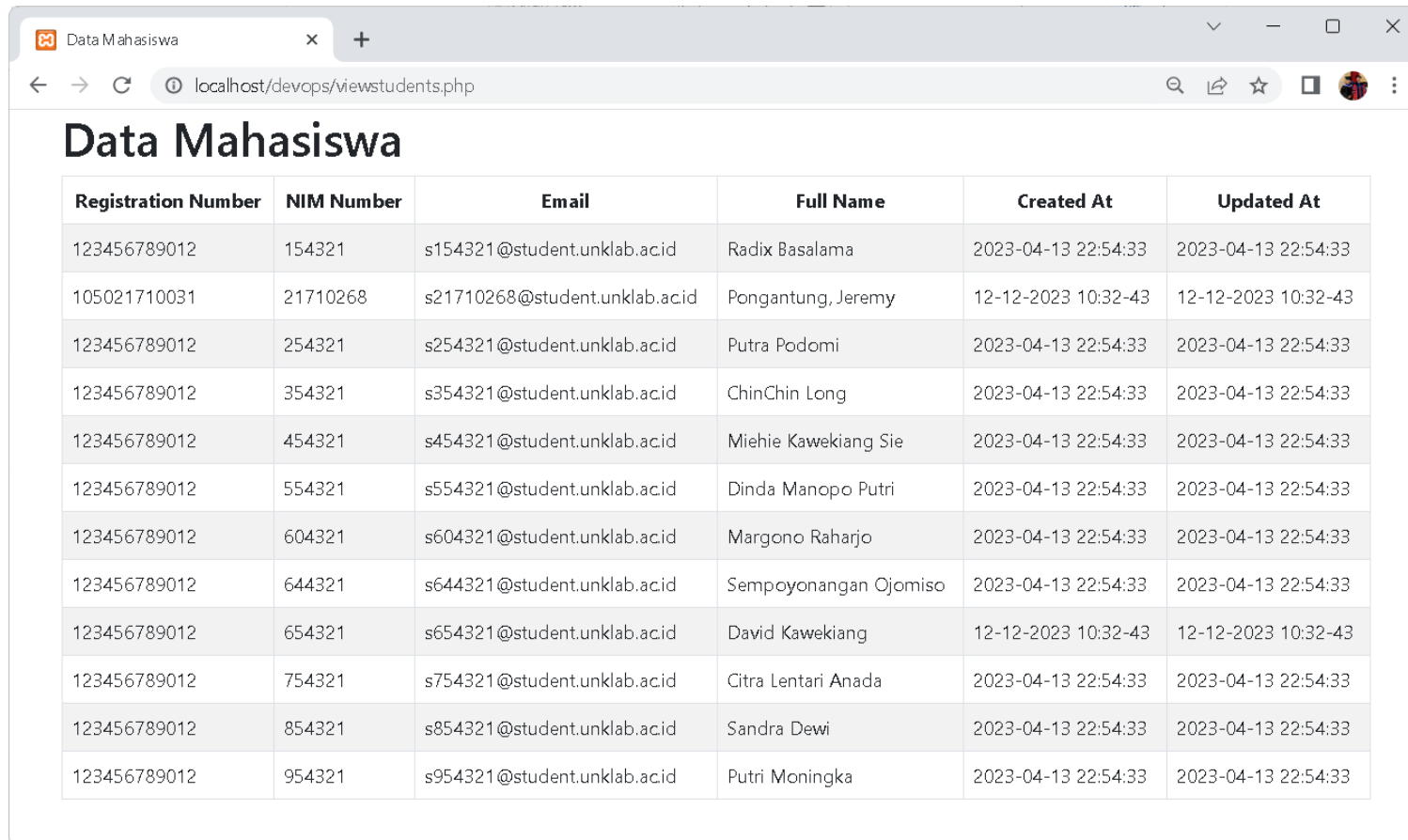
```
1 <!DOCTYPE html>
2 <html>
3 <head>
4   <title>Data Mahasiswa</title>
5   <link rel="stylesheet" href="https://cdn.jsdelivr.net/npm/bootstrap@5.3.0/dist/css/bootstrap.min.css">
6 </head>
7 <body>
8   <div class="container">
9     <h1>Data Mahasiswa</h1>
10    <table class="table table-striped table-bordered table-hover">
11      <thead>
12        <tr>
13          <th class="text-center">Registration Number</th>
14          <th class="text-center">NIM Number</th>
15          <th class="text-center">Email</th>
16          <th class="text-center">Full Name</th>
17          <th class="text-center">Created At</th>
18          <th class="text-center">Updated At</th>
19        </tr>
20      </thead>
21      <tbody>
22        <?php
23          // Koneksi ke database
24          $conn = mysqli_connect('localhost', 'root', '12345', 'db_unklab');
25
26          // Periksa koneksi
27          if (!$conn) {
28            die("Koneksi gagal: " . mysqli_connect_error());
29          }
30
31          // Query untuk mendapatkan data mahasiswa
32          $sql = "SELECT * FROM tbl_students";
33          $result = mysqli_query($conn, $sql);
34
35          // Tampilkan data dalam tabel
36          if (mysqli_num_rows($result) > 0) {
37            while ($row = mysqli_fetch_assoc($result)) {
38              echo "<tr>";
39              echo "<td>" . $row['reg_number'] . "</td>";
40              echo "<td>" . $row['nim_number'] . "</td>";
41              echo "<td>" . $row['email'] . "</td>";
42              echo "<td>" . $row['fullname'] . "</td>";
43              echo "<td>" . $row['created_at'] . "</td>";
44              echo "<td>" . $row['updated_at'] . "</td>";
45              echo "</tr>";
```

```
45         echo "</tr>";
46       }
47     } else {
48       echo "<tr><td colspan='6'>Tidak ada data mahasiswa.</td></tr>";
49     }
50
51     // Tutup koneksi
52     mysqli_close($conn);
53   <?>
54   </tbody>
55 </table>
56 </div>
57 </body>
58 </html>
```

Display Data *via* Browser

Open this link in your browser:

<http://localhost/devops/viewstudents.php>



The screenshot shows a web browser window with the title 'Data Mahasiswa'. The address bar displays 'localhost/devops/viewstudents.php'. The main content area features a table with the following data:

Registration Number	NIM Number	Email	Full Name	Created At	Updated At
123456789012	154321	s154321@student.unklab.ac.id	Radix Basalama	2023-04-13 22:54:33	2023-04-13 22:54:33
105021710031	21710268	s21710268@student.unklab.ac.id	Pongantung, Jeremy	12-12-2023 10:32-43	12-12-2023 10:32-43
123456789012	254321	s254321@student.unklab.ac.id	Putra Podomi	2023-04-13 22:54:33	2023-04-13 22:54:33
123456789012	354321	s354321@student.unklab.ac.id	ChinChin Long	2023-04-13 22:54:33	2023-04-13 22:54:33
123456789012	454321	s454321@student.unklab.ac.id	Miehie Kawekiang Sie	2023-04-13 22:54:33	2023-04-13 22:54:33
123456789012	554321	s554321@student.unklab.ac.id	Dinda Manopo Putri	2023-04-13 22:54:33	2023-04-13 22:54:33
123456789012	604321	s604321@student.unklab.ac.id	Margono Raharjo	2023-04-13 22:54:33	2023-04-13 22:54:33
123456789012	644321	s644321@student.unklab.ac.id	Sempoyonangan Ojomiso	2023-04-13 22:54:33	2023-04-13 22:54:33
123456789012	654321	s654321@student.unklab.ac.id	David Kawekiang	12-12-2023 10:32-43	12-12-2023 10:32-43
123456789012	754321	s754321@student.unklab.ac.id	Citra Lentari Anada	2023-04-13 22:54:33	2023-04-13 22:54:33
123456789012	854321	s854321@student.unklab.ac.id	Sandra Dewi	2023-04-13 22:54:33	2023-04-13 22:54:33
123456789012	954321	s954321@student.unklab.ac.id	Putri Moningka	2023-04-13 22:54:33	2023-04-13 22:54:33

"Next, it's your turn!!!"

Modifikasi *code* yang sudah dibuat dan tampilkan semua data yang ada pada *table*:

1) tbl_attendance_history

2) tbl_attendance_list

3) tbl_classes

4) tbl_operator

~~5) tbl_students~~

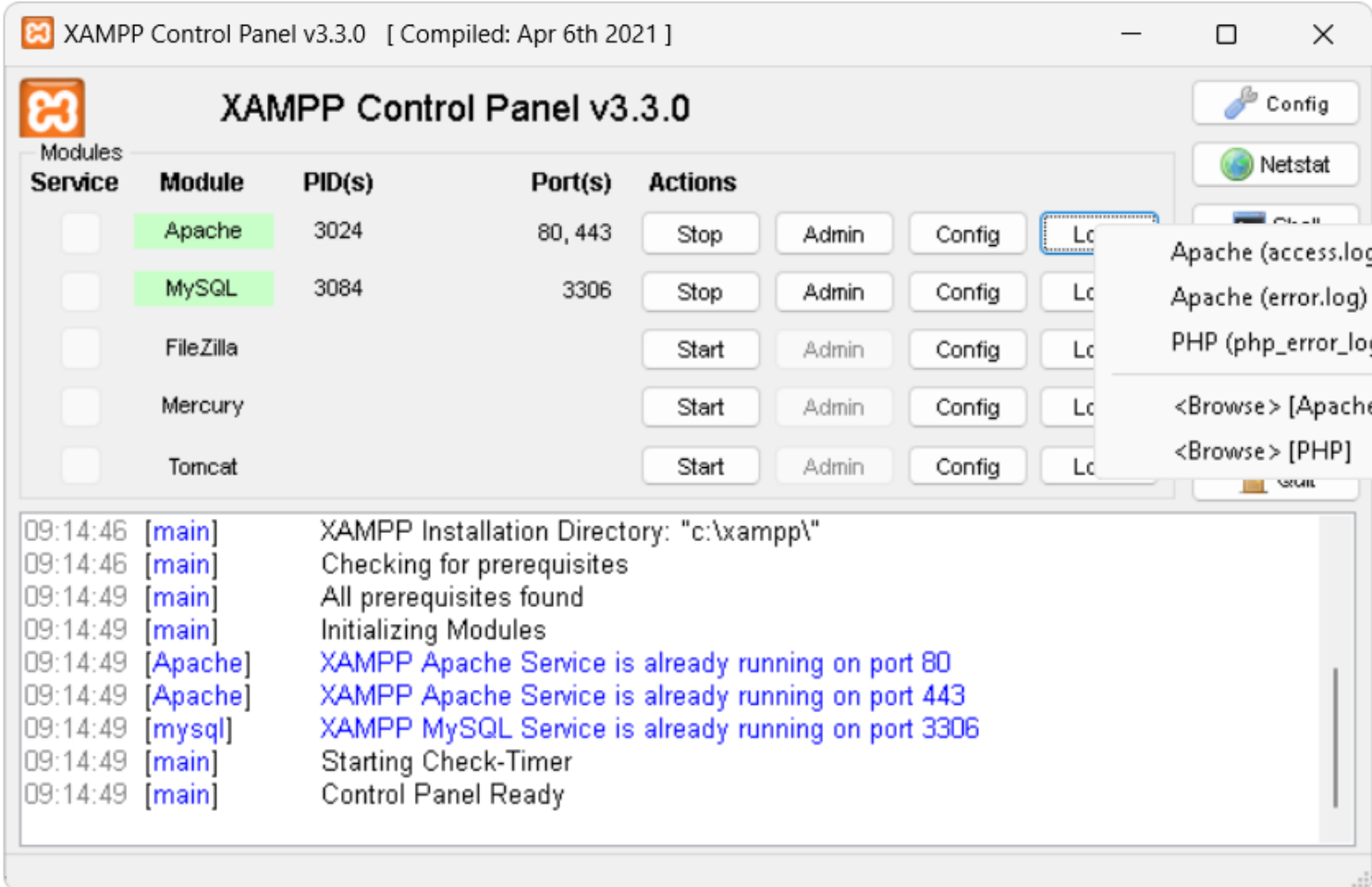
Challenge *for* Students

1. Tambahkan sebuah button “**Insert New Data**” pada masing-masing halaman website yang telah dibuat.
2. Buat penanganan **event handling button** tersebut menggunakan JQuery dan Action Submit Form.
3. Buat penanganan komunikasi ke *server* (*send/request*) menggunakan AJAX dan PHP code.
4. Gunakan type request “POST/GET” atau sesuaikan dengan data yang akan di kirim ke sisi *server* atau diterima dari sisi *server*.



5 – Monitoring & Error Logging

Manually View Apache Error Log



The screenshot shows the XAMPP Control Panel v3.3.0 interface. The title bar indicates it was compiled on April 6th, 2021. The main window displays a table of modules and their status. The Apache module is highlighted in green, indicating it is running. A context menu is open over the Apache module, showing options to view logs: Apache (access.log), Apache (error.log), and PHP (php_error_log). Below the table, a log window shows the startup sequence of XAMPP, including checking prerequisites, initializing modules, and starting the Apache service on ports 80 and 443.

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	3024	80, 443	Stop Admin Config Log
<input type="checkbox"/>	MySQL	3084	3306	Stop Admin Config Log
<input type="checkbox"/>	FileZilla			Start Admin Config Log
<input type="checkbox"/>	Mercury			Start Admin Config Log
<input type="checkbox"/>	Tomcat			Start Admin Config Log

Config Netstat

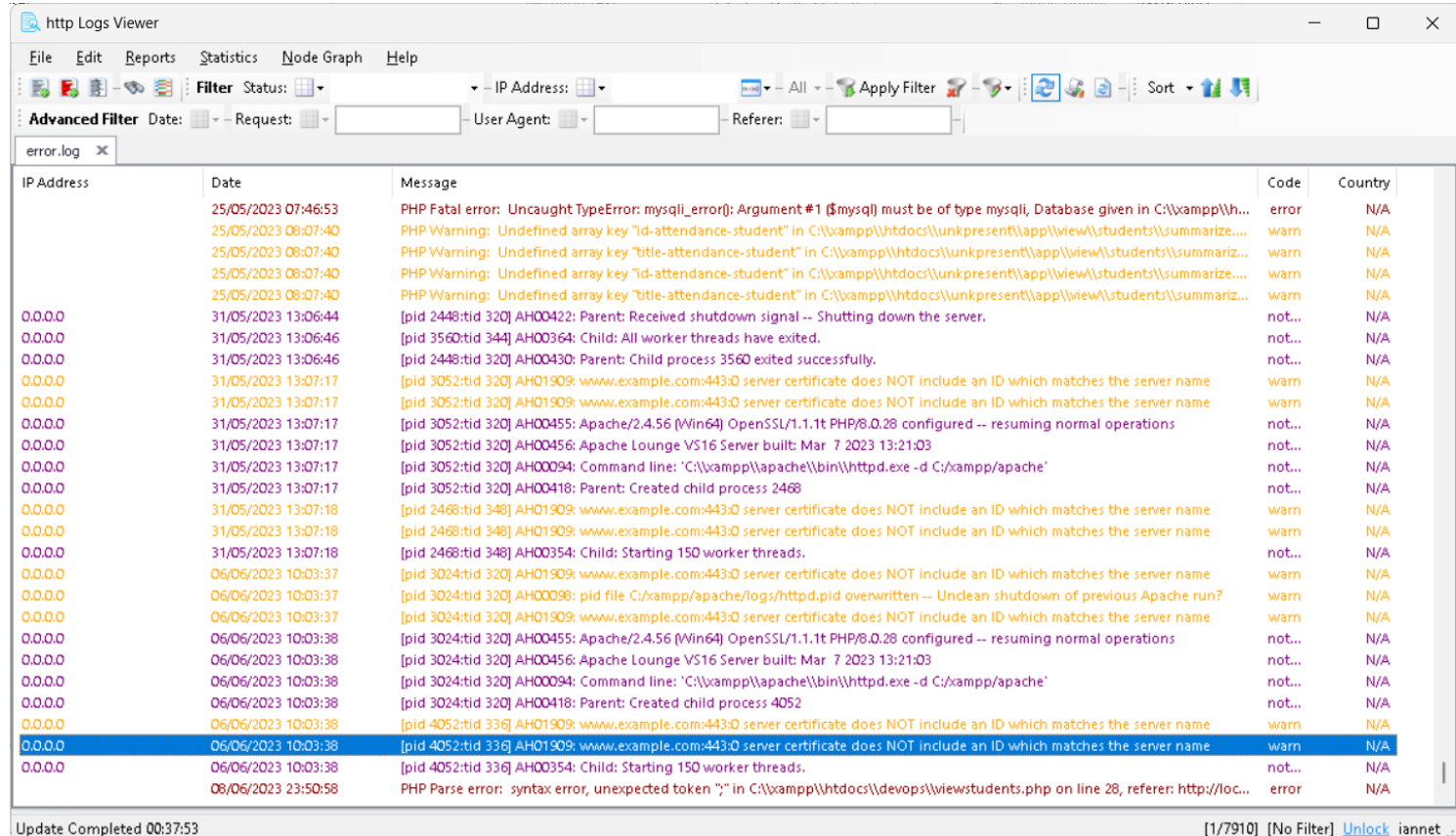
Apache (access.log)
Apache (error.log)
PHP (php_error_log)
<Browse> [Apache]
<Browse> [PHP]

09:14:46 [main] XAMPP Installation Directory: "c:\xampp\
09:14:46 [main] Checking for prerequisites
09:14:49 [main] All prerequisites found
09:14:49 [main] Initializing Modules
09:14:49 [Apache] XAMPP Apache Service is already running on port 80
09:14:49 [Apache] XAMPP Apache Service is already running on port 443
09:14:49 [mysql] XAMPP MySQL Service is already running on port 3306
09:14:49 [main] Starting Check-Timer
09:14:49 [main] Control Panel Ready

[illegible]

Http Log Viewer adalah *tool* atau *software* yang dirancang khusus untuk membantu dalam membaca, memantau, dan menganalisis **log HTTP server**. Ini memungkinkan kita untuk melihat catatan *log* yang dihasilkan oleh server web, seperti Apache atau Nginx, yang mencatat permintaan dan respons HTTP.

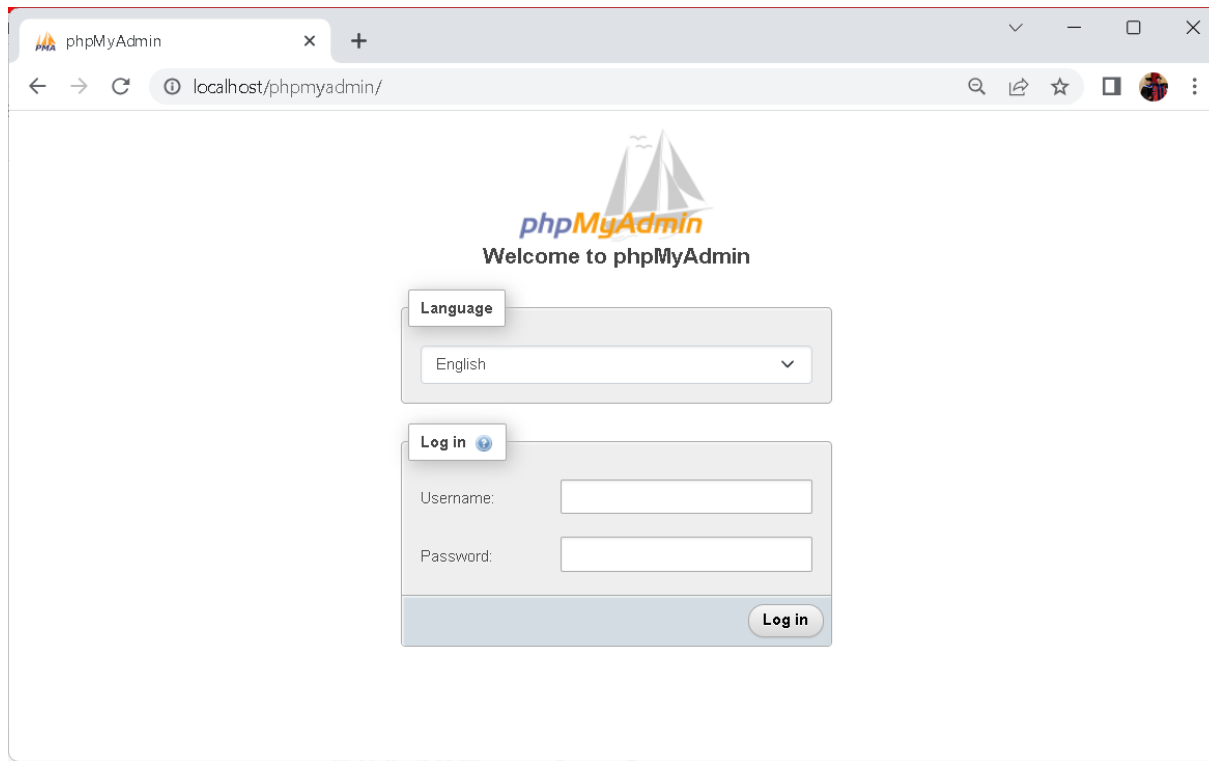
Http Logs Viewer



The screenshot shows the 'http Logs Viewer' application window. It has a menu bar (File, Edit, Reports, Statistics, Node Graph, Help) and a toolbar with various icons. Below the toolbar is a filter section with fields for Date, Request, User Agent, and Referer, along with a 'Filter' button and a 'Status' dropdown. The main area displays a table of log entries. The table has five columns: IP Address, Date, Message, Code, and Country. The log entries are sorted by date and time, showing various system messages and warnings. The status bar at the bottom indicates 'Update Completed 00:37:53' and '[1/7910] [No Filter] Unlock iannet ...'.

IP Address	Date	Message	Code	Country
	25/05/2023 07:46:53	PHP Fatal error: Uncaught TypeError: mysqli_error(): Argument #1 (\$mysql) must be of type mysqli, Database given in C:\xampp\h...	error	N/A
	25/05/2023 08:07:40	PHP Warning: Undefined array key "id-attendance-student" in C:\xampp\htdocs\unkpresent\app\view\students\summarize....	warn	N/A
	25/05/2023 08:07:40	PHP Warning: Undefined array key "title-attendance-student" in C:\xampp\htdocs\unkpresent\app\view\students\summariz...	warn	N/A
	25/05/2023 08:07:40	PHP Warning: Undefined array key "id-attendance-student" in C:\xampp\htdocs\unkpresent\app\view\students\summarize....	warn	N/A
	25/05/2023 08:07:40	PHP Warning: Undefined array key "title-attendance-student" in C:\xampp\htdocs\unkpresent\app\view\students\summariz...	warn	N/A
0.0.0.0	31/05/2023 13:06:44	[pid 2448:tid 320] AH00422: Parent: Received shutdown signal -- Shutting down the server.	not...	N/A
0.0.0.0	31/05/2023 13:06:46	[pid 3560:tid 344] AH00364: Child: All worker threads have exited.	not...	N/A
0.0.0.0	31/05/2023 13:06:46	[pid 2448:tid 320] AH00430: Parent: Child process 3560 exited successfully.	not...	N/A
0.0.0.0	31/05/2023 13:07:17	[pid 3052:tid 320] AH01909: www.example.com:443:O server certificate does NOT include an ID which matches the server name	warn	N/A
0.0.0.0	31/05/2023 13:07:17	[pid 3052:tid 320] AH01909: www.example.com:443:O server certificate does NOT include an ID which matches the server name	warn	N/A
0.0.0.0	31/05/2023 13:07:17	[pid 3052:tid 320] AH00455: Apache/2.4.56 (Win64) OpenSSL/1.1.1t PHP/8.0.28 configured -- resuming normal operations	not...	N/A
0.0.0.0	31/05/2023 13:07:17	[pid 3052:tid 320] AH00456: Apache Lounge VS16 Server built: Mar 7 2023 13:21:03	not...	N/A
0.0.0.0	31/05/2023 13:07:17	[pid 3052:tid 320] AH00094: Command line: 'C:\xampp\apache\bin\httpd.exe -d C:\xampp\apache'	not...	N/A
0.0.0.0	31/05/2023 13:07:17	[pid 3052:tid 320] AH00418: Parent: Created child process 2468	not...	N/A
0.0.0.0	31/05/2023 13:07:18	[pid 2468:tid 348] AH01909: www.example.com:443:O server certificate does NOT include an ID which matches the server name	warn	N/A
0.0.0.0	31/05/2023 13:07:18	[pid 2468:tid 348] AH01909: www.example.com:443:O server certificate does NOT include an ID which matches the server name	warn	N/A
0.0.0.0	31/05/2023 13:07:18	[pid 2468:tid 348] AH00354: Child: Starting 150 worker threads.	not...	N/A
0.0.0.0	06/06/2023 10:03:37	[pid 3024:tid 320] AH01909: www.example.com:443:O server certificate does NOT include an ID which matches the server name	warn	N/A
0.0.0.0	06/06/2023 10:03:37	[pid 3024:tid 320] AH00098: pid file C:\xampp\apache\logs\httpd.pid overwritten -- Unclean shutdown of previous Apache run?	warn	N/A
0.0.0.0	06/06/2023 10:03:37	[pid 3024:tid 320] AH01909: www.example.com:443:O server certificate does NOT include an ID which matches the server name	warn	N/A
0.0.0.0	06/06/2023 10:03:38	[pid 3024:tid 320] AH00455: Apache/2.4.56 (Win64) OpenSSL/1.1.1t PHP/8.0.28 configured -- resuming normal operations	not...	N/A
0.0.0.0	06/06/2023 10:03:38	[pid 3024:tid 320] AH00456: Apache Lounge VS16 Server built: Mar 7 2023 13:21:03	not...	N/A
0.0.0.0	06/06/2023 10:03:38	[pid 3024:tid 320] AH00094: Command line: 'C:\xampp\apache\bin\httpd.exe -d C:\xampp\apache'	not...	N/A
0.0.0.0	06/06/2023 10:03:38	[pid 3024:tid 320] AH00418: Parent: Created child process 4052	not...	N/A
0.0.0.0	06/06/2023 10:03:38	[pid 4052:tid 336] AH01909: www.example.com:443:O server certificate does NOT include an ID which matches the server name	warn	N/A
0.0.0.0	06/06/2023 10:03:38	[pid 4052:tid 336] AH01909: www.example.com:443:O server certificate does NOT include an ID which matches the server name	warn	N/A
0.0.0.0	06/06/2023 10:03:38	[pid 4052:tid 336] AH00354: Child: Starting 150 worker threads.	not...	N/A
	08/06/2023 23:50:58	PHP Parse error: syntax error, unexpected token "?" in C:\xampp\htdocs\devops\viewstudents.php on line 28, referer: http://loc...	error	N/A

Dengan memonitor **log error Apache**, kita dapat mengidentifikasi masalah, menjaga kesehatan, keamanan, dan kinerja web server yang kita kelolah. Ini membantu memastikan bahwa situs web atau aplikasi berjalan dengan baik dan memberikan pengalaman yang baik bagi *users*.



Pada saat kalian buat *virtual server*, phpMyAdmin sudah diinstall dan sudah bisa di akses via **public IP address** nanti. Apakah kalian berpikir bahwa ***login form*** ini akan aman-aman saja tanpa serangan atau aktivitas mencurigakan???

Monitoring Security Issues

Remember this !!!

Log error Apache dapat memberikan informasi tentang upaya **serangan atau aktivitas mencurigakan**. Beberapa serangan atau celah keamanan dapat menghasilkan pesan error tertentu. Dengan memantau *log error*, kita dapat mendeteksi aktivitas yang mencurigakan dan mengambil langkah-langkah untuk meningkatkan keamanan *server*.




```
semmy@presensi: ~  
Sep 16 00:07:51 presensi phpMyAdmin[18162]: user denied: root (mysql-denied) from 192.3.228.147  
Sep 16 00:07:54 presensi phpMyAdmin[18162]: message repeated 4 times: [ user denied: root (mysql-denied) from 192.3.228.147]  
Sep 16 00:07:55 presensi phpMyAdmin[18162]: user denied: phpmyadmin (mysql-denied) from 192.3.228.147  
Sep 16 00:07:55 presensi phpMyAdmin[18162]: user denied: root (mysql-denied) from 192.3.228.147  
Sep 16 00:07:56 presensi phpMyAdmin[18162]: user denied: root (mysql-denied) from 192.3.228.147  
Sep 16 00:07:56 presensi phpMyAdmin[18162]: user denied: admin (mysql-denied) from 192.3.228.147  
Sep 16 00:07:57 presensi phpMyAdmin[18162]: user denied: root (mysql-denied) from 192.3.228.147  
Sep 16 00:07:57 presensi phpMyAdmin[18162]: user denied: web (mysql-denied) from 192.3.228.147  
Sep 16 00:07:58 presensi phpMyAdmin[18162]: user denied: root (mysql-denied) from 192.3.228.147  
Sep 16 00:07:59 presensi phpMyAdmin[18162]: message repeated 3 times: [ user denied: root (mysql-denied) from 192.3.228.147]  
Sep 16 00:08:00 presensi phpMyAdmin[18162]: user denied: wordpress (mysql-denied) from 192.3.228.147  
Sep 16 00:08:00 presensi phpMyAdmin[18162]: user denied: root (mysql-denied) from 192.3.228.147  
Sep 16 00:08:02 presensi phpMyAdmin[18162]: message repeated 3 times: [ user denied: root (mysql-denied) from 192.3.228.147]  
Sep 16 00:08:02 presensi phpMyAdmin[18162]: user denied: developer (mysql-denied) from 192.3.228.147  
Sep 16 00:08:03 presensi phpMyAdmin[18162]: user denied: dbs (mysql-denied) from 192.3.228.147  
Sep 16 00:08:03 presensi phpMyAdmin[18162]: user denied: root (mysql-denied) from 192.3.228.147  
Sep 16 00:08:04 presensi phpMyAdmin[18162]: user denied: root (mysql-denied) from 192.3.228.147  
Sep 16 00:08:04 presensi phpMyAdmin[18162]: user denied: wp (mysql-denied) from 192.3.228.147  
Sep 16 00:08:05 presensi phpMyAdmin[18162]: user denied: root (mysql-denied) from 192.3.228.147  
Sep 16 00:08:09 presensi phpMyAdmin[18162]: message repeated 8 times: [ user denied: root (mysql-denied) from 192.3.228.147]  
Sep 16 00:08:09 presensi phpMyAdmin[18162]: user denied: newuser (mysql-denied) from 192.3.228.147  
Sep 16 00:08:10 presensi phpMyAdmin[18162]: user denied: root (mysql-denied) from 192.3.228.147  
Sep 16 00:08:10 presensi phpMyAdmin[18162]: user denied: root (mysql-denied) from 192.3.228.147  
Sep 16 00:08:11 presensi phpMyAdmin[18162]: user denied: database (mysql-denied) from 192.3.228.147  
Sep 16 00:08:11 presensi phpMyAdmin[18162]: user denied: root (mysql-denied) from 192.3.228.147  
Sep 16 00:08:12 presensi phpMyAdmin[18162]: message repeated 2 times: [ user denied: root (mysql-denied) from 192.3.228.147]  
Sep 16 00:08:13 presensi phpMyAdmin[18162]: user denied: user (mysql-denied) from 192.3.228.147  
Sep 16 00:08:14 presensi phpMyAdmin[18162]: user denied: root (mysql-denied) from 192.3.228.147  
Sep 16 00:08:15 presensi phpMyAdmin[18162]: user denied: root (mysql-denied) from 192.3.228.147  
Sep 16 00:08:16 presensi phpMyAdmin[18162]: user denied: newuser (mysql-denied) from 192.3.228.147  
Sep 16 00:08:16 presensi phpMyAdmin[18162]: user denied: root (mysql-denied) from 192.3.228.147  
Sep 16 00:08:17 presensi phpMyAdmin[18162]: user denied: dev (mysql-denied) from 192.3.228.147  
Sep 16 00:08:17 presensi phpMyAdmin[18162]: user denied: admin (mysql-denied) from 192.3.228.147  
Sep 16 00:08:18 presensi phpMyAdmin[18162]: user denied: admin (mysql-denied) from 192.3.228.147  
Sep 16 00:08:19 presensi phpMyAdmin[18166]: user denied: admin (mysql-denied) from 192.3.228.147  
Sep 16 00:08:20 presensi phpMyAdmin[18166]: user denied: root (mysql-denied) from 192.3.228.147  
Sep 16 00:08:20 presensi phpMyAdmin[18166]: user denied: root (mysql-denied) from 192.3.228.147  
Sep 16 00:08:21 presensi phpMyAdmin[18166]: user denied: phpmyadmin (mysql-denied) from 192.3.228.147  
Sep 16 00:08:22 presensi phpMyAdmin[18166]: user denied: root (mysql-denied) from 192.3.228.147  
Sep 16 00:08:26 presensi phpMyAdmin[18166]: message repeated 7 times: [ user denied: root (mysql-denied) from 192.3.228.147]
```

Hardening is an *approach in computer security* that aims to reduce security risks by reducing potential system vulnerabilities. While no solution can guarantee complete security, hardening is still an important step to protect systems and data.



Buat report dalam format PDF
dan di submit di Google
ClassRoom !!!

END PRESENTATION

Thank you for your attention

Instructor: S – W – T

THANK YOU

