

Lab No: Project Part 3

Lab Title: Create a MySQL Database

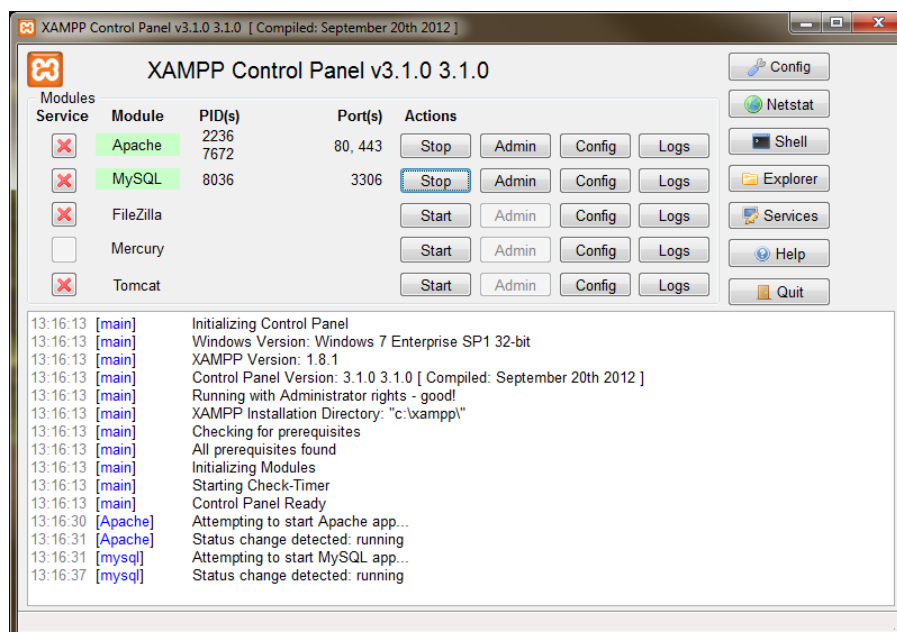
Objective: At the end of the lesson, students will be able to build a database using MySQL

Resources:

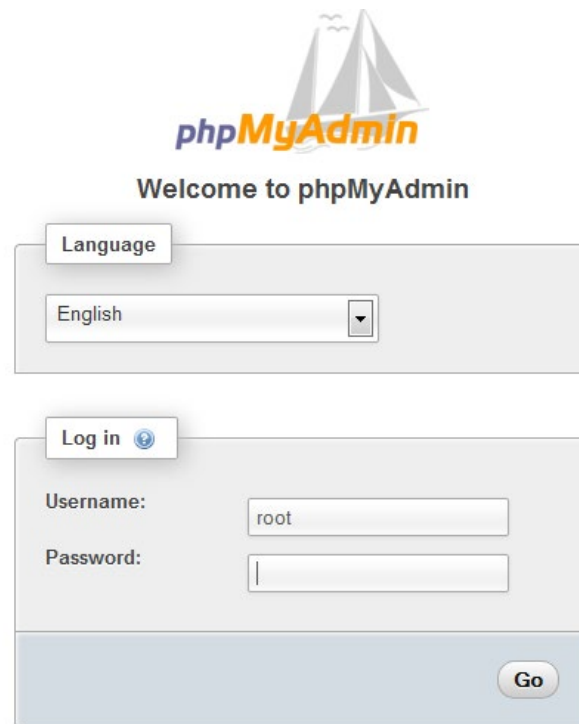
1. Development Computer.
2. Apache server, MySQL, and phpmyadmin

Procedures:

1. launch the XAMPP control panel and start the Apache and MySQL servers as shown:

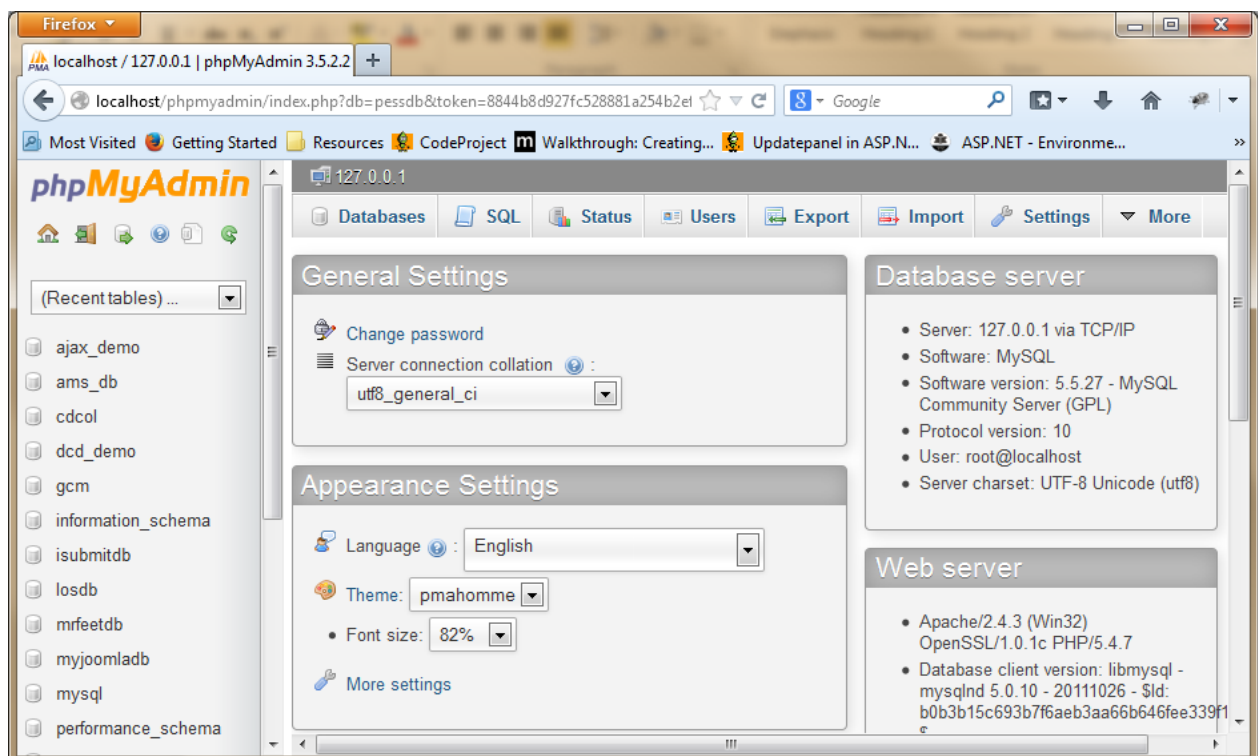


4. Click the Admin button for MySQL. This loads the login page for phpMyAdmin as shown below. Type “root” as the Username, type the password, if any, and click **Go**.



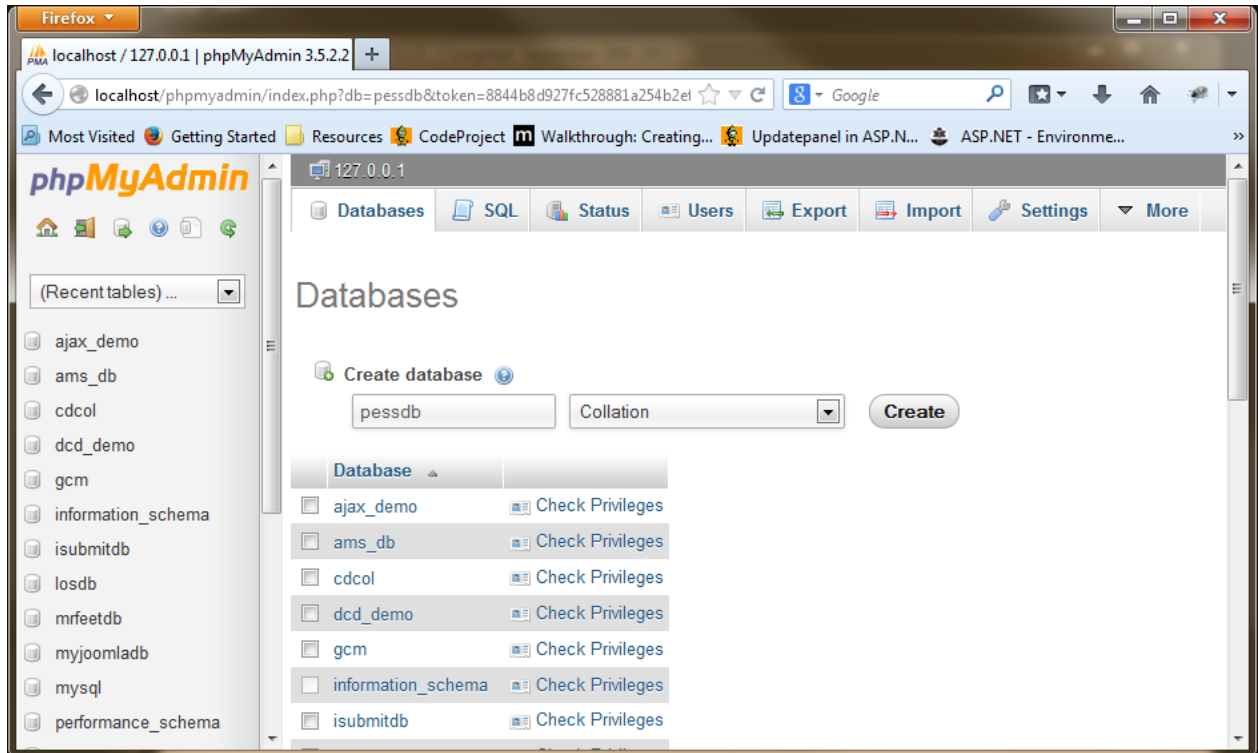
The image shows the phpMyAdmin login interface. At the top is the phpMyAdmin logo, which features a stylized sailboat and the text 'phpMyAdmin'. Below the logo is the text 'Welcome to phpMyAdmin'. There are two main sections: a 'Language' section with a dropdown menu currently set to 'English', and a 'Log in' section. The 'Log in' section contains fields for 'Username' (with 'root' entered) and 'Password' (empty). A 'Go' button is located at the bottom right of the login section.

5. After successfully logging in , you should see a similar screen as shown:

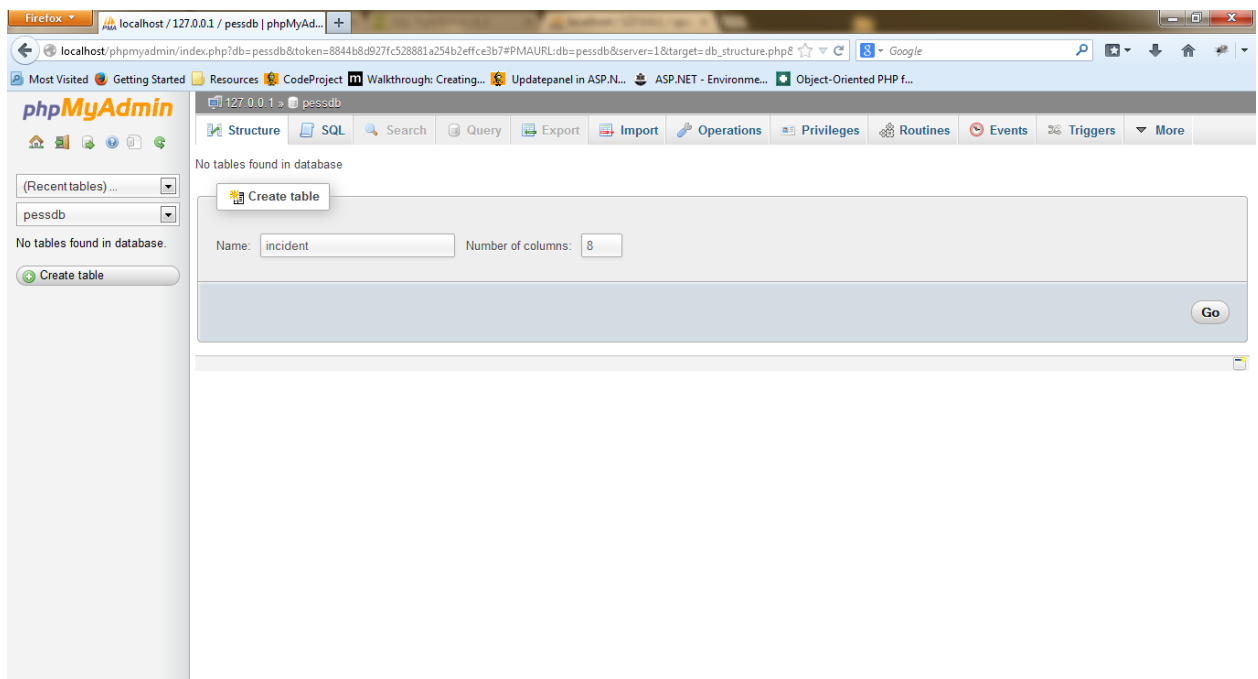


Part 1 – Create a Database with 6 Tables

6. You shall create a database named **pesddb** to be used for your mini project later on.
7. In the **Create database** text box, enter **pesddb** and click **Create**.



8. In the **pesddb** database, create a table called **incident** with 8 fields as shown:



9. Set primary key and check the A_I option for incident_id field.

Table name: incident Add 1 column(s) Go

Name	Type	Length/Values	Default	Collation	Attributes	Null	Index	A_I	Con
incident_id	INT	11	None				PRIMARY	<input checked="" type="checkbox"/>	
caller_name	VARCHAR	30	None						
phone_number	VARCHAR	10	None						
incident_type_id	VARCHAR	3	None						
incident_location	VARCHAR	50	None						
incident_desc	VARCHAR	100	None						
incident_status_id	VARCHAR	1	None						
time_called	DATETIME		CURRENT_TIME		on update C				

Table comments:

Storage Engine: InnoDB Collation:

PARTITION definition:

10. Upon completion, you would have created an incident table in the pessdb database as shown:

Table name: incident

ALTER TABLE `incident` CHANGE `time_called` `time_called` TIMESTAMP ON UPDATE CURRENT_TIMESTAMP NOT NULL DEFAULT CURRENT_TIMESTAMP

#	Name	Type	Collation	Attributes	Null	Default	Extra	Action
1	incident_id	int(11)			No	None	AUTO_INCREMENT	Change Drop More
2	caller_name	varchar(30)	latin1_swedish_ci		No	None		Change Drop More
3	phone_number	varchar(10)	latin1_swedish_ci		No	None		Change Drop More
4	incident_type_id	varchar(3)	latin1_swedish_ci		No	None		Change Drop More
5	incident_location	varchar(50)	latin1_swedish_ci		No	None		Change Drop More
6	incident_desc	varchar(100)	latin1_swedish_ci		No	None		Change Drop More
7	incident_status_id	varchar(1)	latin1_swedish_ci		No	None		Change Drop More
8	time_called	timestamp		on update CURRENT_TIMESTAMP	No	CURRENT_TIMESTAMP	ON UPDATE CURRENT_TIMESTAMP	Change Drop More

MySQL returned an empty result set (i.e. zero rows). (Query took 0.0004 sec)

SELECT * FROM `incident` LIMIT 0, 30

11. Continue to create another 5 tables as shown, take note of the primary key option in each table:

Table name: dispatch

The screenshot shows the phpMyAdmin interface for creating a new table named 'dispatch' in the 'pessdb' database. The 'Structure' tab is active, showing a table with 5 columns: incident_id (INT), patrolcar_id (VARCHAR(10)), time_dispatched (DATETIME), time_arrived (DATETIME), and time_completed (DATETIME). The 'incident_id' and 'patrolcar_id' columns are marked as PRIMARY keys. The 'Storage Engine' is set to InnoDB, and the 'Collation' is set to utf8mb4_0900_ai_ci. The 'Table comments' field is empty. The 'PARTITION definition' field is also empty. The 'Save' button is visible at the bottom right.

Name	Type	Length/Values	Default	Collation	Attributes	Null	Index	A_I	Comm
incident_id	INT		None				PRIMARY		
patrolcar_id	VARCHAR	10	None				PRIMARY		
time_dispatched	DATETIME		None				---		
time_arrived	DATETIME		NULL				---		
time_completed	DATETIME		NULL				---		

The screenshot shows the phpMyAdmin interface for the 'dispatch' table structure. The 'Structure' tab is active, displaying the table's schema. The table has 5 columns: incident_id (int(11)), patrolcar_id (varchar(10)), time_dispatched (datetime), time_arrived (datetime), and time_completed (datetime). The 'incident_id' and 'patrolcar_id' columns are marked as PRIMARY keys. The 'Storage Engine' is set to InnoDB, and the 'Collation' is set to utf8mb4_0900_ai_ci. The 'Table comments' field is empty. The 'PARTITION definition' field is also empty. The 'Save' button is visible at the bottom right.

#	Name	Type	Collation	Attributes	Null	Default	Extra	Action
1	incident_id	int(11)			No	None		Change Drop Browse distinct values Primary Unique Index More
2	patrolcar_id	varchar(10)	latin1_swedish_ci		No	None		Change Drop Browse distinct values Primary Unique Index More
3	time_dispatched	datetime			No	None		Change Drop Browse distinct values Primary Unique Index More
4	time_arrived	datetime			Yes	NULL		Change Drop Browse distinct values Primary Unique Index More
5	time_completed	datetime			Yes	NULL		Change Drop Browse distinct values Primary Unique Index More

Table name: incident_status

The screenshot shows the phpMyAdmin interface for the 'incident_status' table. The 'Structure' tab is active, displaying the table's schema. The table name is 'incident_status' with 1 column(s). The columns are:

Name	Type	Length/Values	Default	Collation	Attributes	Null	Index	A_I	Comm
incident_status_id	VARCHAR	1	None				PRIMARY		
ident_status_desc	VARCHAR	20	None				---		

Below the column list, there are fields for 'Table comments:', 'Storage Engine:' (set to InnoDB), and 'Collation:'. A 'PARTITION definition:' field is also present. At the bottom right, there are 'Save' and 'Cancel' buttons.

The screenshot shows the phpMyAdmin interface for the 'incident_status' table, with the 'SQL' tab active. A query has been executed, returning an empty result set. The query is:

```
SELECT *
FROM 'incident_status'
LIMIT 0, 30
```

Below the query, there is a table showing the structure of the 'incident_status' table:

#	Name	Type	Collation	Attributes	Null	Default	Extra	Action
1	incident_status_id	varchar(1)	latin1_swedish_ci		No	None		Change Drop Browse distinct values Primary Unique Index More
2	incident_status_desc	varchar(20)	latin1_swedish_ci		No	None		Change Drop Browse distinct values Primary Unique Index More

Below the table structure, there are options to 'Check All / Uncheck All With selected', 'Browse', 'Change', 'Drop', 'Primary', 'Unique', and 'Index'. There are also links for 'Print view', 'Relation view', 'Propose table structure', and 'Track table'. At the bottom, there is a section for 'Indexes' with a sub-section for 'Information' showing 'Space usage' and 'Row Statistics'.

Table name: incident_type

The screenshot shows the phpMyAdmin interface for creating a new table named 'incident_type' in the 'pessdb' database. The 'Structure' tab is active, showing a table with two columns: 'incident_type_id' (VARCHAR(3)) and 'incident_type_desc' (VARCHAR(20)). Both columns are set to 'None' for default and 'PRIMARY' for index. The 'Storage Engine' is set to 'InnoDB' and the 'Collation' is set to 'latin1_swedish_ci'. The 'Table comments' and 'PARTITION definition' fields are empty. The 'Save' button is visible at the bottom right.

Name	Type	Length/Values	Default	Collation	Attributes	Null	Index	A_I	Comm
incident_type_id	VARCHAR	3	None				PRIMARY		
incident_type_desc	VARCHAR	20	None				---		

The screenshot shows the phpMyAdmin interface for the 'incident_type' table in the 'pessdb' database. The 'SQL' tab is active, displaying a query that returns an empty result set. Below the query, the table structure is shown with two columns: 'incident_type_id' (varchar(3)) and 'incident_type_desc' (varchar(20)). The table is set to 'Primary' and 'Unique' for both columns. The 'Indexes' section shows the table's space usage and row statistics.

MySQL returned an empty result set (i.e. zero rows). (Query took 0.0004 sec)

```
SELECT *
FROM `incident_type`
LIMIT 0, 30
```

#	Name	Type	Collation	Attributes	Null	Default	Extra	Action
1	incident_type_id	varchar(3)	latin1_swedish_ci	No	None		Primary Unique Index	Change Drop Browse distinct values
2	incident_type_desc	varchar(20)	latin1_swedish_ci	No	None		Primary Unique Index	Change Drop Browse distinct values

Check All / Uncheck All With selected: Browse Change Drop Primary Unique Index

Print view Relation view Propose table structure Track table

Add 1 column(s) At End of Table At Beginning of Table After incident_type_id Go

+ Indexes

Information

Space usage	Row Statistics
Data 16 KiB	Format Compact
Index 0 B	Collation latin1_swedish_ci
Total 16 KiB	Creation Dec 10, 2013 at 02:40 PM

Table name: patrolcar

Table name: Add column(s)

Name	Type	Length/Values	Default	Collation	Attributes	Null	Index	A_I	Comm
patrolcar_id	VARCHAR	10	None				PRIMARY		
atrolcar_status_id	VARCHAR	1	None				---		

Table comments:

Storage Engine: Collation:

PARTITION definition:

MySQL returned an empty result set (i.e. zero rows). (Query took 0.0006 sec)

```
SELECT *
FROM "patrolcar"
LIMIT 0, 30
```

☐ Profiling [\[inline\]](#) [\[Edit\]](#) [\[Explain SQL\]](#) [\[Create PHP Code\]](#) [\[Refresh\]](#)

#	Name	Type	Collation	Attributes	Null	Default	Extra	Action
1	patrolcar_id	varchar(10)	latin1_swedish_ci		No	None		Change Drop Browse distinct values Primary Unique Index More
2	patrolcar_status_id	varchar(1)	latin1_swedish_ci		No	None		Change Drop Browse distinct values Primary Unique Index More

With selected: [Browse](#) [Change](#) [Drop](#) [Primary](#) [Unique](#) [Index](#)

[Print view](#) [Relation view](#) [Propose table structure](#) [Track table](#)

column(s) ☐ At End of Table ☐ At Beginning of Table ☐ After

+ Indexes

Information

Space usage	Row Statistics
Data 16 KiB	Format Compact
Index 0 B	Collation latin1_swedish_ci
Total 16 KiB	Creation Dec 10, 2013 at 02:43 PM

Table name: patrolcar_status

Table name: Add column(s)

Name	Type	Length/Values	Default	Collation	Attributes	Null	Index	A_I	Comm
atrolcar_status_id	VARCHAR	1	None			<input type="checkbox"/>	PRIMARY	<input type="checkbox"/>	
olcar_status_desc	VARCHAR	20	None			<input type="checkbox"/>	---	<input type="checkbox"/>	

Table comments:

Storage Engine: Collation:

PARTITION definition:

MySQL returned an empty result set (i.e. zero rows). (Query took 0.0004 sec)

```
SELECT *
FROM 'patrolcar_status'
LIMIT 0, 30
```

#	Name	Type	Collation	Attributes	Null	Default	Extra	Action
1	patrolcar_status_id	varchar(1)	latin1_swedish_ci		No	None		Change Drop Browse distinct values Primary Unique Index More
2	patrolcar_status_desc	varchar(20)	latin1_swedish_ci		No	None		Change Drop Browse distinct values Primary Unique Index More

Check All / Uncheck All With selected:

Print view Relation view Propose table structure Track table

Add column(s) At End of Table At Beginning of Table After

+ Indexes

Information

Space usage	Row Statistics
Data 16 KiB	Format Compact
Index 0 B	Collation latin1_swedish_ci
Total 16 KiB	Creation Dec 10, 2013 at 02:54 PM

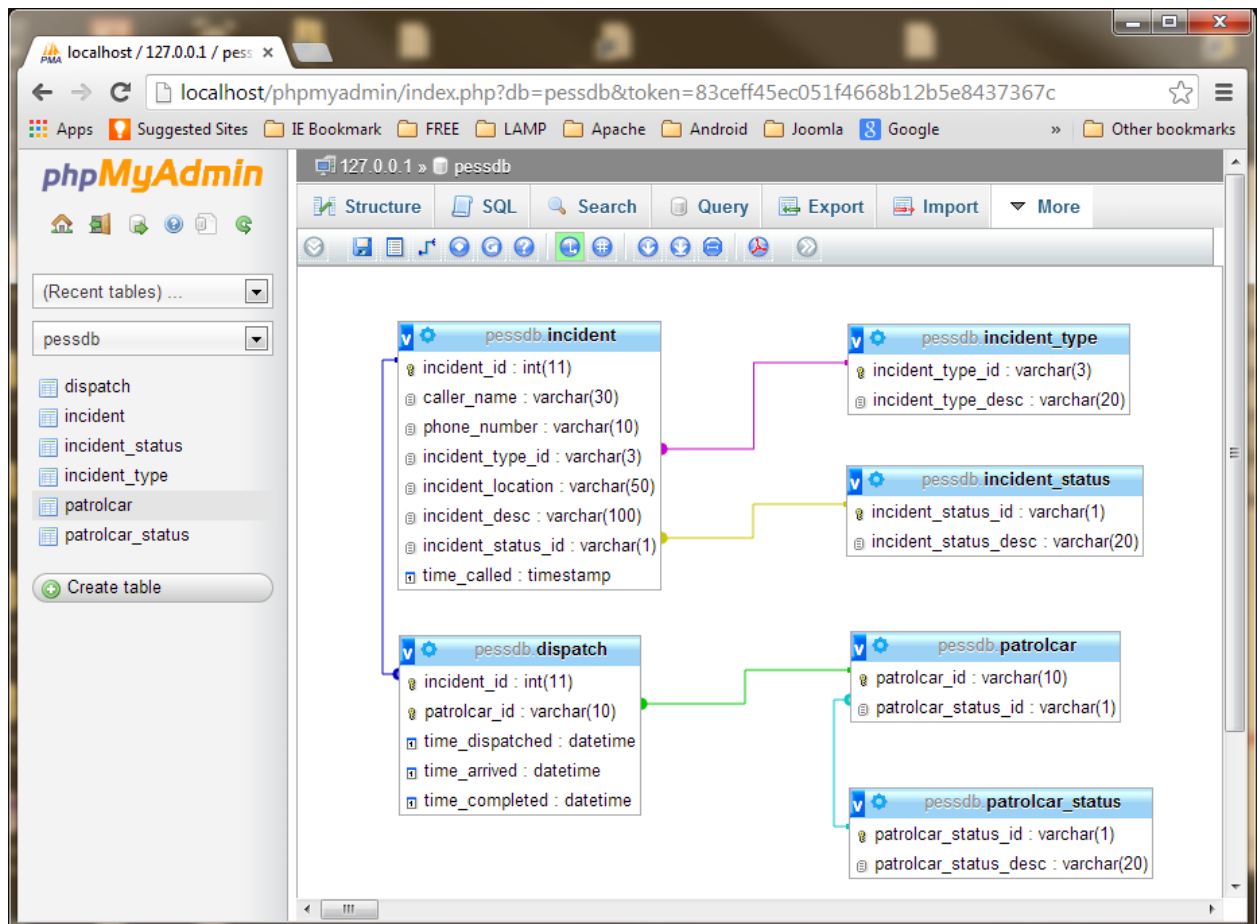
12. Congratulation, you have successfully built yourself a database with 6 tables.

The screenshot shows the phpMyAdmin web interface in a browser window. The address bar indicates the URL is localhost/phpmyadmin/index.php?db=pessdb&token=83ceff45ec051f4668b12b5e8437367c. The interface displays the 'Structure' tab for the 'pessdb' database. A table list shows 6 tables: dispatch, incident, incident_status, incident_type, patrolcar, and patrolcar_status. Each table has a 'Rows' column showing 0 rows. The 'Create table' button is visible in the bottom section of the interface.

Table	Action	Rows	Type	Collation	Size	Overhead
dispatch	Browse Structure Search Insert Empty Drop	0	InnoDB	latin1_swedish_ci	16 KkB	-
incident	Browse Structure Search Insert Empty Drop	0	InnoDB	latin1_swedish_ci	16 KkB	-
incident_status	Browse Structure Search Insert Empty Drop	0	InnoDB	latin1_swedish_ci	16 KkB	-
incident_type	Browse Structure Search Insert Empty Drop	0	InnoDB	latin1_swedish_ci	16 KkB	-
patrolcar	Browse Structure Search Insert Empty Drop	0	InnoDB	latin1_swedish_ci	16 KkB	-
patrolcar_status	Browse Structure Search Insert Empty Drop	0	InnoDB	latin1_swedish_ci	16 KkB	-
6 tables	Sum				96 KkB	0 B

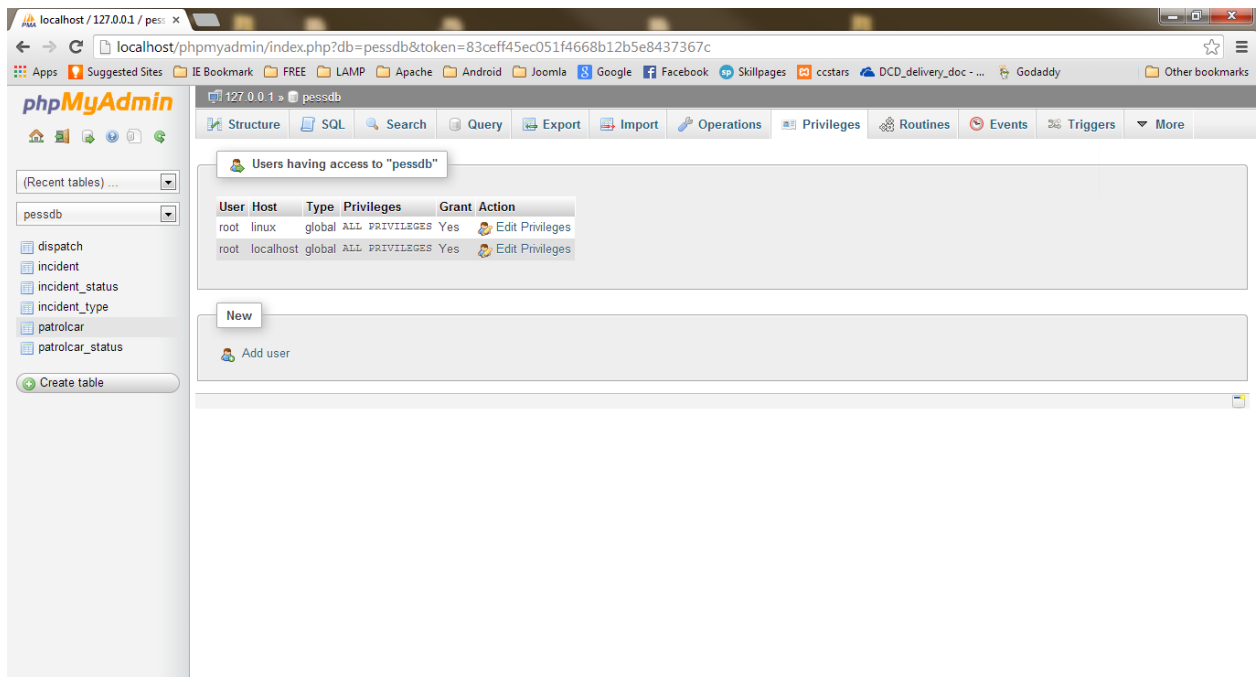
Part 2 – Create Table Relationships

13. Click **Designer** tab on the menubar, create relationships for the respective tables as shown: (Use Chrome if it does not work on other browsers.)

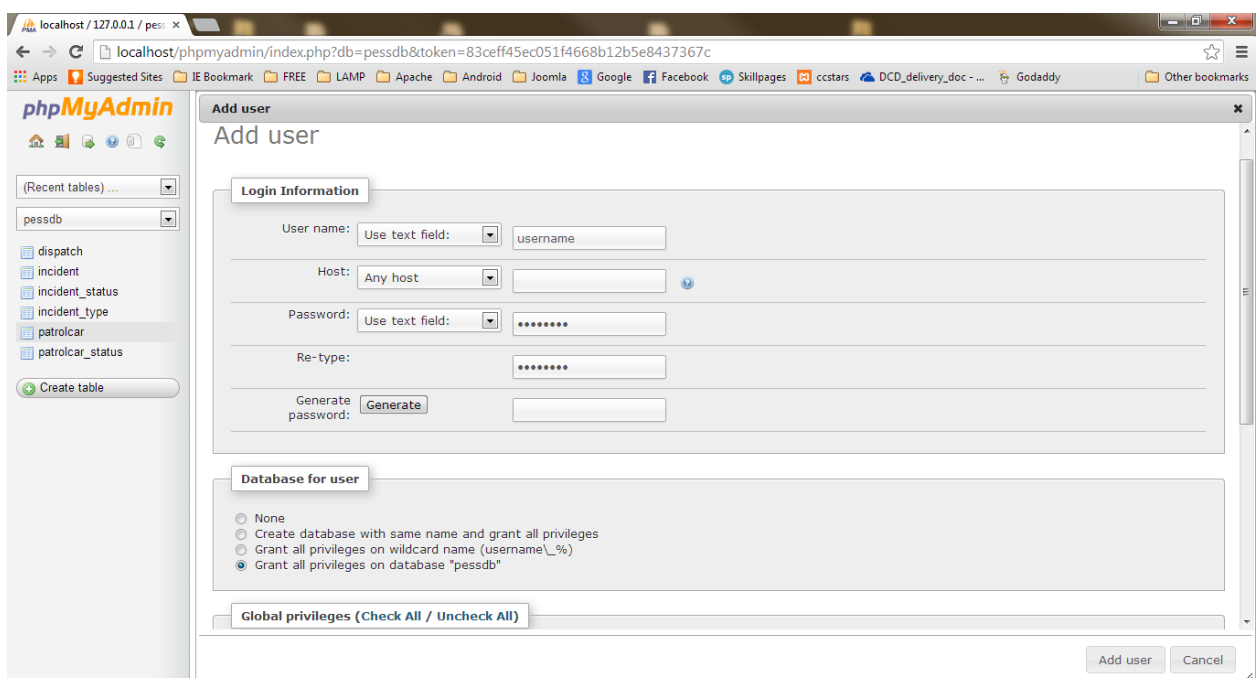


Part 3 – Create a User Account for the Database with limited Privilege

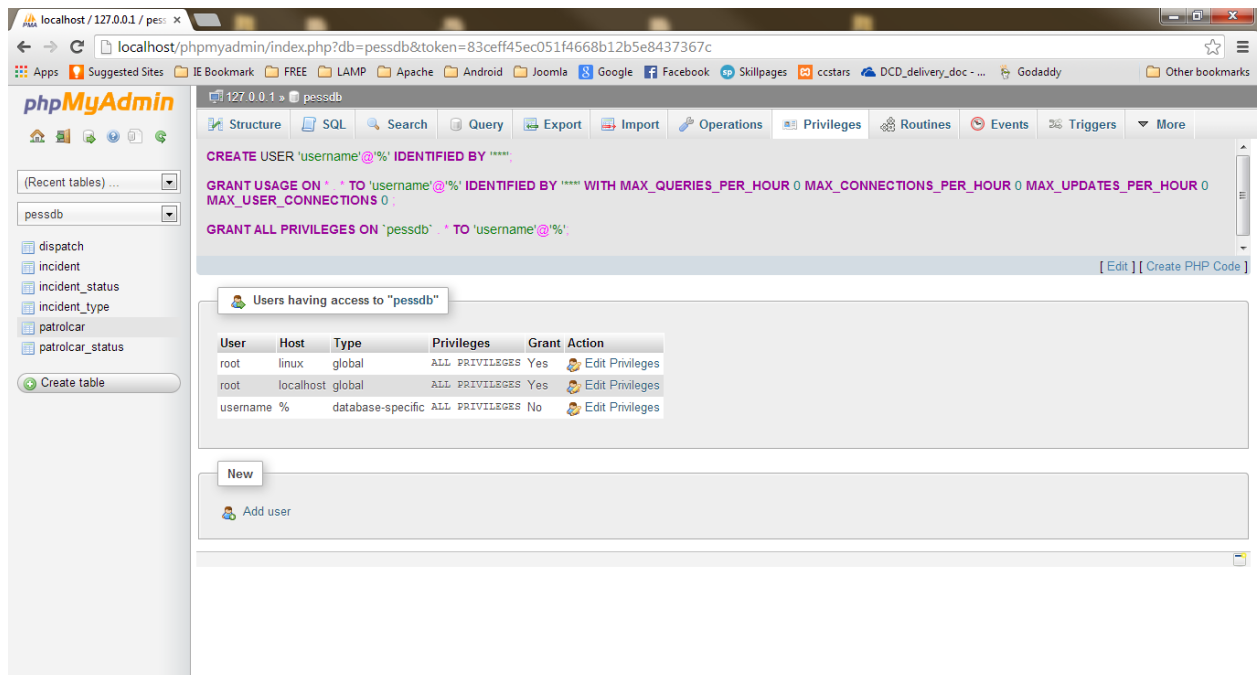
14. You must create a separate user account for your application to access the database with limited privileges.
15. In the pessdb database, on the menubar > **Privileges** > **Add user** as shown:



16. Type “username” for User name field and “password” for Password field, then click **Add user**.



17. Click **Edit Privileges** for “username” row



18. Make sure only the 4 checkboxes under **Data** are checked, then click **Go** and is done.

