

Lab No: Project Part 3

Lab Title: Create a MySQL Database

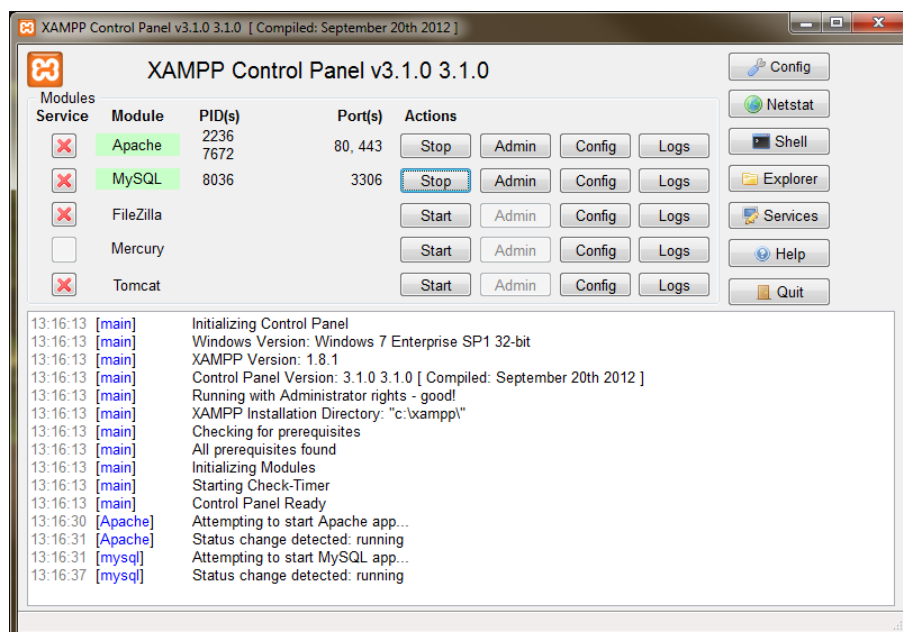
Objective: At the end of the lesson, students will be able to build a database using MySQL

Resources:

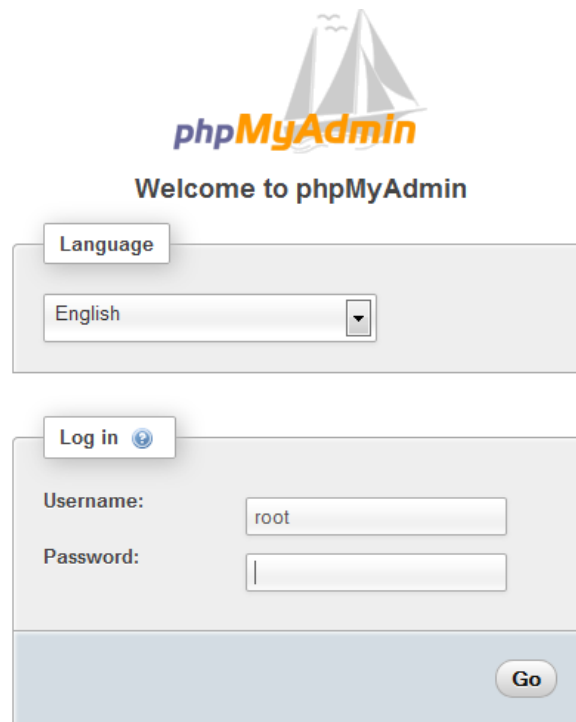
1. Development Computer.
2. Apache server, MySQL, and phpmyadmin

Procedures:

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

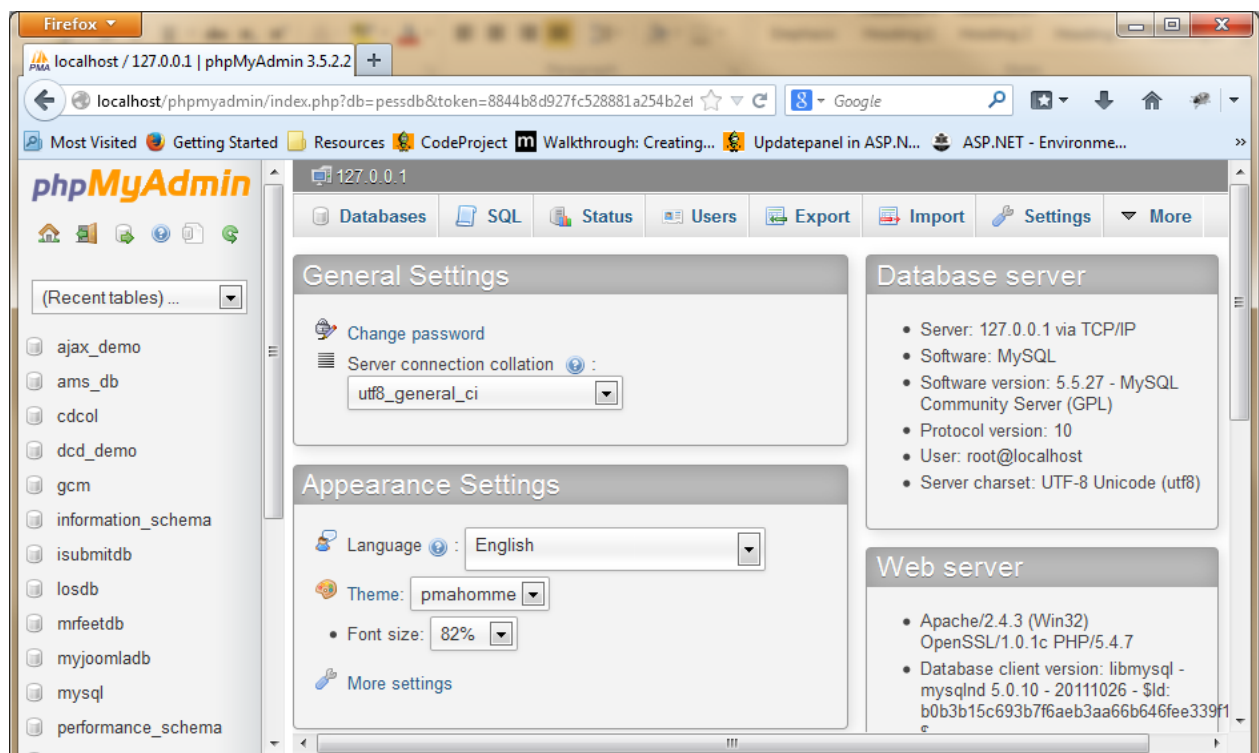


4. Click the Admin button for MySQL. This loads the login page for phpMyAdmin as shown below. Type "root" as the Username, type the password, if any, and click **Go**.



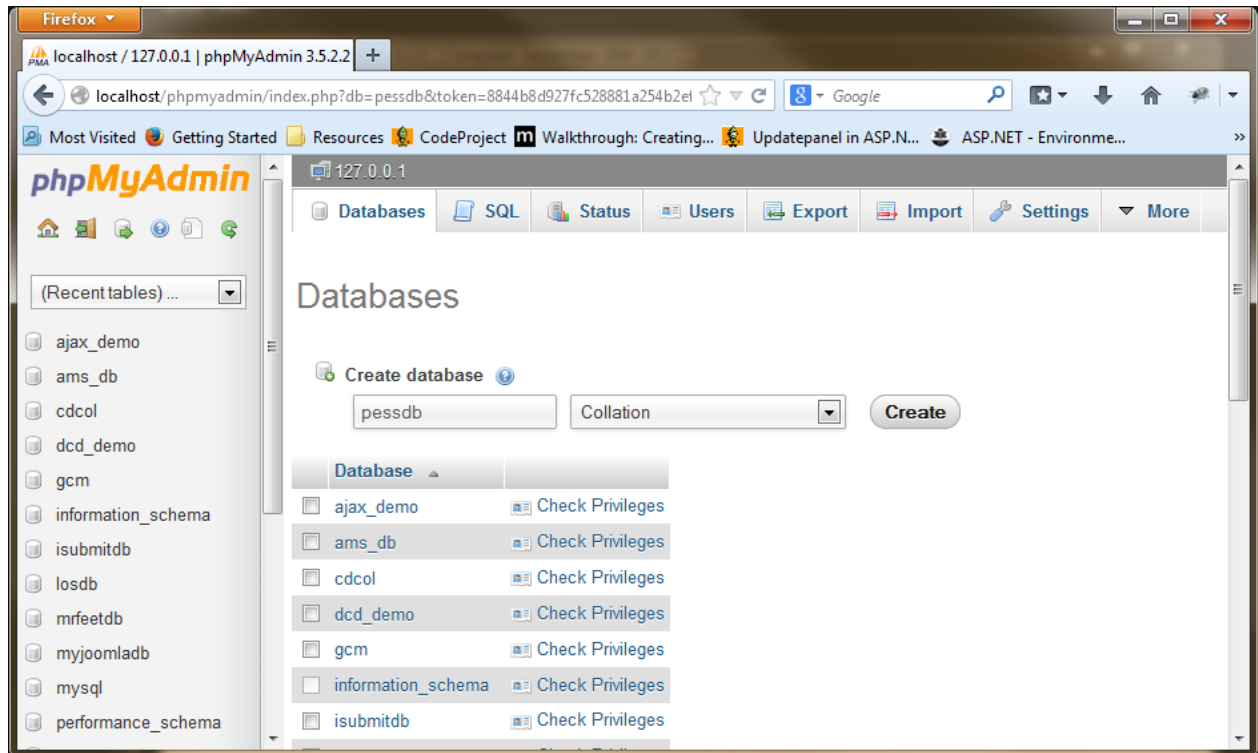
The image shows the phpMyAdmin login interface. At the top is the phpMyAdmin logo, which features a stylized sailboat and the text 'phpMyAdmin'. Below the logo is the text 'Welcome to phpMyAdmin'. There are two main sections: a 'Language' section with a dropdown menu currently set to 'English', and a '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:

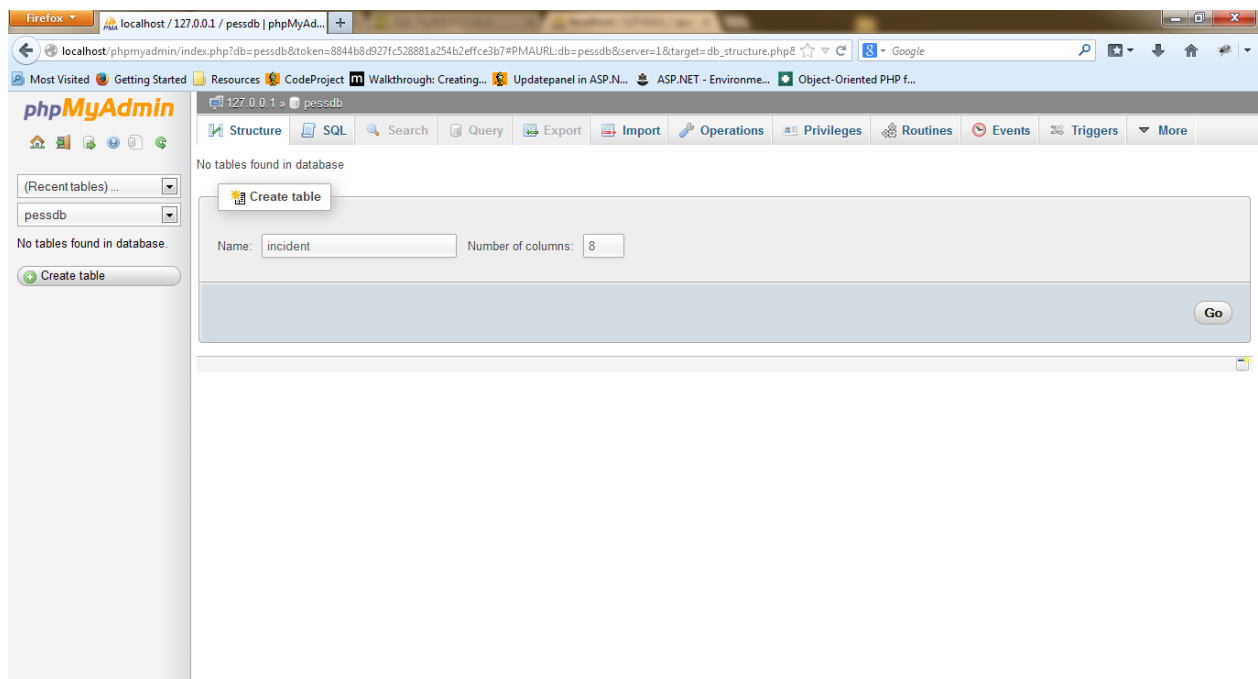


Part 1 – Create a Database with 6 Tables

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



8. In the **peSSdb** 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.

The screenshot shows the phpMyAdmin interface for the 'incident' table in the 'pessdb' database. The table structure is as follows:

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

The screenshot shows the phpMyAdmin interface after successfully altering the 'incident' table. A message states: "Table incident has been altered successfully". The SQL command executed is:

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

The table structure is now as follows:

#	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 'Create table' interface in phpMyAdmin. The table name is 'dispatch' and it has 1 column(s). The columns are defined as follows:

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				---		

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

The screenshot shows the 'Structure' interface in phpMyAdmin for the 'dispatch' table. It displays the table's structure and a list of indexes.

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

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

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

#	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

Below the table structure, there are buttons for 'Check All / Uncheck All With selected:', 'Browse', 'Change', 'Drop', 'Primary', 'Unique', and 'Index'. There is also a 'Print view' button and a 'Relation view' button. Below these, there is a 'Propose table structure' button and a 'Track table' button. At the bottom, there is a 'Go' button.

Below the table structure, there is a section for '+ Indexes' with a sub-section for 'Information' showing 'Space usage' and 'Row Statistics'.

Table name: incident_status

Table name: Add 1 column(s) Go

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

Table comments:

Storage Engine: Collation:

PARTITION definition:

127.0.0.1 > pessdb > incident_status

MySQL returned an empty result set (i.e. zero rows). (Query took 0.0005 sec)

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

☐ Profiling

#	Name	Type	Collation	Attributes	Null	Default	Extra	Action
1	incident_status_id	varchar(1)	latin1_swedish_ci		No	None		<input type="button" value="Change"/> <input type="button" value="Drop"/> <input type="button" value="Browse distinct values"/> <input type="button" value="Primary"/> <input type="button" value="Unique"/> <input type="button" value="Index"/> <input type="button" value="More"/>
2	incident_status_desc	varchar(20)	latin1_swedish_ci		No	None		<input type="button" value="Change"/> <input type="button" value="Drop"/> <input type="button" value="Browse distinct values"/> <input type="button" value="Primary"/> <input type="button" value="Unique"/> <input type="button" value="Index"/> <input type="button" value="More"/>

With selected:

1 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 02:50 PM

Table name: incident_type

The screenshot shows the 'Create table' interface in phpMyAdmin. The table name is 'incident_type'. The structure table shows two columns: 'incident_type_id' (VARCHAR(3), PRIMARY) and 'incident_type_desc' (VARCHAR(20)). The storage engine is InnoDB and the collation is latin1_swedish_ci. The 'PARTITION definition' field is 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 'Structure' view of the 'incident_type' table. A message states: 'MySQL returned an empty result set (i.e. zero rows). (Query took 0.0004 sec)'. Below this, a SQL query is shown: 'SELECT * FROM `incident_type` LIMIT 0, 30'. The table structure is displayed with columns: 'incident_type_id' (varchar(3), latin1_swedish_ci, No, None, Primary, Unique, Index) and 'incident_type_desc' (varchar(20), latin1_swedish_ci, No, None, Primary, Unique, Index). The 'Indexes' section shows 'Information' with 'Space usage' and 'Row Statistics'.

#	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

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

[Check All](#) / [Uncheck All](#) With selected: [Browse](#) [Change](#) [Drop](#) [Primary](#) [Unique](#) [Index](#)

[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 02:43 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
```

☐ Profiling

#	Name	Type	Collation	Attributes	Null	Default	Extra	Action
1	patrolcar_status_id	varchar(1)	latin1_swedish_ci		No	None		<input type="button" value="Change"/> <input type="button" value="Drop"/> <input type="button" value="Browse distinct values"/> <input type="button" value="Primary"/> <input type="button" value="Unique"/> <input type="button" value="Index"/> <input type="button" value="More"/>
2	patrolcar_status_desc	varchar(20)	latin1_swedish_ci		No	None		<input type="button" value="Change"/> <input type="button" value="Drop"/> <input type="button" value="Browse distinct values"/> <input type="button" value="Primary"/> <input type="button" value="Unique"/> <input type="button" value="Index"/> <input type="button" value="More"/>

With selected:

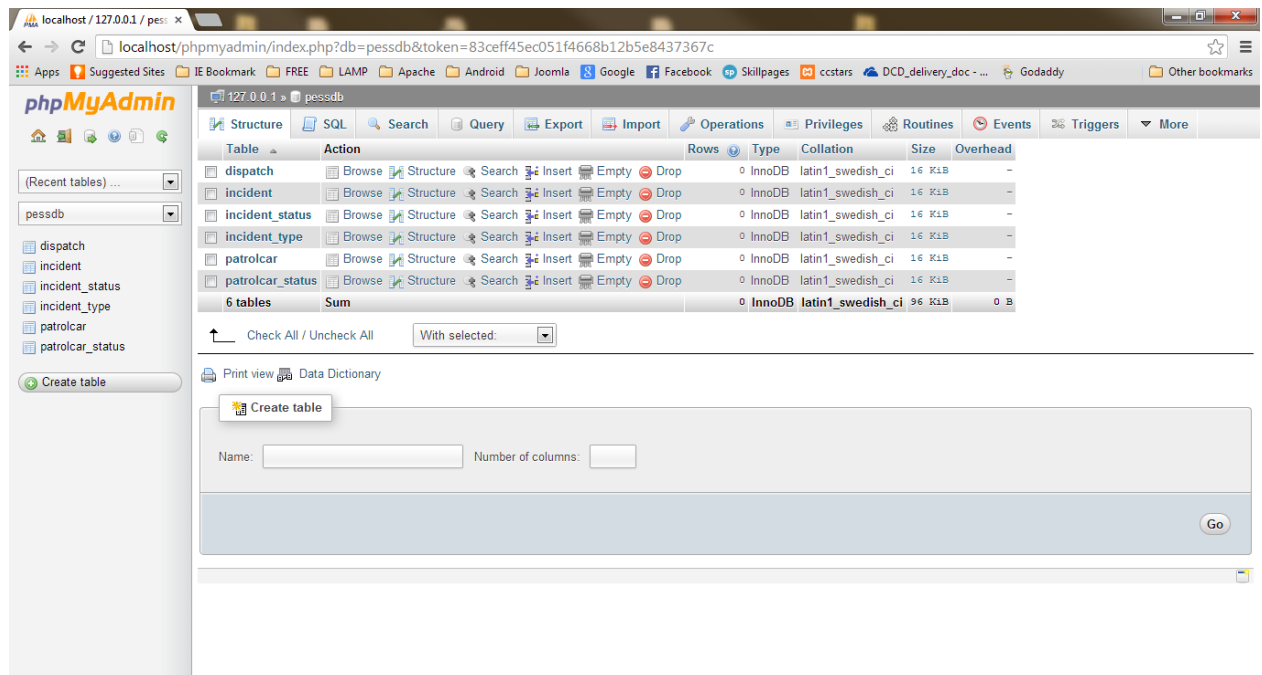
Add column(s) ☐ At End of Table ☐ At Beginning of Table ☐ After

+ Indexes

Information

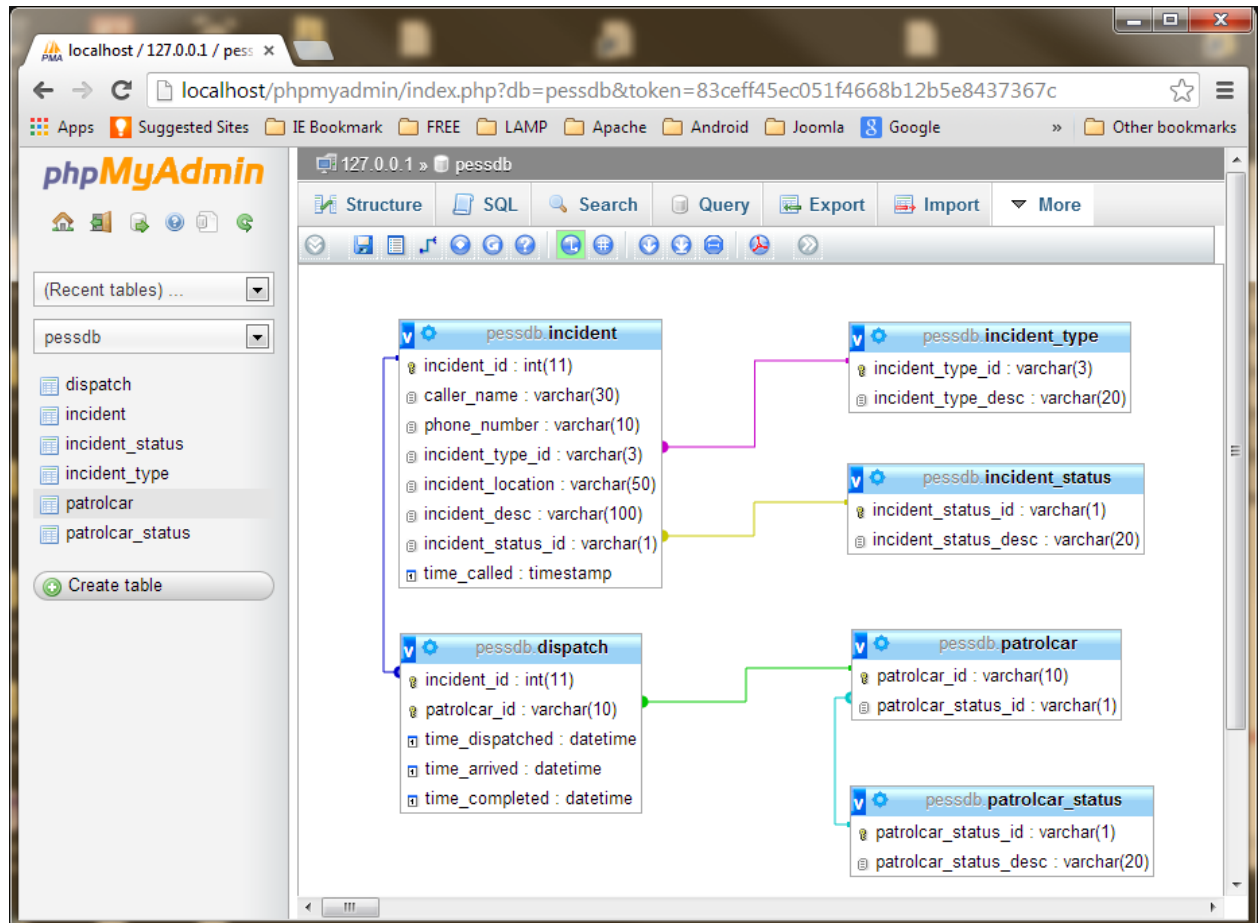
Space usage	Row Statistics
Data 16 KiB	Format Compact
Index 0 B	Collation latin1_swedish_ci
Total 16 KiB	Creation Dec 10, 2013 at 02:54 PM

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



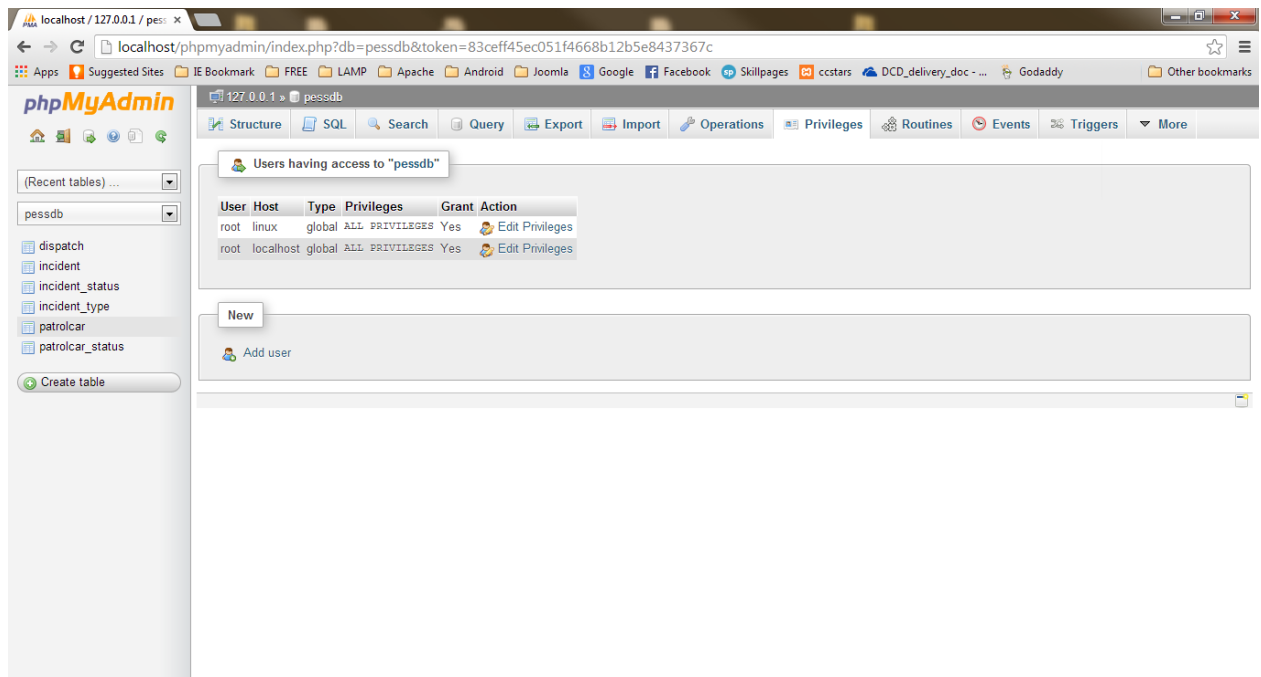
Part 2 – Create Table Relationships

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.)

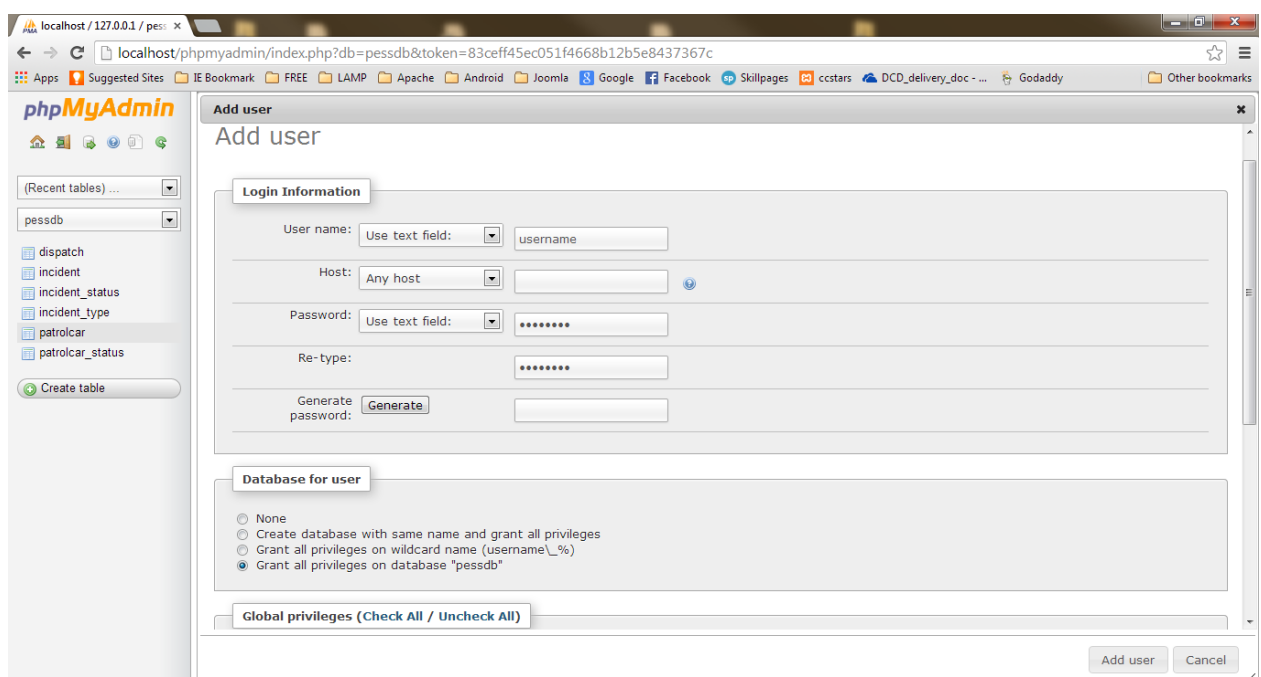


Part 3 – Create a User Account for the Database with limited Privilege

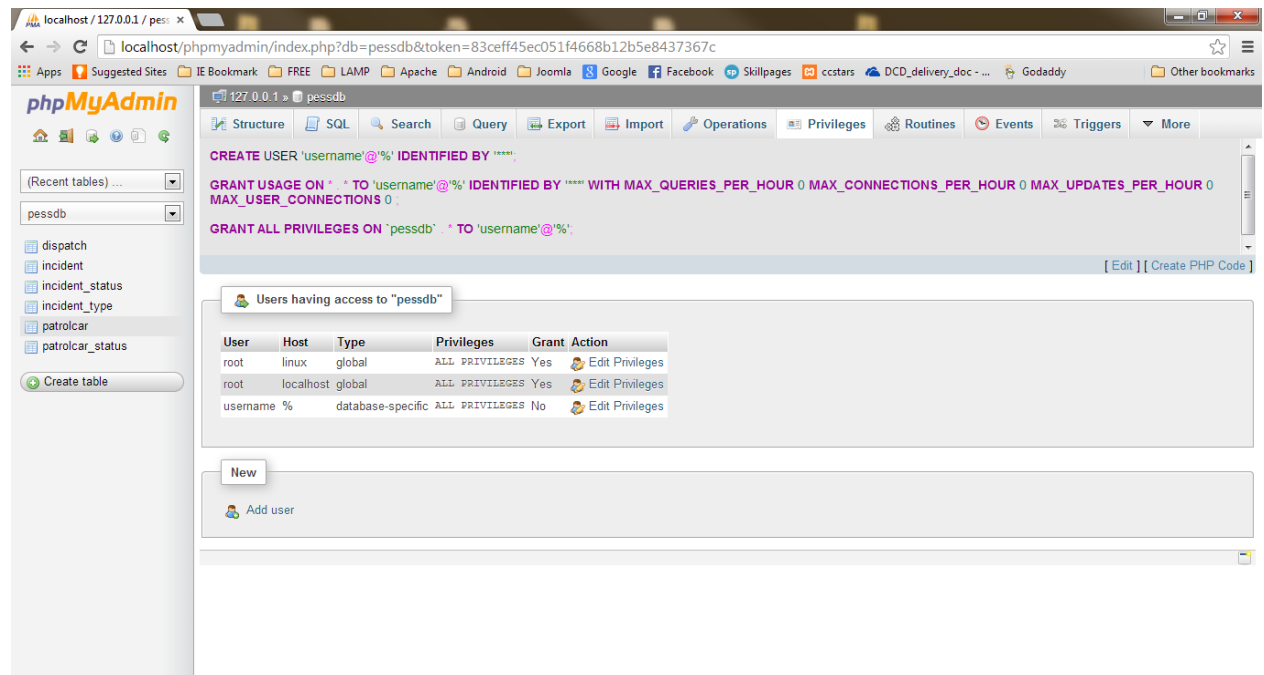
14. You must create a separate user account for your application to access the database with limited privileges.
15. In the pessdb database, on the menubar > **Privileges** > **Add user** as shown:



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.

