

PHP (Database)

File as Database

- In prev chapter has intro of file (.txt) that pretty important in web application
- Mode
 - r, open and pointer in the beginning
 - r+, open and read, pointer in the beginning
 - w, open edit, if no exist make it
 - w+, open edit read,
 - a, open edit pointer in the end
 - a+, open read edit
- A lot built in function to handle file

Ex

- Save data in .txt

Name	<input type="text"/>
Comment	<input type="text"/>
	<input type="submit" value="send"/>

```
<form name="f" action="SaveFormtoTxt.php" method="post">
  <table><tr><td>Name</td><td><input name="nama" type="text"></td></tr>
  <tr><td>Comment</td><td><textarea name="comment" cols="50" rows="6"></textarea></td></tr>
  <tr><td></td><td><input name="send" type="submit" value="send"></td></tr>
</table>
</form>
```

- SaveFormtoTxt.php

```
$filecomment = "comment.txt";
$name = strip_tags($_REQUEST['nama']);
$comm = strip_tags($_REQUEST['comment']);
$input = $name." ||| ".$comm." \n"; // ||| sign for separating
//\n to make <br> in txt
$openfile = fopen($filecomment, "a+");
fwrite($openfile, $input);
echo 'Thanks <br>';
```

- will be saved in "comment.txt"
- "a+", create the file if doesnt exist, open, read write and put the cursor at the end of file

- | | |
|---------|-------------------------------------|
| Name | Ahmad |
| Comment | <u>Oke, not bad lah</u> |
| | <input type="button" value="send"/> |

- Then, U can see the file (comment.txt) in Ur web server

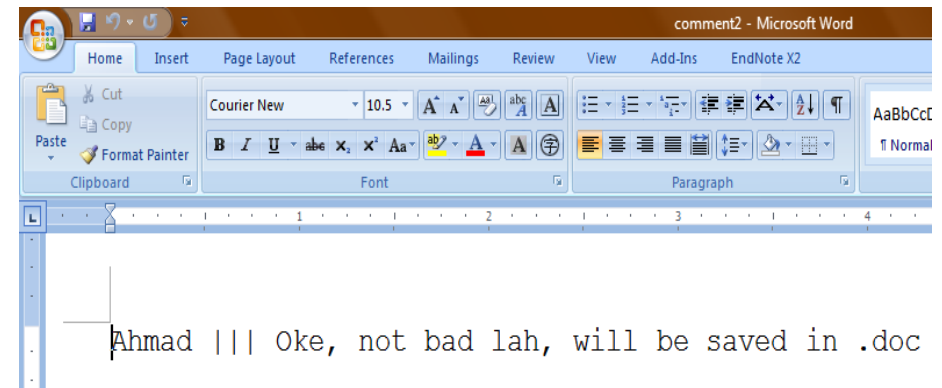
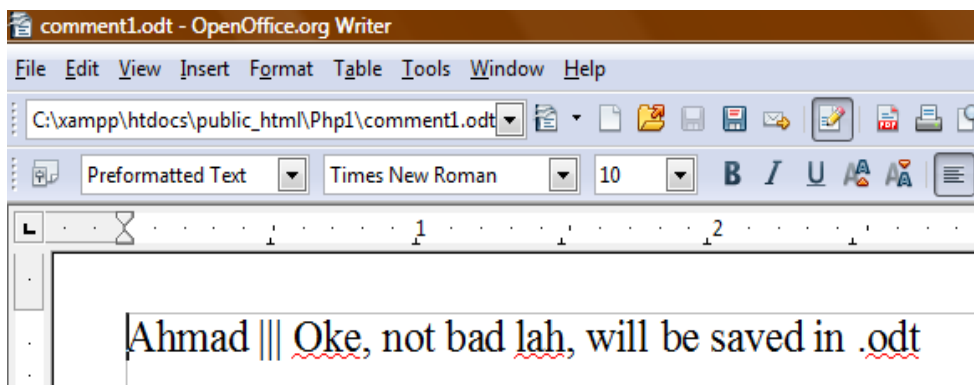
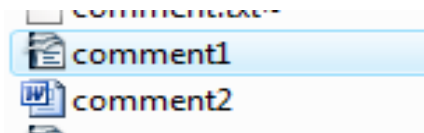
Ahmad ||| Oke, not bad lah

- Another ext (ex: .odt or .doc)

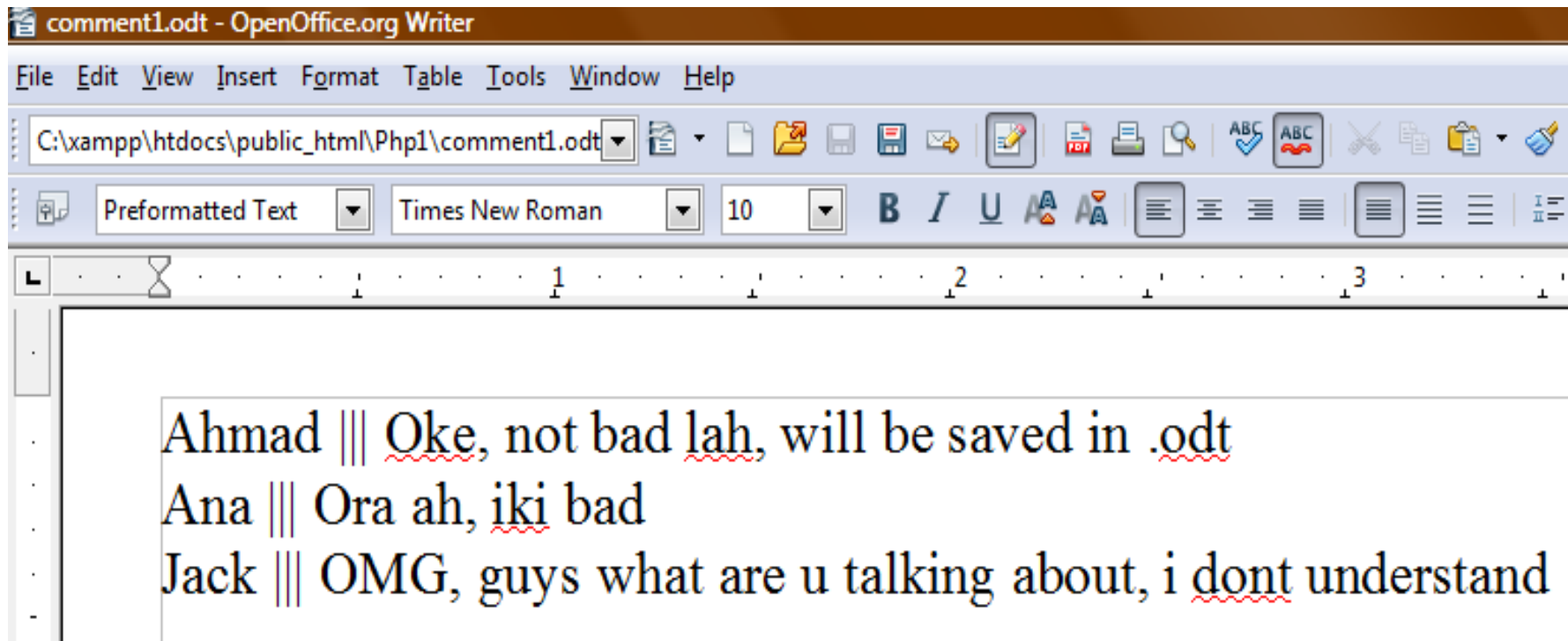
```
$filecomment = "comment1.odt";  
$name = strip_tags($ REQUEST['na
```

```
$filecomment = "comment2.doc";  
$name = strip_tags($_REQUEST['nama'])
```

- U will have



- Add several input data



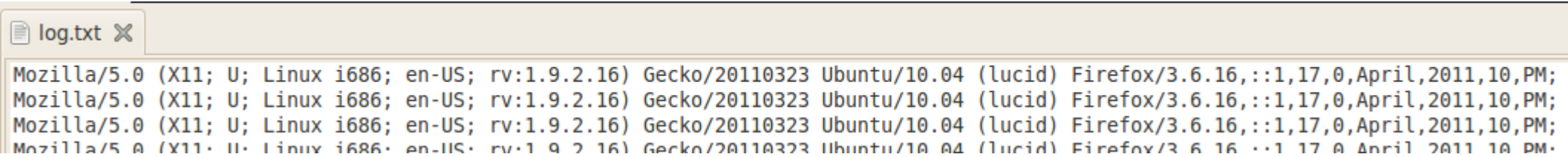
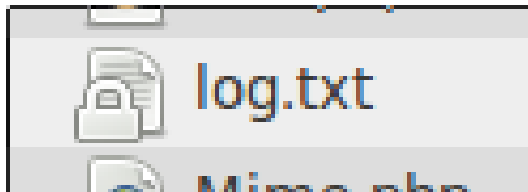
- See, the change line coz "\n". If u wanna save in csv, aware the string filter

- Another ex: make simple log

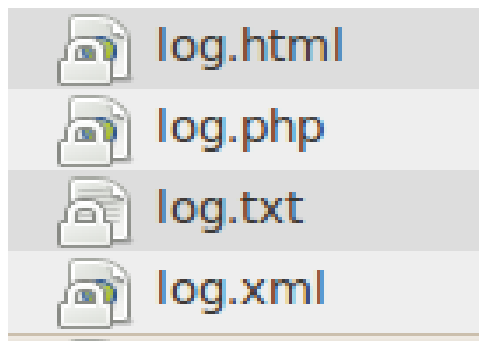
```
$user1 = $_SERVER['HTTP_USER_AGENT'];
$user2 = $_SERVER['REMOTE_ADDR'];
$user3 = date(j);
$user4 = date(w);
$user5 = date(F);
$user6 = date(Y);
$user7 = date(g);
$user8 = date(A);
$userlog = $user1." , ".$user2." , ".$user3." , ".$user4." , ".$user5." , ".$user6." , ".$user7."
" , ".$user8."; \n"; //etc u can add minutes or seconds
echo $userlog;
$filelog = "Log.txt";
$openlog = fopen($filelog,"a+");
fwrite($openlog,$userlog);
?>
```


	A	B	C	D	E	F	G	H
1	Opera/9.80 (Windows NT 6.0; U; en) Presto/2.2.15 Version/10.10	127.0.0.1	10	1	May	2010	10 PM;	
2								

- The other .csv(commma separated value) or .xls/ .ods, its very useful format to be converted to database. Above,Log.txt in can be opened in Calc/Excel
- csv can be imported to sql



- Asal format plain/text, bisa disimpan



Working with Database

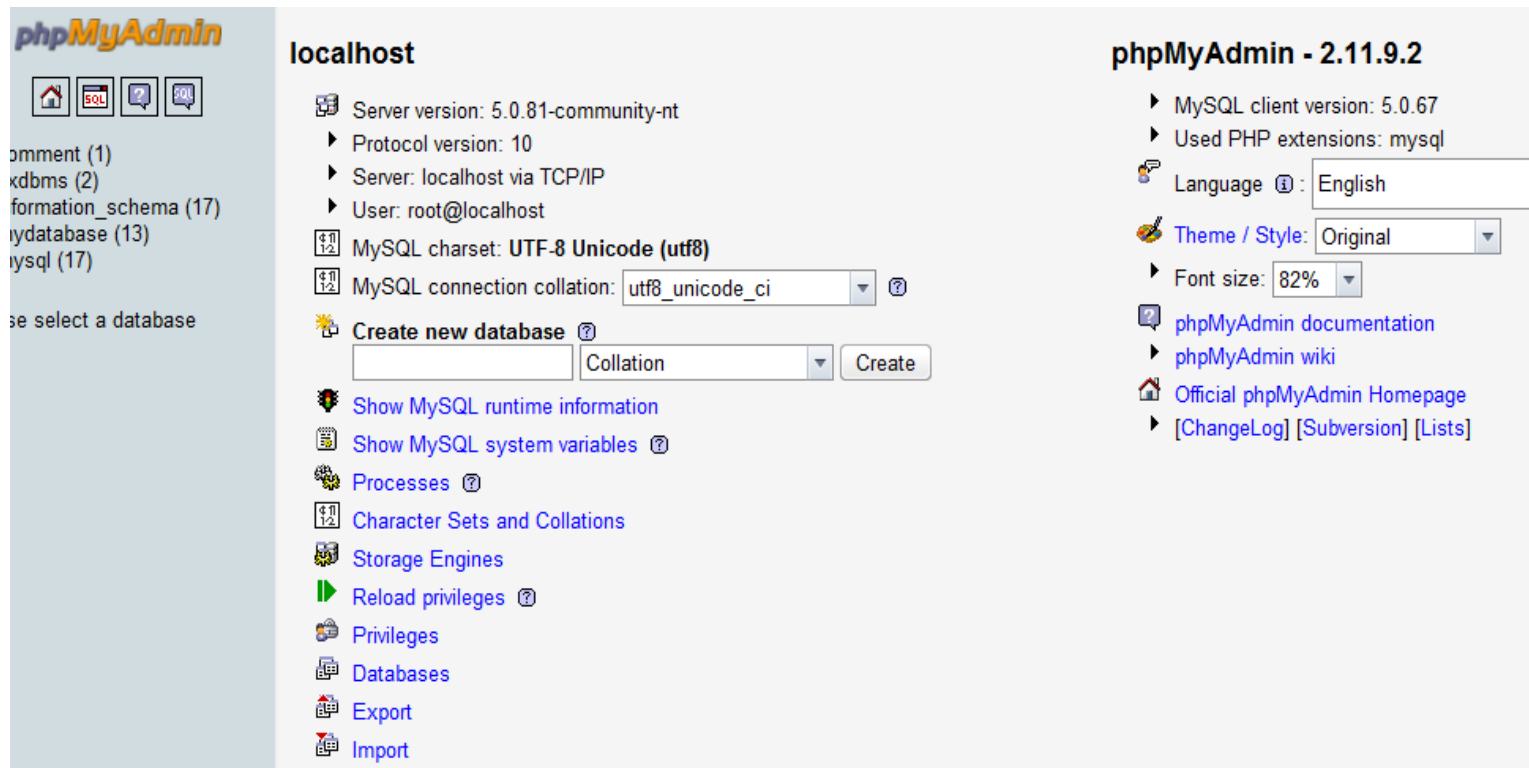
- Database here mean database server.
- PHP can work with many databases, Oracle, MSQL,MySQL, PostgreSQL, ODBC etc
- First and used to PHP/MySQL
- U have already learned Database last semester, its just review, recall it again

- Data type in MySQL

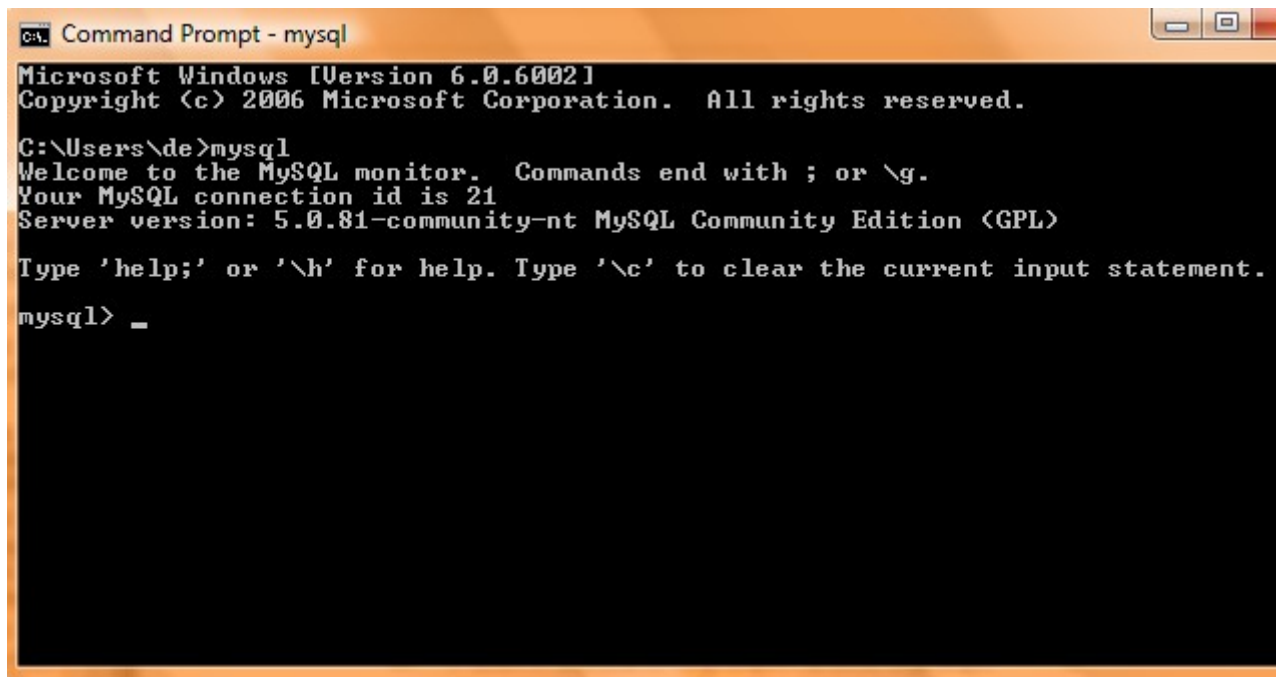
MySQL Data Types

TYPE	SIZE	DESCRIPTION
CHAR[Length]	Length bytes	A fixed-length field from 0 to 255 characters long
VARCHAR[Length]	String length + 1 or 2 bytes	A variable-length field from 0 to 65,535 characters long
TINYTEXT	String length + 1 bytes	A string with a maximum length of 255 characters
TEXT	String length + 2 bytes	A string with a maximum length of 65,535 characters
MEDIUMTEXT	String length + 3 bytes	A string with a maximum length of 16,777,215 characters
LONGTEXT	String length + 4 bytes	A string with a maximum length of 4,294,967,295 characters
TINYINT[Length]	1 byte	Range of -128 to 127 or 0 to 255 unsigned
SMALLINT[Length]	2 bytes	Range of -32,768 to 32,767 or 0 to 65,535 unsigned
MEDIUMINT[Length]	3 bytes	Range of -8,388,608 to 8,388,607 or 0 to 16,777,215 unsigned
INT[Length]	4 bytes	Range of -2,147,483,648 to 2,147,483,647 or 0 to 4,294,967,295 unsigned
BIGINT[Length]	8 bytes	Range of -9,223,372,036,854,775,808 to 9,223,372,036,854,775,807 or 0 to 18,446,744,073,709,551,615 unsigned
FLOAT[Length, Decimals]	4 bytes	A small number with a floating decimal point
DOUBLE[Length, Decimals]	8 bytes	A large number with a floating decimal point
DECIMAL[Length, Decimals]	Length + 1 or 2 bytes	A DOUBLE stored as a string, allowing for a fixed decimal point
DATE	3 bytes	In the format of YYYY-MM-DD
DATETIME	8 bytes	In the format of YYYY-MM-DD HH:MM:SS
TIMESTAMP	4 bytes	In the format of YYYYMMDDHHMMSS; acceptable range ends in the year 2037
TIME	3 bytes	In the format of HH:MM:SS
ENUM	1 or 2 bytes	Short for <i>enumeration</i> , which means that each column can have one of several possible values
SET	1, 2, 3, 4, or 8 bytes	Like ENUM except that each column can have more than one of several possible values

- To access phpmyadmin of MySQL, need familiar with the interface, better always use password



- Another way to access by command line



```
Command Prompt - mysql
Microsoft Windows [Version 6.0.6002]
Copyright (c) 2006 Microsoft Corporation. All rights reserved.

C:\Users\de>mysql
Welcome to the MySQL monitor.  Commands end with ; or \g.
Your MySQL connection id is 21
Server version: 5.0.81-community-nt MySQL Community Edition <GPL>

Type 'help;' or '\h' for help. Type '\c' to clear the current input statement.

mysql> _
```

- Recall again, the basic SQL (DB courses)
- Another way, make a code with PHP to access it.
- First U need to connect to database. "localhost" just an example of server

```
$conn = mysql_connect("localhost", "root", ""); //better have passwd
if ($conn){
    echo "hmm"; //only to show have connected or not
}else{
    echo ".."; //if not connected
}
```

- As like prev chapter, PHP has built in function to handle Database included MySQL
- Ex:

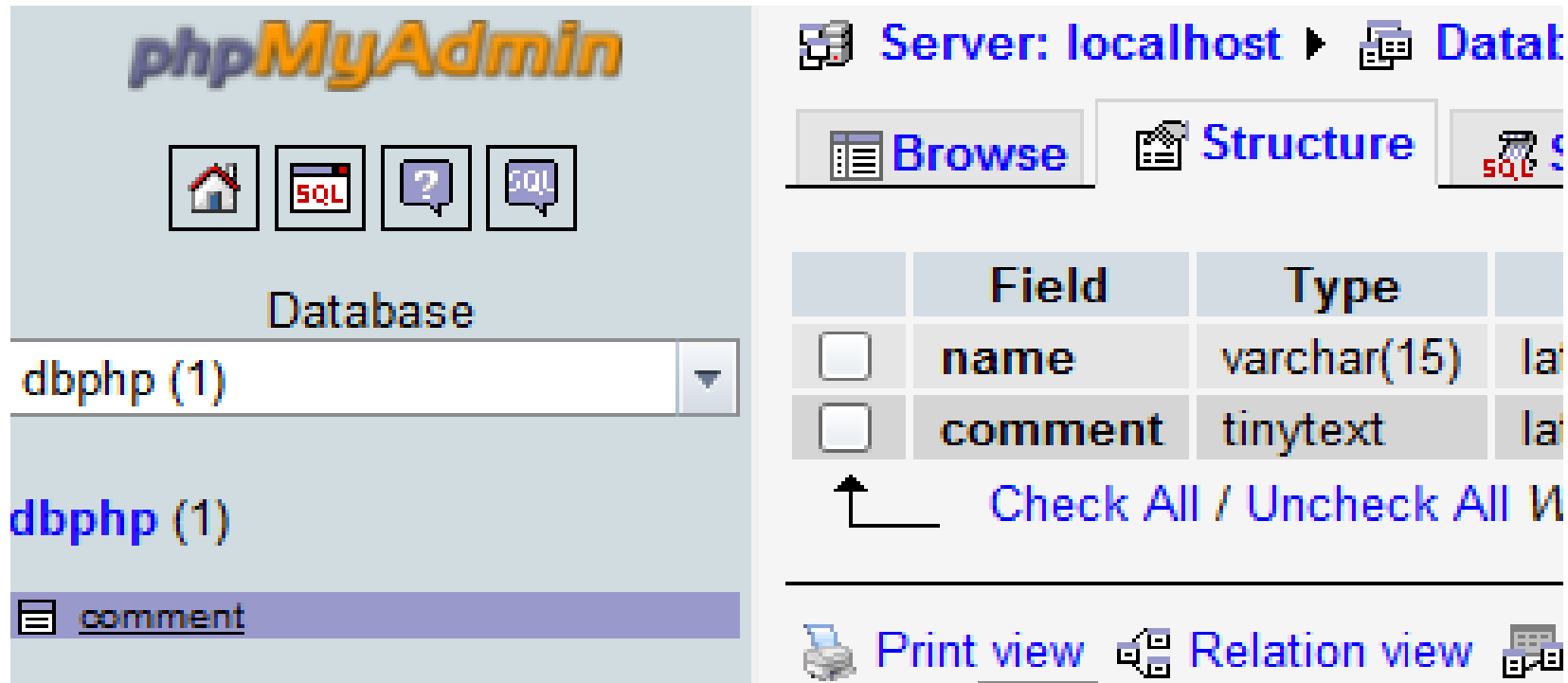
```
require('Connect.php');  
$q1 = 'CREATE DATABASE dbphp';  
$Result=mysql_query($q1,$conn);//run query  
if ($Result){  
    echo "hmm...";//only for showing success  
}else{  
    echo "...";//or not  
}
```

- dbphp (0)
- exdbms (2)

- After that query, we have database in MySQL, with the same way we can run any query in MySQL, add table, insert etc
- Ex: Table to handle input comment in the prev ex (working with file)

```
$q2 = "CREATE TABLE `dbphp`.`comment`  
(`name` VARCHAR( 15 ) NOT NULL ,  
`comment` TINYTEXT NOT NULL )";//or U can make it direct to phpmyadmin  
$Result2=mysql_query($q2,$conn);  
if ($Result2){  
    echo "hmm...";//only for showing success  
}else{  
    echo "...";//or not  
}
```

- Then one table exist in DB dbphp









- Before, we have comment.txt in csv format, what if we import it to this sql




- Sound good...

i Import has been successfully finished, 3 queries executed.

SQL query:

```
INSERT INTO `comment`  
VALUES (  
  'Ahmad ', ' Oke, not bad lah '  
) # Affected rows: 1  
  
INSERT INTO `comment`  
VALUES (  
  'Joko ', ' elek iki, elexxx tenan '  
) # Affected rows: 1  
  
INSERT INTO `comment`  
VALUES (  
  'Jhon ', ' guys what r u talking about?i dont understnd '  
) # Affected rows: 1
```

			name	comment
<input type="checkbox"/>			Ahmad	Oke, not bad lah
<input type="checkbox"/>			Joko	elek iki, elexxx tenan
<input type="checkbox"/>			Jhon	guys what r u talking about?i dont understnd

↑ Check All / Uncheck All With selected:   

- Ex: Another simple database, Register Member
- Make the form input

Fullname:

Email :

User_ID :

Password: Retype :

- and then make table to store the input

- First, make functions to handle error and simple validation input (prev chaptrs, string, email validation etc)
- These just example, Val empty data

```
function IfEmpty(){
    if (empty($_REQUEST['fn'])){
        echo "Need fullname<br>";
    }
    if (empty($_REQUEST['email'])){
        echo "Need valid email<br>";
    }
    if (empty($_REQUEST['id'])){
        echo "Need user id<br>";
    }
    if (empty($_REQUEST['pass'])){
        echo "Need password<br>";
    }
    if (empty($_REQUEST['pass2'])){
        echo "Please retype password<br>";
    }
}
```

- Or Match password and retype it

```
function MatchPass() {  
    if (isset($_REQUEST['pass'])!=isset($_REQUEST['pass2'])) {  
        echo "The password did not match<br>";  
    }  
}
```

- Email Validation

```
function EmailVal() {  
    if (isset($_REQUEST['email'])) {  
        $e = $_REQUEST['email'];  
        if(!ereg("^.+@.+\\.\\.+$", $e)) {  
            echo "Please input the valid email";  
        }  
    }  
}
```



- The others: strong/weak pass, direct email etc

- The important one is make sure no double user_id (key)

```
function NoDoubleID(){
    if (isset($_REQUEST['id'])){
        $conn = mysql_connect("localhost", "root", "");
        mysql_select_db("dbphp");
        $q = 'SELECT user_id FROM member';
        $R = mysql_query($q);
        $data = mysql_fetch_row($R); $c_data = count($data);
        for ($i = 0; $i <= $c_data - 1; $i++){
            if ($_REQUEST['id'] == $data[$i]) {
                echo "User id already exist, try another one";
            }
        }
    }
}
```

- Or U can make array of error, if array of error is empty then go to next process

- Look, i already have one user_id

	fullname	email	user_id	password
<input type="checkbox"/>  	Harjono	har@harjono.net	hajhaj	harHaj*

- input the same user id, error

Fullname:

Email :

User_ID :

Password: Retype :

User id already exist, try another one

- Produce array error, by adding each validation function as follow:

```
if (empty($_REQUEST['fn'])) {  
    echo "Need fullname<br>";  
    $error[]=array("Need fullname");  
}  
if (empty($_REQUEST['email'])) {  
    echo "Need valid email<br>";  
    $error[]=array("Need valid email");  
}
```

- etc, in all validation line
- Store the data if no error

- SavetoDB.php (simple one)

```
include('Ifempty.php');
require('Connect.php');
if(isset($_POST['send'])) {
    error(); //all handle error function
    if (empty($error)) { //no error validation
        $v1 = $_REQUEST['fn'];
        $v2 = $_REQUEST['email'];
        $v3 = $_REQUEST['id'];
        $v4 = $_REQUEST['pass2']; //to make easier in writing query
        $q = "INSERT INTO `dbphp`.`member` (
            `fullname` ,
            `email` ,
            `user_id` ,
            `password`
        )
        VALUES (
            '$v1', '$v2', '$v3', '$v4'
        )"; //insert data to database
        $conn;
        mysql_query($q);
        echo "Thanks";
    }
}
```

- Input no error data

Fullname:

Email :













User_ID :





Password: Retype :





<input type="checkbox"/>			Ana	a@a.com	ana	ah**_na
<input type="checkbox"/>			Harjono	har@harjono.net	hajhaj	harHaj*
<input type="checkbox"/>			Gayus Tambunan	gay@yus.net	markus	12345

The other simple ex

- 2 tables

<input type="checkbox"/>	DataMember							4	InnoDB	latin1_swedish_ci	16.0 KiB	-
<input type="checkbox"/>	Member							4	InnoDB	latin1_swedish_ci	16.0 KiB	-

	Browse		Structure		SQL		Search
<input type="checkbox"/>	Field	Type	Collation				
<input type="checkbox"/>	<u>Id</u>	varchar(10)	latin1_swedish_ci				
<input type="checkbox"/>	Pwd	varchar(10)	latin1_swedish_ci				

	Browse		Structure		SQL		Search
<input type="checkbox"/>	Field	Type	Collation				
<input type="checkbox"/>	<u>Id</u>	varchar(10)	latin1_swedish_ci				
<input type="checkbox"/>	Name	varchar(20)	latin1_swedish_ci				
<input type="checkbox"/>	Addr	varchar(40)	latin1_swedish_ci				

- Semua operasi database tidak jauh berbeda, yang paling membedakan adalah script SQL nya
- Whether for add, delete, edit or delete
- Whether for single database or more (a bit rare but possible)
- Whether for one table or more

- Few example of query (sudah dipelajari di DBMS's course)

```
include 'DB.php';
```

```
$query1 = "SELECT * FROM Member"; //retrieve semua row di tabel Member  
$data = mysql_query($query1);
```

Member

Id_Member	Password
a1b2c3	3c2b1a
abc123	123abc
goes*	*goes
var999	999var

```
include 'DB.php';
```

```
$query1 = "SELECT * FROM Member"; //retrieve semua row di tabel Member
```

```
$query2 = "SELECT * FROM DataMember"; //retrieve semua arow di table DataMember
```

```
+
```

Data Member

Id_Member	Name	Address
a1b2c3	Ani	Sragen
abc123	Ana	Jebres
goes*	Viva	Klaten
var999	Vivi	Sukoharjo

```
$query3 = "SELECT *  
          FROM Member, DataMember  
          WHERE Member.Id = DataMember.Id"; //gabungan dua tabel
```

Data Member

Id_Member	Password	Id_Member	Name	Address
a1b2c3	3c2b1a	a1b2c3	Ani	Sragen
abc123	123abc	abc123	Ana	Jebres
goes*	*goes	goes*	Viva	Klaten
var999	999var	var999	Vivi	Sukoharjo


```
$query4 = "SELECT *  
          FROM Member  
          NATURAL JOIN DataMember  
          WHERE Member.Id = DataMember.Id"; //dengan natural join
```

Data Member

Id_Member	Password	Name	Address
a1b2c3	3c2b1a	Ani	Sragen
abc123	123abc	Ana	Jebres
goes*	*goes	Viva	Klaten
var999	999var	Vivi	Sukoharjo

```
$query4 = "SELECT *  
FROM DataMember  
NATURAL JOIN Member  
WHERE Member.Id = DataMember.Id";//dengan natural join reverse order
```

Data Member

Id_Member	Name	Address	Password
a1b2c3	Ani	Sragen	3c2b1a
abc123	Ana	Jebres	123abc
goes*	Viva	Klaten	*goes
var999	Vivi	Sukoharjo	999var

- dll, sangat luas yang paling membedakan dalam operasi database hanya query nya. Hal yang sama untuk delete, edit dll

A bit modification

```
for ($i=0;$i<$numrow;$i++){
    $row=mysql_fetch_row($data);
    $num = count($row);
    echo "<tr class=c2>";
    for ($j=0;$j<$num;$j++){
        echo "<td><font>".($row[$j])."</font></td>";
    }
    echo "<td><a href=\"del.php?id=$row[0]\">Delete</a></td>";
    echo "<td><a href=\"edit.php?id=$row[0]\">Edit</a></td>";
    echo "<td><a href=\"backup.php?id=$row[0]\">Backup</a></td></tr>"; //mengirim data lewat URL
}
echo "</table>";|
```

Data Member

Id Member	Password	Name	Address	Operation		
a1b2c3	3c2b1a	Ani	Sragen	Delete	Edit	Backup
abc123	123abc	Ana	Jebres	Delete	Edit	Backup
goes*	*goes	Viva	Klaten	Delete	Edit	Backup
var999	999var	Vivi	Sukoharjo	Delete	Edit	Backup

- or

Data Member

Id_Member	Password	Name	Address	Operation
a1b2c3	3c2b1a	Delete	Edit	Backup
abc123	123abc	Delete	Edit	Backup
goes*	*goes	Delete	Edit	Backup
var999	999var	Delete	Edit	Backup

```
//del.php
```

```
include 'DB.php';
```

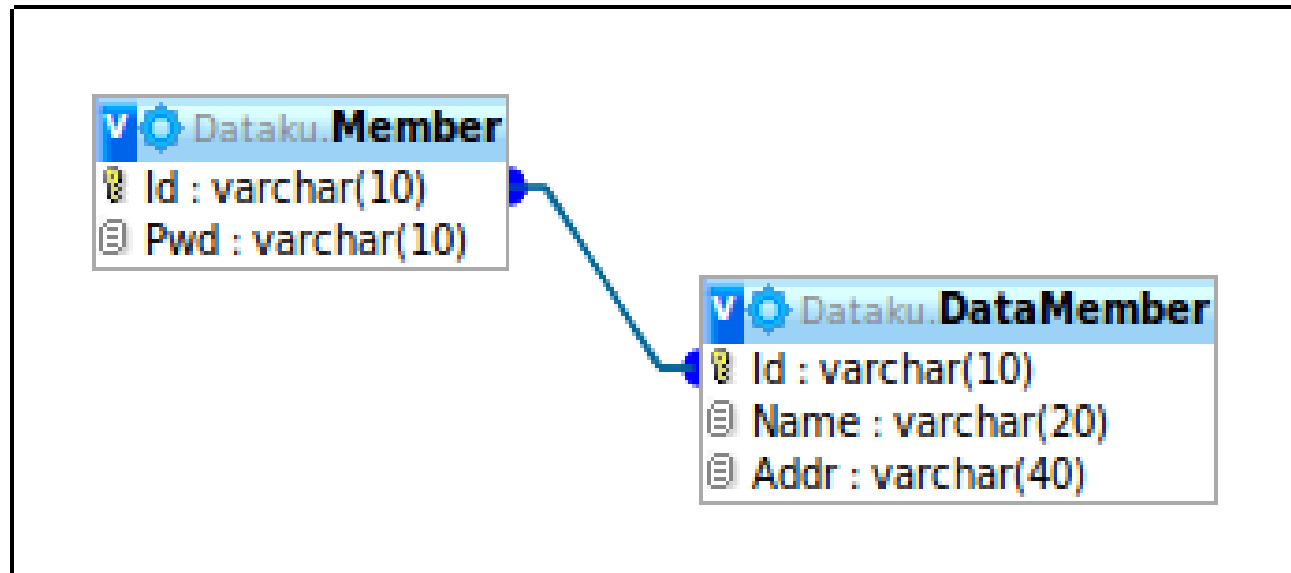
```
$q = "DELETE FROM Member WHERE Id = '$_GET[id]'"; //GET untuk mengambil data dari URL  
$didel=mysql_query($q);  
header("location:http://localhost/WPCourse/database.php");
```

- After click "delete" then flow going to located Header (database.php)

Data Member

Id_Member	Password	Name	Address	Operation
abc123	123abc	Delete	Edit	Backup
goes*	*goes	Delete	Edit	Backup
var999	999var	Delete	Edit	Backup

Aware the relationship



- Recall about CASCADE or RESTRICT for delete and update

Data Member

Id_Member	Password	Name	Address	Operation		
a1b2c3	3c2b1a	Ani	Sragen	Delete	Edit	Backup
abc123	123abc	Ana	Jebres	Delete	Edit	Backup
goes*	*goes	Viva	Klaten	Delete	Edit	Backup
var999	999var	Vivi	Sukoharjo	Delete	Edit	Backup

Data Member

Id_Member	Password	Name	Address	Operation		
abc123	123abc	Ana	Jebres	Delete	Edit	Backup
goes*	*goes	Viva	Klaten	Delete	Edit	Backup
var999	999var	Vivi	Sukoharjo	Delete	Edit	Backup

- Lakukan hal yang sama dengan "edit" or "backup"
- Backup ini bukan backup database keseluruhan, special purpose
- Dont forget to make database untuk backup (used to full copy the structure)

	Field	Type	Collation	Attributes	Null	Default	Extra	
<input type="checkbox"/>	<u>Id</u>	varchar(10)	latin1_swedish_ci		No	None		
<input type="checkbox"/>	Name	varchar(20)	latin1_swedish_ci		No	None		
<input type="checkbox"/>	Addr	varchar(40)	latin1_swedish_ci		No	None		

- To show backup

```
include 'DBB.php';
$query1 = "SELECT * FROM Member"; //retrieve semua row di tabel Member
$query2 = "SELECT * FROM DataMember"; //retrieve semua arow di table DataMember
$data1 = mysql_query($query1); $numrow1 = mysql_num_rows($data1); //jumlah row data
$data2 = mysql_query($query2); $numrow2 = mysql_num_rows($data2); //jumlah row data
echo "<h2>". "Table Member". "</h2>";
echo "<table><tr class=c1><td><font>". "Id_Member". "</font></td>".
"<td><font>". "Password". "</font></td></tr>";
for ($i=0; $i<$numrow1; $i++){
    $row=mysql_fetch_row($data1);
    $num = count($row);
    echo "<tr class=c2>";
    for ($j=0; $j<$num; $j++){
        echo "<td><font>". ($row[$j]). "</font></td>";
    }
}
echo "</table>"; //show tabel Member
echo "<h2>". "Table Data Member". "</h2>";
echo "<table><tr class=c1><td><font>". "Id_Member". "</font></td>".
"<td>Name</font></td><td>".
"Address". "</td></tr>"; //show tabel DataMember
for ($i=0; $i<$numrow2; $i++){
    $row=mysql_fetch_row($data2);
    $num = count($row);
    echo "<tr class=c2>";
    for ($j=0; $j<$num; $j++){
        echo "<td><font>". ($row[$j]). "</font></td>";
    }
}
echo "</table>";
```

- Then backup just like INSERT of SQL operation

```
include 'DBB.php';  
  
$q = "INSERT INTO Member(Id) VALUE('$_GET[id]')"; //GET untuk mengambil data dari URL  
$didel=mysql_query($q);  
header("location:http://localhost/WPCourse/showbackup.php");
```

Table Member

Id_Member	Password
abc123	

Table Data Member

Id_Member	Name	Address
------------------	-------------	----------------

- A bit modification

```
//backup.php
```

```
include 'DB.php';
$data=mysql_query("SELECT * FROM Member WHERE Id = '$_GET[id]' ");
$numrow = mysql_num_rows($data);
echo "Data Member Id=$_GET[id]";
echo "<form method=POST action=dibackup.php>";
$row=mysql_fetch_row($data);
$num = count($row);
    echo "<br>Id :<input type=text name=id value=" . $row[0] . ">";
    echo "<br>Pwd :<input type=text name=pwd value=" . $row[1] . ">";
    echo "<br><input type=SUBMIT value=backup name=sub_backup></form>";
```

Data Member Id=abc123

Id :

Pwd :

```
include 'DBB.php';  
$q = "INSERT INTO Member(Id,Pwd) VALUES('$_POST[id]','$_POST[pwd]')";  
$dibackup=mysql_query($q);  
header("location:http://localhost/WPCourse/showbackup.php");
```

Table Member

Id_Member	Password
abc123	123abc

Table Data Member

Id_Member	Name	Address
-----------	------	---------

[Back to Database](#)

- Same with edit, a bit modification

```
//edit.php

include 'DB.php';
$data=mysql_query("SELECT * FROM Member WHERE Id = '$_GET[id]' ");
$numrow = mysql_num_rows($data);
echo "Data Member Id=$_GET[id]";
echo "<form method=POST action=diedit.php>";
$row=mysql_fetch_row($data);
$num = count($row);
    echo "<br>Id :<input type=text name=id value=" . $row[0] . ">";
    echo "<br>Pwd :<input type=text name=pwd value=" . $row[1] . ">";
    echo "<br><input type=SUBMIT value=edit name=sub_edit></form>";//for edit
```

Data Member Id=abc123

Id :

Pwd :

```
//diedit.php

include 'DB.php';
$q = "UPDATE Mem SET Id='$_POST[id]', Pwd='$_POST[pwd]'";
$diedit=mysql_query($q);
header("location:http://localhost/WPCourse/database.php");
```

- The same way if U want to do the other database process, delete, or edit
- Just use the query, and let PHP built in function handle it
- PHP also can handle the result of query.
Pagination (learn it by Urself)

- Of course, there are still many validation again, U can try as exercise by Urself, depend on the application and the goal
- It was in general, using MySQL with PHP
- It was only a simple example
- You can try with the other database servers

NOTE: built in function need to learned (string, number, date/time, array, **file**, **MySQL**)

- Array of error also can become log error registration.
- Can be added random sign, a kind of captcha to make sure the register is a kind of "human", just in time the registration page release, the sign be showed (as follow just a simple ex, as a function)

```
| function Sign(){  
  $input = array("0","1","2","3","4","5","6","7","8","9","a","b","c","d","e","f","g","h","i","j","k","l","m","n",  
    "o","p","q","r","s","t","u","v","w","x","y","z","A","B","C","D","E","F","G","H","I","J","K","L","M","N","O",  
    "P","Q","R","S","T","U","V","W","X","Y","Z");  
  $rand_keys = array_rand($input, 7);  
  $char = $input[$rand_keys[0]].$input[$rand_keys[1]].$input[$rand_keys[2]].$input[$rand_keys[3]].$input[$rand_keys[4]].  
  $input[$rand_keys[5]].$input[$rand_keys[6]];  
  echo $char;  
}
```

- User have to input the same random sign the same as the produced sign in server side
- Modify the form, put the function as value of textarea

```
<form name="f" method="post" action="SavetoDB.php">
Fullname: <input name="fn" type="text" size="30"><br><br>
Email   : <input name="email" type="text" size="30"><br><br>
User_ID : <input name="id" type="text" size="30"><br><br>
Password: <input name="pass" type="password" size="15">
Retype  : <input name="pass2" type="password" size="15"><br><br>
Input below sign <input name="sign" type="text" size="10"><br><br>
<textarea name="textsign" readonly><?Sign() ?></textarea>
<br><br>
<input name="send" type="submit" value="submit">
</form>
```

- Dont forget to "require" Random.php in this webpage file.
- 7 signs be showed
- Of course, add the validation input data and modify to handle the input data

Fullname:

Email :

User_ID :

Password: Retype :

Input below sign