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


```
<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>
```

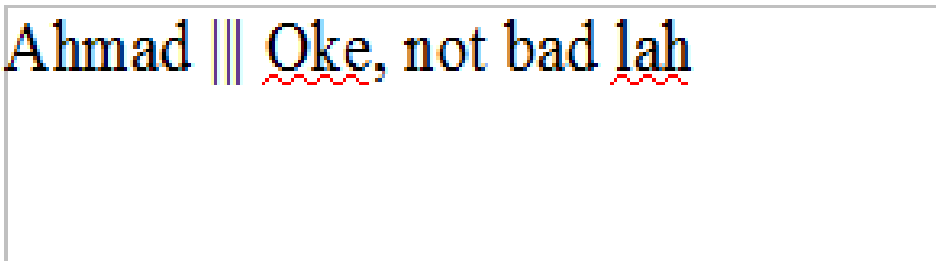
- SaveFormtoTxt.php

```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 Oke, not bad lah
  send

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

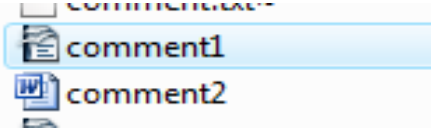


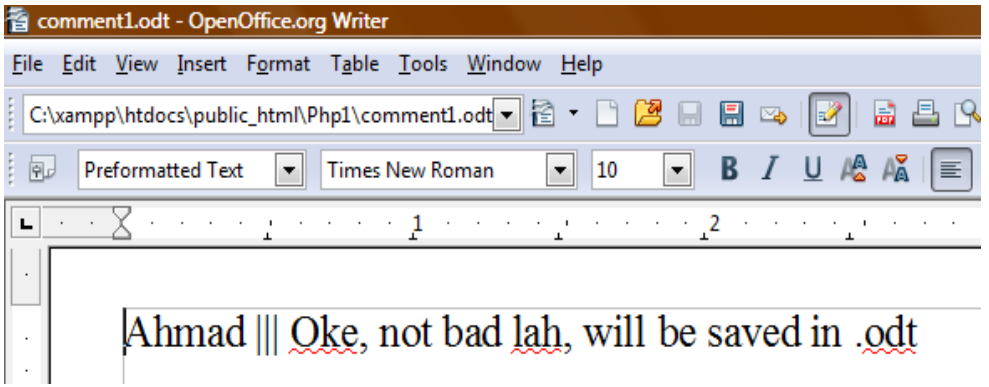
- Another ext (ex: .odt or .doc)

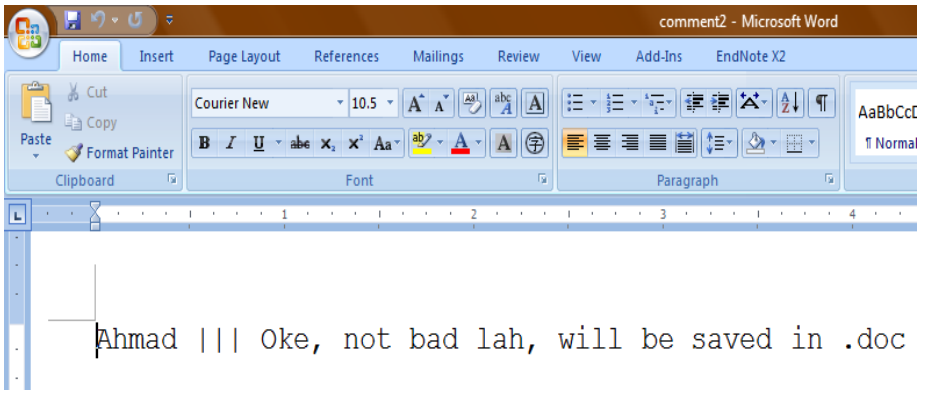
```
$filecomment = "comment1.odt";
$name = strip_tags($_REQUEST['nama'])
```

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

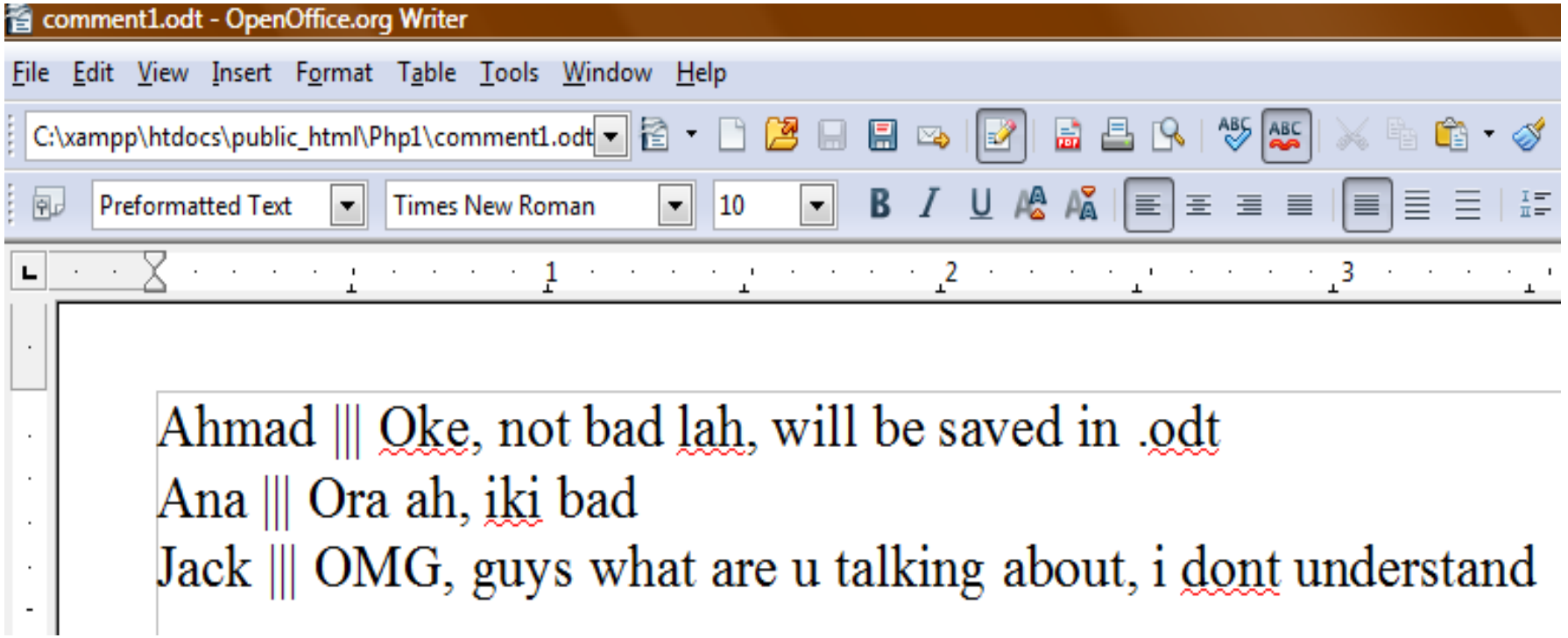
- U will have







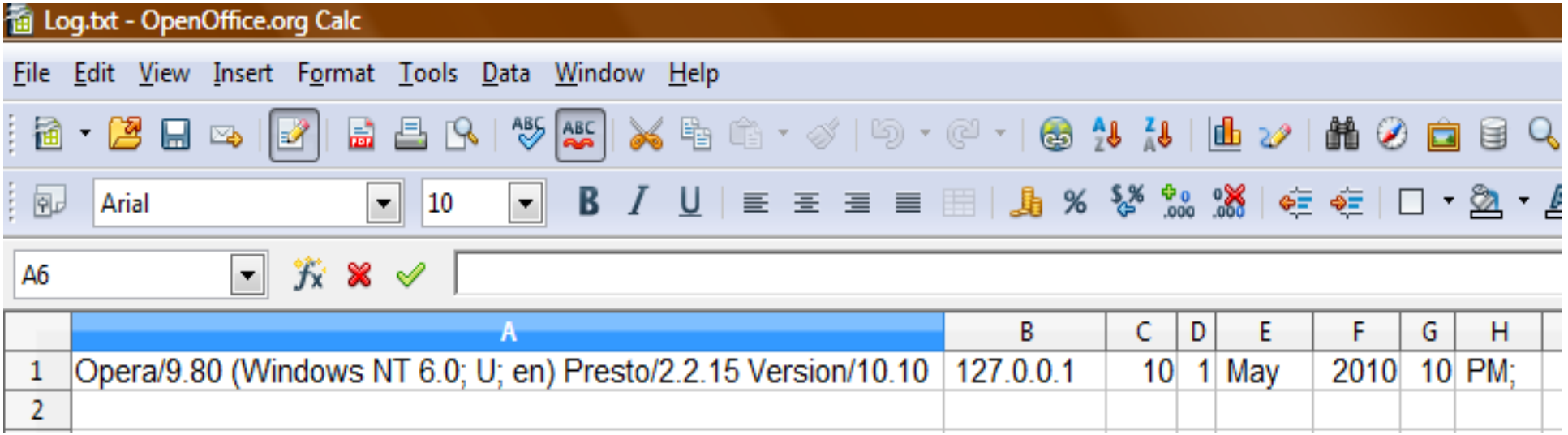
- Add several input data



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

- Another ex: make simple log

```php
$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								

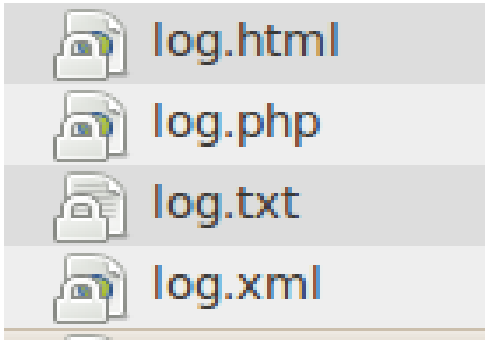
- The other .csv(comma separated value) or .xls/ .ods, its very useful format to be converted to database. Above,Log.txt in can be opened in Calc/Excel
- csv can be imported to sql

Mozilla/5.0 (X11; U; Linux i686; en-US; rv:1.9.2.16) Gecko/20110323 Ubuntu/10.04 (lucid) Firefox/3.6.16,::1,17,0,April,2011,10,PM;

log.txt

```
Mozilla/5.0 (X11; U; Linux i686; en-US; rv:1.9.2.16) Gecko/20110323 Ubuntu/10.04 (lucid) Firefox/3.6.16,::1,17,0,April,2011,10,PM;
Mozilla/5.0 (X11; U; Linux i686; en-US; rv:1.9.2.16) Gecko/20110323 Ubuntu/10.04 (lucid) Firefox/3.6.16,::1,17,0,April,2011,10,PM;
Mozilla/5.0 (X11; U; Linux i686; en-US; rv:1.9.2.16) Gecko/20110323 Ubuntu/10.04 (lucid) Firefox/3.6.16,::1,17,0,April,2011,10,PM;
```

- Asal format plain/text, bisa disimpan



Show and extd operations

- A bit modification

Working with Database

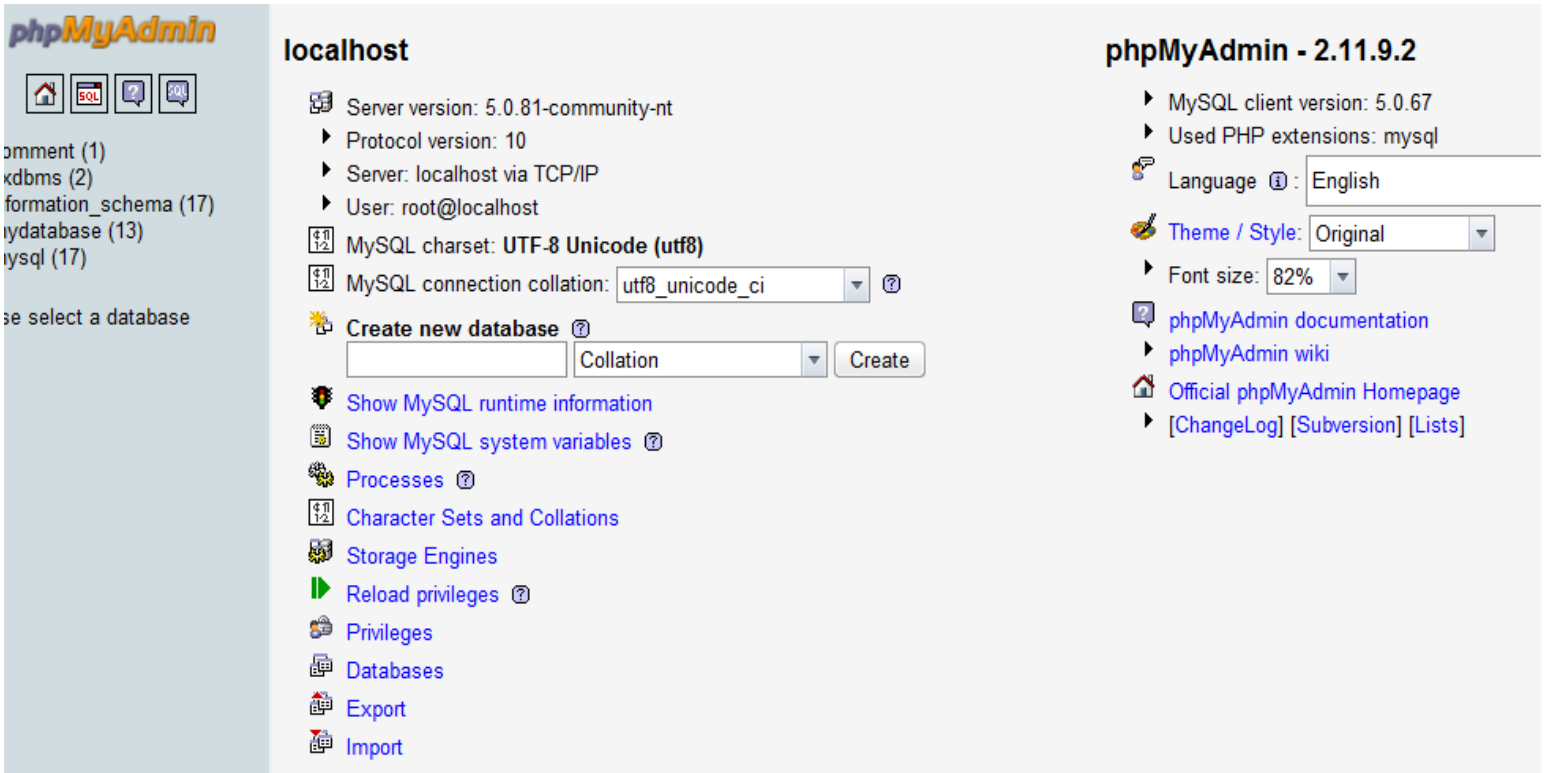
- Database here mean database server.
- PHP can work with many databases, Oracle, MSQL,MySQL, PostgreSQL, ODBC etc
- First and used to PHP/MySQL
- U have already learned Database last semester, its just review, recall it again

- Data type in MySQL

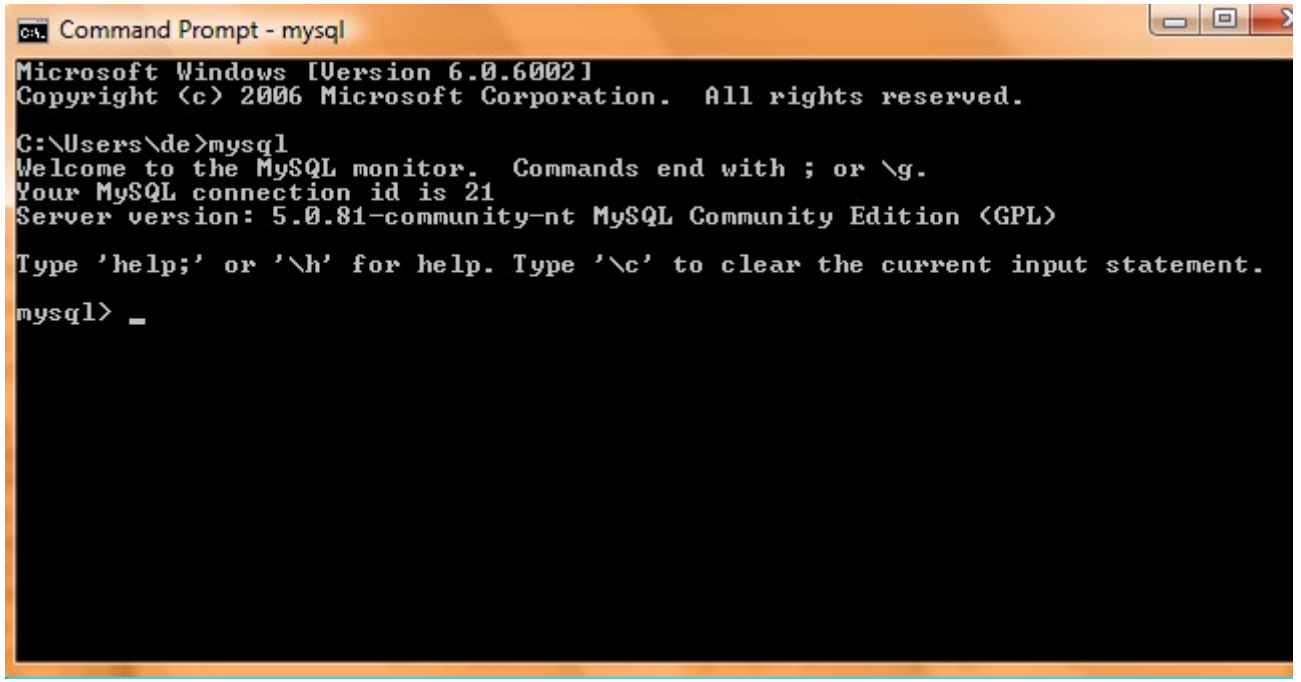
MySQL Data Types

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 *enumeration*, 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



- 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

```php
$conn = mysql_connect("localhost", "root", "");//better have passwrd
if ($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:

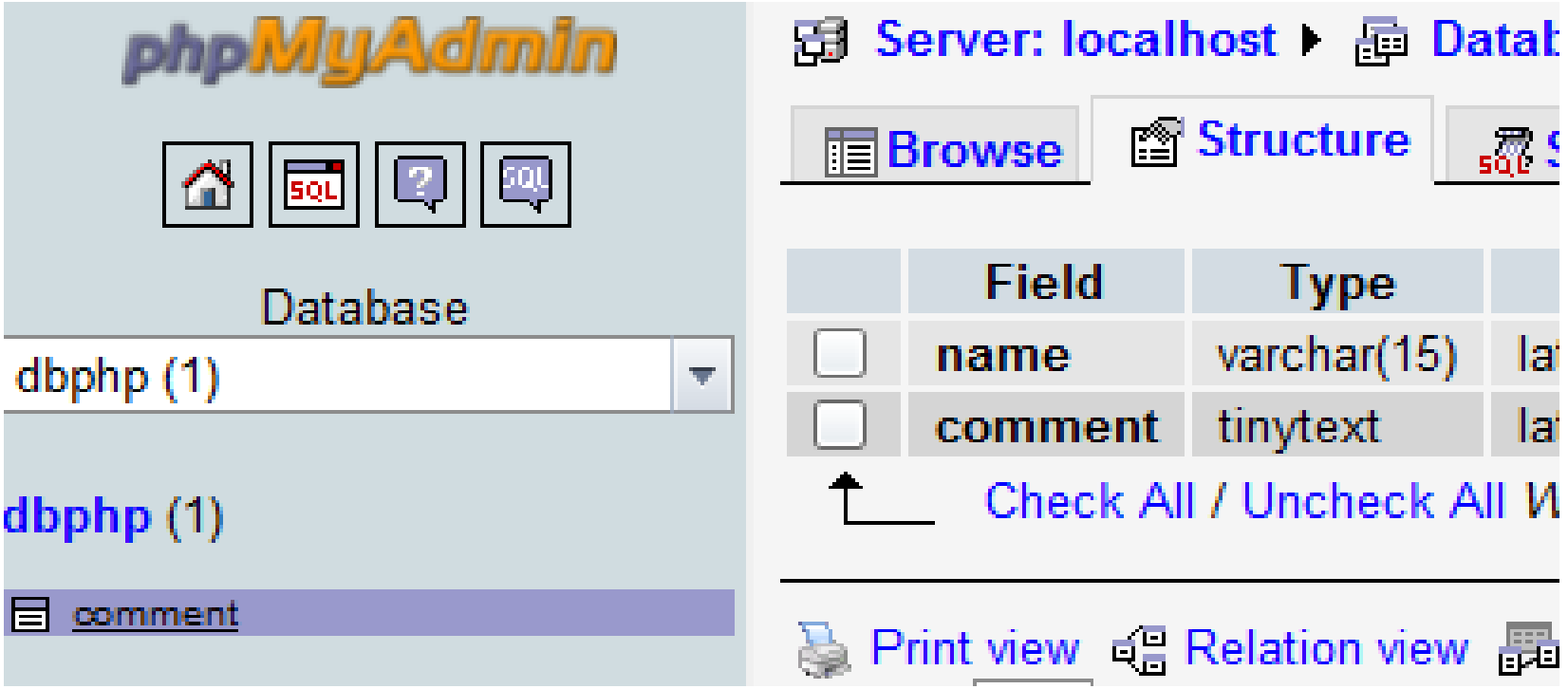
```php
require('Connect.php');
$q1 = 'CREATE DATABASE dbphp';
$Result=mysql_query($q1,$conn);//run query
if ($Result){
    echo "hmm...";//only for showing success
}else{
    echo "...";//or not
}
```

- 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...

Import has been successfully finished, 3 queries executed.

SQL query:

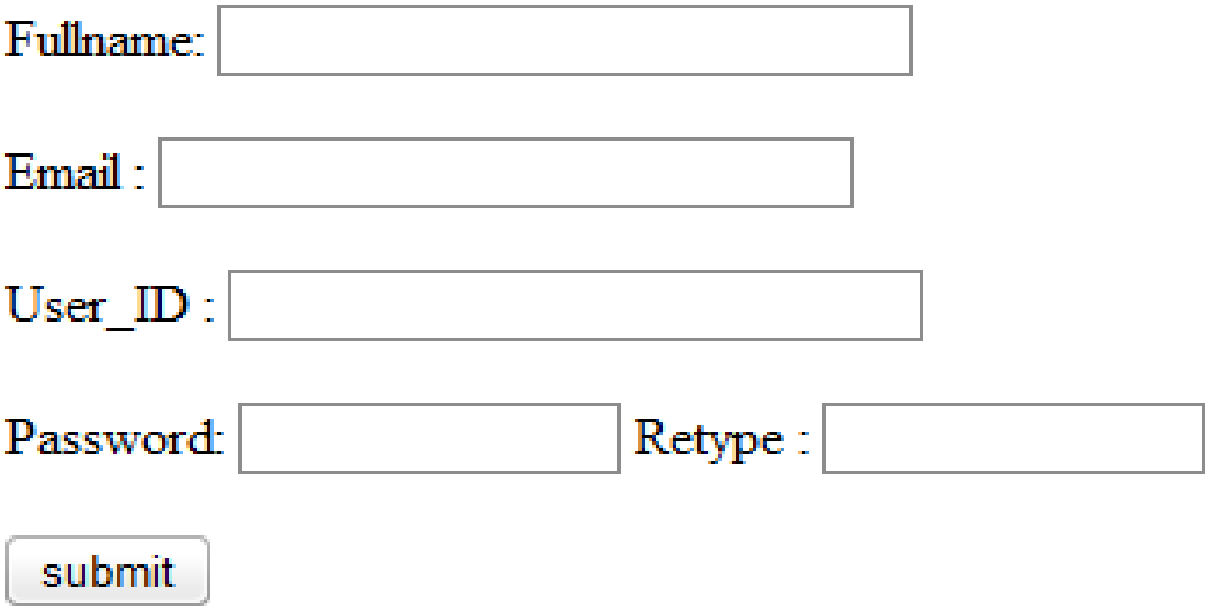
```
INSERT INTO `comment`
VALUES (
  'Ahmad ', ' Oke, not bad lah '
) # Affected rows: 1

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
	Ahmad	Oke, not bad lah
	Joko	elek iki, elexxx tenan
	Jhon	guys what r u talking about?i dont understnd

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



- 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";
        }
    }
}
```

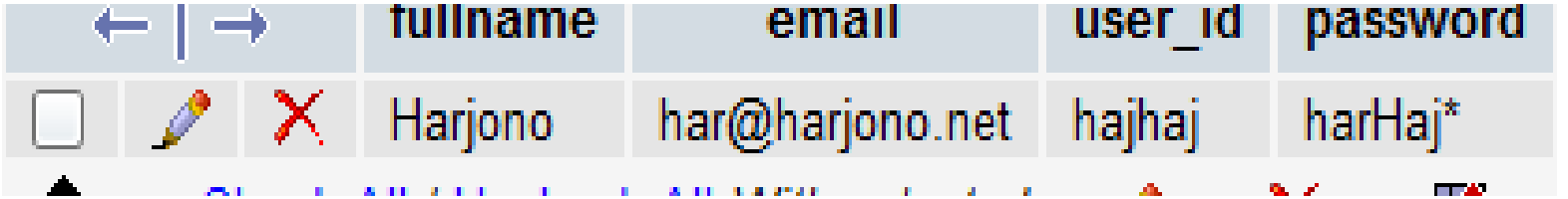
- The others:strong/weak pass,direct email etc

- 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
Harjono	har@harjono.net	hajhaj	harHaj*

- input the same user id, error

Fullname: Haj Zidane

Email : zidane@zi.net

User_ID : hajhaj

Password: ******* Retype : *******

submit

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)

```php
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: Gayus Tambunan

Email : gay@yus.net

User_ID : markus

Password: ***** Retype : *****

submit

☐	✎	✕	Ana	a@a.com	ana	ah**_na
☐	✎	✕	Harjono	har@harjono.net	hajhaj	harHaj*
☐	✎	✕	Gayus Tambunan	gay@yus.net	markus	12345

The other simple ex

- 2 tables

☐	**DataMember**							4	InnoDB	latin1_swedish_ci	16.0 KiB	-
☐	**Member**							4	InnoDB	latin1_swedish_ci	16.0 KiB	-

Browse | Structure | SQL | Searc

	Field	Type	Collation
☐	**Id**	varchar(10)	latin1_swedish_ci
☐	**Pwd**	varchar(10)	latin1_swedish_ci

Browse | Structure | SQL | Search

	Field	Type	Collation
☐	**Id**	varchar(10)	latin1_swedish_ci
☐	**Name**	varchar(20)	latin1_swedish_ci
☐	**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)

```php
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

```php
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

- 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