

Chapter 5: MySQL Basics & DB Connectivity

Course : Web Engineering with Lab

Course code: CIS 331 & 331L

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INTRODUCTION

- In order to have really **full featured application**. We are going to need to **incorporate a database**.
- We can store lots of information in database, **search through it**. **Added it, updated**. Keep it there for long period of time. There are so many benefits of using database.

CRUD

- CRUD is acronym and it stands for...

CRUD

Create, Read, Update, Delete

- These are the basic operations perform on the data base.

SQL SELECT (Read)

- Format:

- `SELECT` * `FROM` `table`

`WHERE` column1 = 'some_text'

`ORDER BY` column1, column2 `ASC`;

SQL INSERT (Create)

- Format:
- `INSERT INTO` table (column1, column2, column3) `VALUES` (val1, val2, val3);

SQL UPDATE (Update)

- Format:

- UPDATE table

SET column1 = 'some_text'

WHERE id = 1;

SQL DELETE (Delete)

- Format:
- `DELETE FROM` table
`WHERE` id = 1;

PHP with MySQL

PHP Database Interaction in FIVE steps

1. Create a database connection
2. Select a database to use
3. Perform database query
4. Use returned data (if any)
5. Close connection

COMMONLY USED FUNCTIONS

- `mysql_connect("hostname", "user", "pass");`

Connects to MySQL server.

- `mysql_select_db("database name", "handle");`

Selects a database to use.

- `mysql_query("query");`

Execute database query

- `mysql_num_rows(result variable);`

Return number of rows, after execution of query

- `mysql_fetch_array`("result variable from query");



Used to return several rows of the entire results of a database query

- `mysql_fetch_assoc`("result variable from query")



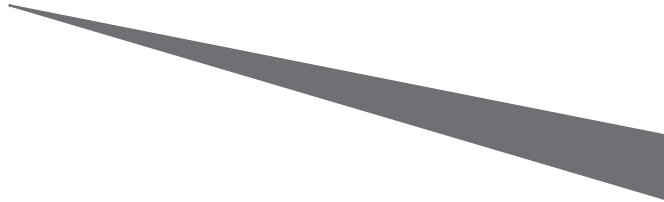
Used to return several rows of the entire results of a database query

- `mysql_error();`



Shows the error message that has been returned directly from MySQL server.

- `md5(string);`



It uses is to encrypt a string. It returns 32 characters hexadecimal number

md5()

- Example:

```
$str = "Hello";  
echo md5($str);
```

- Output:

8bla9953c4611296a827abf8c47804d7

STEP 1

- `<?php`

`// 1. Create a database connection`

```
$connection = mysql_connect("localhost", "root", "password");
```

```
    if (!$connection) {
```

```
        die("Database connection failed: " . mysql_error());
```

```
    }
```

```
?>
```

```
<html>
```

```
    ...
```

```
</html>
```

this function returns a value, that will stored in `$connection`. That value is called handle.

STEP 2

- `<?php`

`// 1. Create a database connection`

```
$connection = mysql_connect("localhost", "root", "password");  
  
if(!$connection) {  
    die("Database connection failed: " . mysql_error());  
}
```

`// 2. Select a database to use`

```
$db_select = mysql_select_db("widget_corp", $connection);  
  
if(!$db_select) {  
    die("Database selection failed: " . mysql_error());  
}
```

`?>`

`<html>`

`...`

`</html>`

STEP 3

- Step 1 (create a database connection)
- Step 2 (select a database to use)
- <html>

<head></head>

<body>

<?php

// 3. Perform database query

```
$result = mysql_query("SELECT * FROM subjects",  
                      $connection);
```

```
if (!$result) {
```

```
    die("Database query failed: " . mysql_error());
```

```
}
```

?>

</body>

</html>

STEP 4

- <html>

...

<?php

// 3. Perform database query

```
$result = mysql_query("SELECT * FROM subjects", $connection);
```

```
if (!$result) {
```

```
    die("Database query failed: " . mysql_error());
```

```
}
```

// 4. Use returned data

```
while ($row = mysql_fetch_array($result)) {
```

```
    echo $row[1] . " " . $row[2] . "<br />";
```

```
}
```

?>

</html>

STEP 5

- Step 1
- Step 2
- <html>

<head></head>

<body>

Step 3

Step 4

</body>

</html>

<?php

// 5. Close connection

mysql_close(\$connection);

?>

EXAMPLE

- Create a database name `school` in MySQL.
- Create a table name `result`, with following fields `sId`, `sName` and `Marks`.
- Create a file name `connection.php`

EXAMPLE: STEP 1

- Create connection

```
<?php
```

```
    // 1. create a connection
```

```
$connection = mysql_connect("localhost","root","");
```

```
if(!connection) {
```

```
die("database connection failed" . mysql_error());
```

```
}
```

```
?>
```

EXAMPLE: STEP 2

- `<?php`

```
// 1. Create a database connection
```

```
$connection = mysql_connect("localhost", "root", "password");
```

```
if (!$connection) {
```

```
    die("Database connection failed: " . mysql_error());
```

```
}
```

```
// 2. Select a database to use
```

```
$db_select = mysql_select_db("school", $connection);
```

```
if (!$db_select) {
```

```
    die("Database selection failed: " . mysql_error());
```

```
}
```

```
?>
```

```
<html>
```

```
...
```

```
</html>
```

EXAMPLE: STEP 3

- Step 1 (create a database connection)
- Step 2 (select a database to use)

- <html>

<head></head>

<body>

<?php

// 3. Perform database query

\$query = "SELECT * FROM result";

\$result = mysql_query(\$query, \$connection);

if (!\$result) {

 die("Database query failed: " . mysql_error());

}

if(mysql_num_rows(\$result <= 0)){

 die("No record found");

}

?>

</body>

</html>

EXAMPLE: STEP 4

- Step 1 (create a database connection)
- Step 2 (select a database to use)
- <html>

...

<?php

Step 3 (perform database query)

// 4. Use returned data

```
while ($row = mysql_fetch_array($result)) {  
    echo $row[0] . "<br />";  
    echo $row[1] . "<br />";  
    echo $row[2] . "<br />";  
}
```

?>

</html>

EXAMPLE: STEP 5

- Step 1
- Step 2
- <html>

<head></head>

<body>

Step 3

Step 4

</body>

</html>

<?php

// 5. Close connection

mysql_close(\$connection);

?>