Lesson: 09 (Database & Query)

MySQL

- MySQL is a database server and ideal for both small and large applications.
- MySQL supports standard SQL and compiles on a number of platforms.
- MySQL is free to download and use.
- PHP combined with MySQL are cross-platform (you can develop in Windows and serve on a UNIX platform).

Connection to a MySQL Database

Syntax:

mysql_connect(servername,username,password);

Parameter	Description
servername	Optional. Specifies the server to connect to. Default value is "localhost:3306"
username	Optional. Specifies the username to log in with. Default value is the name of the user that owns the server process
password	Optional. Specifies the password to log in with. Default is ""

Example "connection.php":

```php
<?php
$con = mysql_connect("localhost","root","");
if (!$con)
  {
        die('Could not connect: ' . mysql_error());
  }
 else
  {
        echo "Connected";
  }

mysql_close($con);
?>
```

Create a Database

The CREATE DATABASE statement is used to create a database in MySQL.

Syntax:

CREATE DATABASE database_name

Create a Table: The CREATE TABLE statement is used to create a table in MySQL.

Syntax:

```
CREATE TABLE table_name
(
column_name1 data_type,
column_name2 data_type,
column_name3 data_type,
....
)
```

Primary Keys and Auto Increment Fields: A primary key is used to uniquely identify the rows in a table. Each primary key value must be unique within the table. Furthermore, the primary key field cannot be null because the database engine requires a value to locate the record.

AUTO_INCREMENT automatically increases the value of the field by 1 each time a new record is added.

Example "create.php":

```php
<?php
$con = mysql_connect("localhost","root","");
if (!$con)
  {
  die('Could not connect: ' . mysql_error());
  }

// Create database
if (mysql_query("CREATE DATABASE my_db",$con))
  {
  echo "Database created";
  }
else
  {
  echo "Error creating database: " . mysql_error();
  }
```

```
// Create table
mysql_select_db("my_db", $con);
$sql = "CREATE TABLE Persons
(
personID int NOT NULL AUTO_INCREMENT,
PRIMARY KEY(personID),
FirstName varchar(15),
LastName varchar(15),
Age int
)";

mysql_query($sql,$con);

// Execute query
mysql_query($sql,$con);

mysql_close($con);
?>
```

Insert Data into a Database Table

The INSERT INTO statement is used to add new records to a database table. There are two way to insert data into database.

Syntax:

```
INSERT INTO table_name
VALUES (value1, value2, value3,...)
```

Or

```
INSERT INTO table_name (column1, column2, column3,...)
VALUES (value1, value2, value3,...)
```

Example "Lesson09.php":

```
<html>
<body>
<form action="insert.php" method="post">
Firstname: <input type="text" name="firstname" />
Lastname: <input type="text" name="lastname" />
Age: <input type="text" name="age" />
<input type="submit" />
</form>
</body>
</html>
```

Example "insert.php":

```php
<?php
$con = mysql_connect("localhost","root","");
if (!$con)
  {
  die('Could not connect: ' . mysql_error());
  }

mysql_select_db("my_db", $con);

$sql="INSERT INTO Persons (FirstName, LastName, Age)
VALUES
('$_POST[firstname]','$_POST[lastname]','$_POST[age]')";

if (!mysql_query($sql,$con))
  {
  die('Error: ' . mysql_error());
  }
echo "1 record added";

mysql_close($con)
?>
```

Select Data from a Database Table

The SELECT statement is used to select data from a database.

Syntax:

```
SELECT column_name(s)
FROM table_name
```

Example "select.php":

```php
<?php
$con = mysql_connect("localhost","root","");
if (!$con)
  {
  die('Could not connect: ' . mysql_error());
  }

mysql_select_db("my_db", $con);
```

```php
$result = mysql_query("SELECT * FROM Persons");

echo "<table border='1'>
<tr>
<th>Firstname</th>
<th>Lastname</th>
<th>Age</th>
</tr>";

while($row = mysql_fetch_array($result))
  {
  echo "<tr>";
  echo "<td>" . $row['FirstName'] . "</td>";
  echo "<td>" . $row['LastName'] . "</td>";
  echo "<td>" . $row['Age'] . "</td>";
  echo "</tr>";
  }
echo "</table>";

mysql_close($con);
?>
```