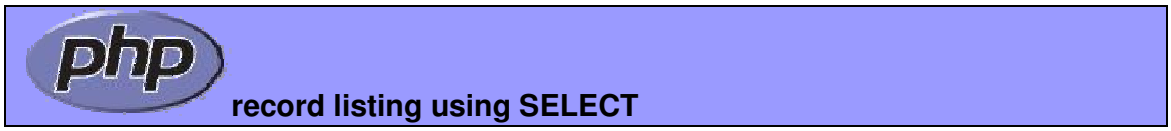


record listing using SELECT

(Disclaimer: This tutorial is based on XAMPP version 1.6.4. The result may vary if you're using different version of XAMPP).

Connect to MySQL database server, and the database using mysqli_ functions.

```
$db=mysqli_connect("localhost","root","abc123","mycompanyhr");
```

The database server address
The username for the database server
Password for the username
The database name used

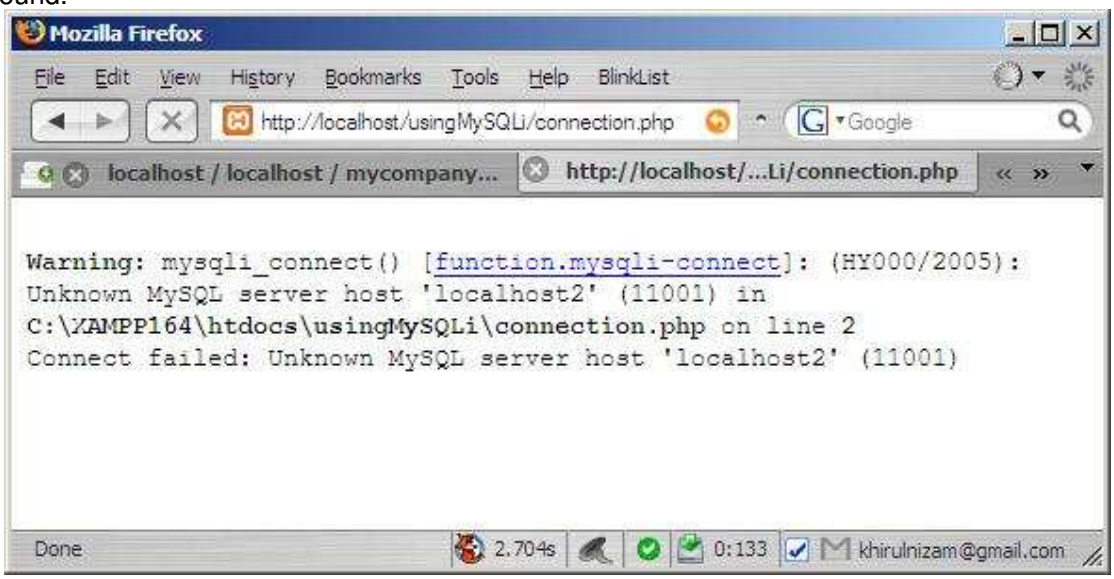
Check the connection

This function provide the connection error number.

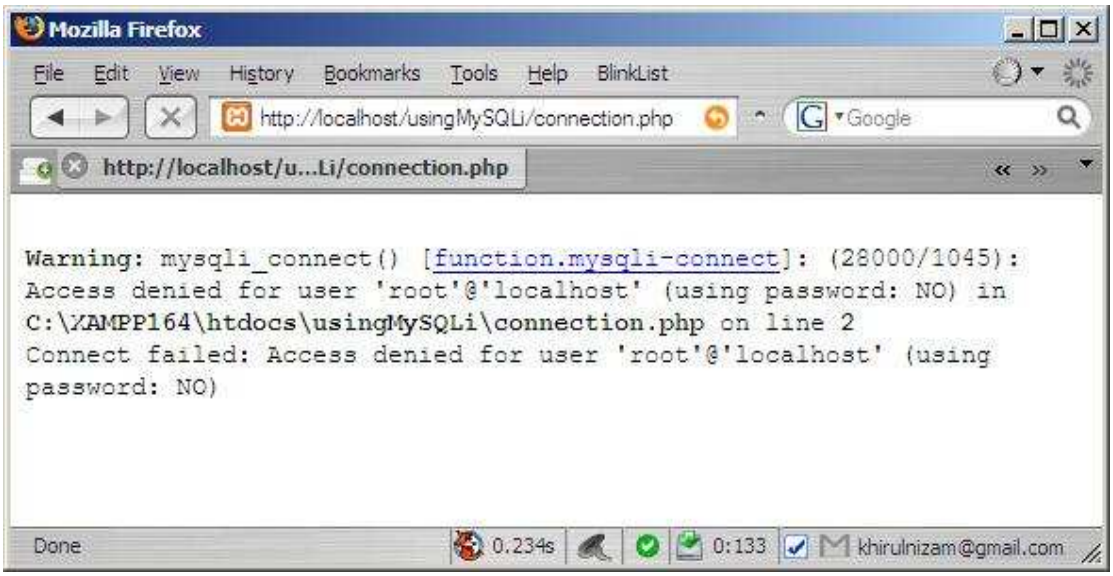
```
if (mysqli_connect_errno($db)) {
    printf("Connect failed: %s\n", mysqli_connect_error($db));
    exit();
}
```

This function provide the connection error details.

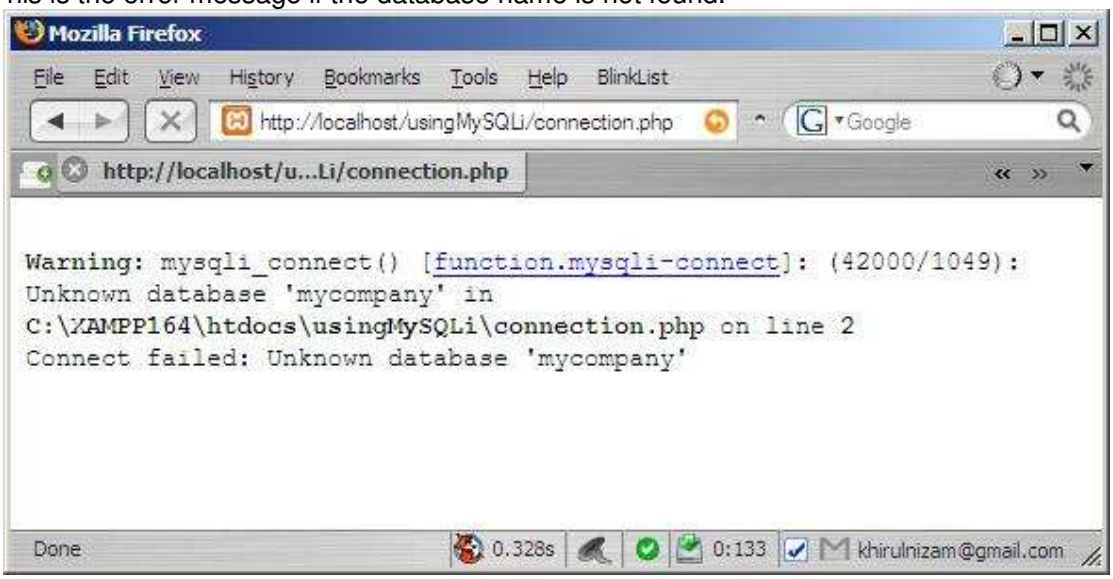
This is the error message if the database server provided in the address parameter is not found.



This is the error message if the user's password doesn't match.



This is the error message if the database name is not found.



At the end, this is the script for the database connection. Save this script in a file named *connection.php*, to be included later in other pages.

```
<?php
$db=mysqli_connect("localhost","root","abc123","mycompanyhr");
//Check connection
if (mysqli_connect_errno()) {
    printf("Connect failed: %s\n", mysqli_connect_error($db));
    exit();
}
?>
```

Create SQL query

```
$query="select EMPNO, FIRSTNAME, LASTNAME, DEPT, PHONENO, EMAIL
          from employee";
```

This will fetch all the records that contain only the fields listed in the query, from a table named *employee*, inside the database *mycompanyhr*.

Execute the query

```
$qr=mysqli_query($db, $query);
if($qr==false){
    echo ("Query cannot be executed!<br>");
    echo ("SQL Error : ".mysqli_error($db));
}
```

The SQL command.

The result set.

mysql_query function will return a result set consist of all the records from the table employee. However, it will return false if the sql command cannot be executed (whether is there any syntax error on the sql command, or cannot find the table specified, etc), and the error message will appear.

* An SQL **result set** is a set of rows from a database, as well as meta-information about the query such as the column names, and the types and sizes of each column.
Extracted from: http://en.wikipedia.org/wiki/Result_set

So *$qr* will hold the result set from the sql execution (pic 9.1). This result set have not appear in your page yet. It's just a visualization for what resides in the your machine's memory.

EMPNO	FIRSTNAME	LASTNAME	WORKDEPT	PHONENO
000010	CHRISTINE	HAAS	A00	3978
000020	MICHAEL	THOMPSON	B01	3476
000030	SALLY	KWAN	C01	4738
000050	JOHN	GEYER	E01	6789
000060	IRVING	STERN	D11	6423
000070	EVA	PULASKI	D21	7831
000090	EILEEN	HENDERSON	E11	5498
000100	THEODORE	SPENSER	E21	0972
000110	VINCENZO	LUCCHESSI	A00	3490
000120	SEAN	O'CONNELL	A00	2167
000130	DOLORES	QUINTANA	C01	4578
000140	HEATHER	NICHOLLS	C01	1793
000150	BRUCE	ADAMSON	D11	4510
000160	ELIZABETH	PIANKA	D11	3782
000170	MASATOSHI	YOSHIMURA	D11	2890
000180	MARILYN	SCOUTTEN	D11	1682

Pic 9.1

Check the records effected

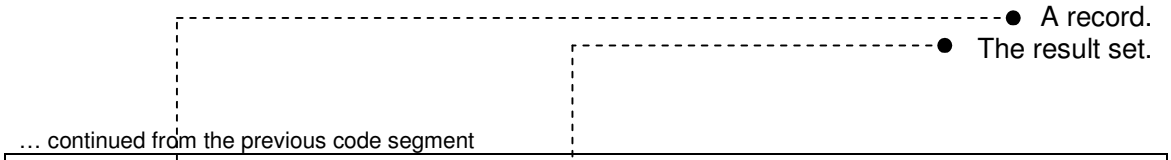
If there is no record effected, display a message telling the user that there is no record selected from the sql execution.
mysql_num_rows() is a function to check how many records are selected from a particular sql commad. If no record is selected, it will return 0.

```
if(mysqli_num_rows($qr)==0){
      echo ("Sorry, no record fetched...<br>");
}
```

...to be continued

Fetch a record and display

If the value returned from the mysqli_num_rows() is not 0, then try fetch one record from the result set (which is *$qr*), and display.



... continued from the previous code segment

```
else{//there is/are record(s)
      $rekod=mysqli_fetch_array($qr);
      echo (" Employee no: ".$rekod['EMPNO']."<br>");
      echo (" First name: ".$rekod['FIRSTNAME']."<br>");
      echo (" Last name: ".$rekod['LASTNAME']."<br>");
      echo (" Department code: ".$rekod['WORKDEPT']."<br>");
      echo (" Phone no: ".$rekod['PHONENO']."<br>");
}
```

`mysqli_fetch_array($qr)` is a function to get a record from the result set. The function will return a single array that contains the information for each field. The array is stored in `$rekod`.

Observe how the data is accessed using the fieldname and combined in the echo statement.

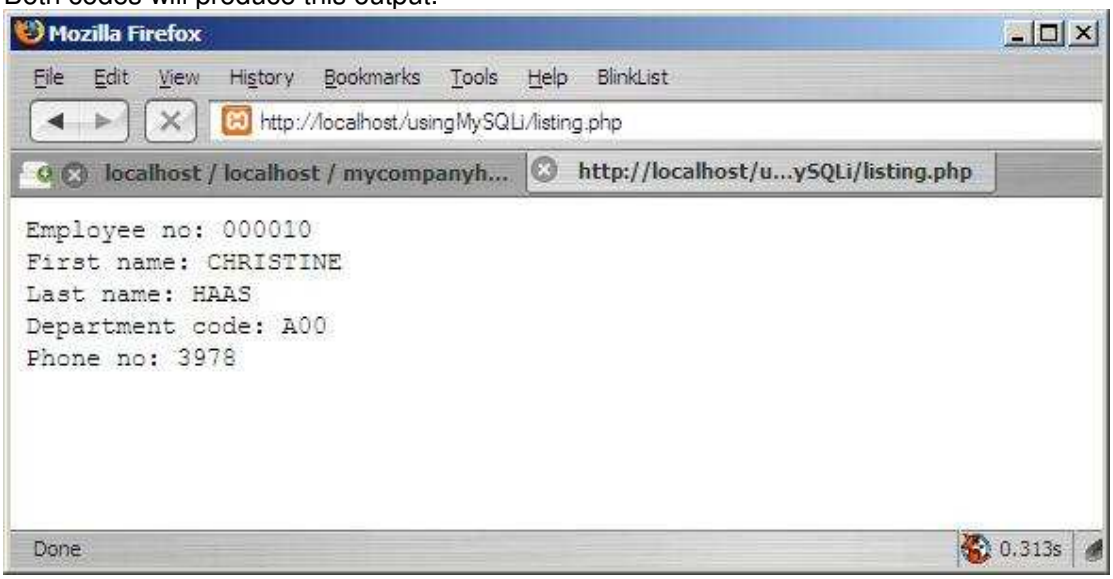
```
$rekod['EMPNO']
$rekod['FIRSTNAME']
$rekod['LASTNAME']
$rekod['WORKDEPT']
$rekod['PHONENO']
```

EMPNO	FIRSTNAME	LASTNAME	WORKDEPT	PHONENO
000010	CHRISTINE	HAAS	A00	3978
000020	MICHAEL	THOMPSON	B01	3476
000030	SALLY	KWAN	C01	4738
000050	JOHN	GEYER	E01	6789
000060	IRVING	STERN	D11	6423
000070	EVA	PULASKI	D21	7831
000090	EILEEN	HENDERSON	E11	5498

The data is accessible through associative array of index array handling. By default, the first field is indexed 0. This is how to access the record using index array handling.

```
else{//there is/are record(s)
      $rekod=mysqli_fetch_array($qr);
      echo (" Employee no: ".$rekod[0]."<br>");
      echo (" First name: ".$rekod[1]."<br>");
      echo (" Last name: ".$rekod[2]."<br>");
      echo (" Department code: ".$rekod[3]."<br>");
      echo (" Phone no: ".$rekod[4]."<br>");
}
```

Both codes will produce this output.



This is the complete code for *listing.php*. Observe the first line, it contains code inclusion from another file named *connection.php*.

```
<?php
//Include the connection details
include ("connection.php");

//Create SQL query
$query="select EMPNO, FIRSTNAME, LASTNAME, WORKDEPT, PHONENO
          from employee";

//Execute the query
$qr=mysqli_query($db,$query);
if($qr==false){
      echo ("Query cannot be executed!<br>");
      echo ("SQL Error : ".mysqli_error($db));
}

//Check the record effected, if no records,
//display a message
if(mysqli_num_rows($qr)==0){
      echo ("No record fetched...<br>");
}
```

```
else{//there is/are record(s)
      $rekod=mysqli_fetch_array($qr);
      echo (" Employee no: ".$rekod['EMPNO']."<br>");
      echo (" First name: ".$rekod['FIRSTNAME']."<br>");
      echo (" Last name: ".$rekod['LASTNAME']."<br>");
      echo (" Department code: ".$rekod['WORKDEPT']."<br>");
      echo (" Phone no: ".$rekod['PHONENO']."<br>");
}
?>
```

Multiple Records Listing

To list all the records selected from the query, you just need a repetition structure to redo the fetch and display record for all the records available in the result set.

The script will fetch a record, display all the data, and do the same procedure again until the end of the result set. If the returned value from the `mysqli_fetch_array()` function is false, this happens when it comes to the end of result set, the repetition will stop.

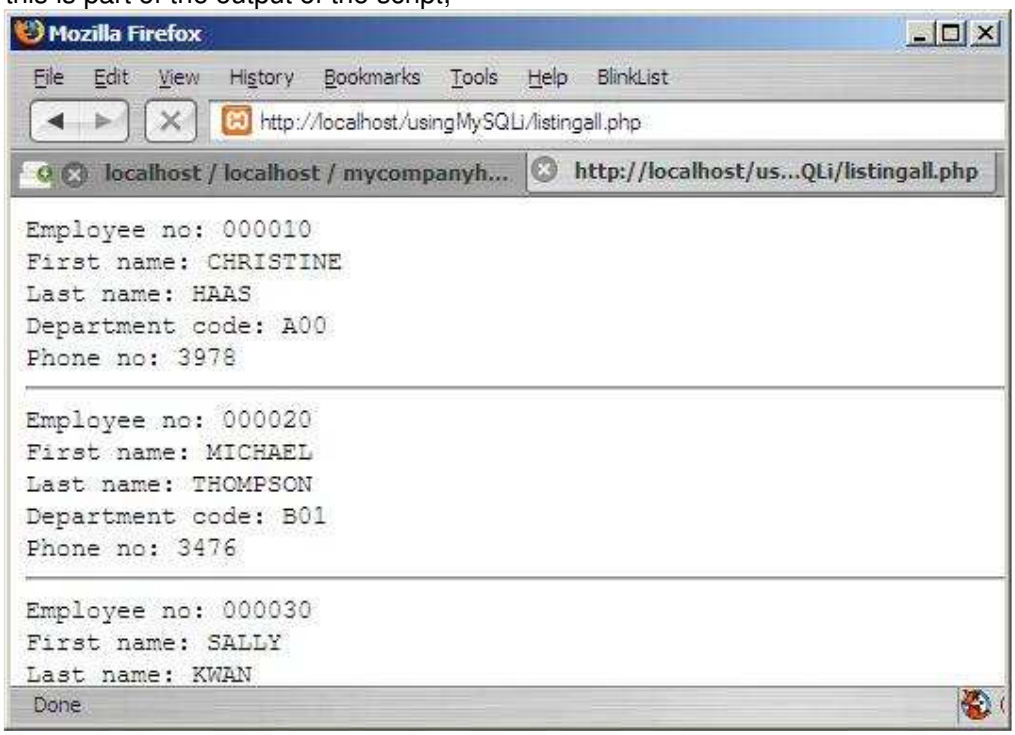
```
if(mysqli_num_rows($qr)==0){
      echo ("No record fetched...<br>");
}//end no record
else{//there is/are record(s)
      while ($rekod=mysqli_fetch_array($qr)){//redo to other records
            echo (" Employee no: ".$rekod['EMPNO']."<br>");
            echo (" First name: ".$rekod['FIRSTNAME']."<br>");
            echo (" Last name: ".$rekod['LASTNAME']."<br>");
            echo (" Department code: ".$rekod['WORKDEPT']."<br>");
            echo (" Phone no: ".$rekod['PHONENO']."<hr>");
      }//end of records
}//end if there are records
```

This is the full script of the page (*listingall.php*);

```
<?php
//Include the connection details
include ("connection.php");

//Create SQL query
$query="select EMPNO, FIRSTNAME, LASTNAME, WORKDEPT, PHONENO
            from employee";

//Execute the query
$qr=mysqli_query($db,$query);
if($qr==false){
      echo ("Query cannot be executed!<br>");
      echo ("SQL Error : ".mysqli_error($db));
}

//Check the record effected, if no records, display a message
if(mysqli_num_rows($qr)==0){
      echo ("No record fetched...<br>");
}//end no record
else{//there is/are record(s)
      while ($rekod=mysqli_fetch_array($qr)){//redo to next records
```

```
            echo (" Employee no: ".$rekod['EMPNO']."<br>");
            echo (" First name: ".$rekod['FIRSTNAME']."<br>");
            echo (" Last name: ".$rekod['LASTNAME']."<br>");
            echo (" Department code: ".$rekod['WORKDEPT']."<br>");
            echo (" Phone no: ".$rekod['PHONENO']."<hr>");
      }//end of records
}//end if there are records
?>
```

And, this is part of the output of the script;



Populating the Records inside a Table

The output in the previous exercise is not neat enough. It's more user friendly if we use table to manage all the records to be displayed in the web page.

We need table with 5 columns, since we have 5 fields to display. If we have more fields, just add another column.

The header of the table is situated before the repetition to extract and display the record.

```
if(mysqli_num_rows($qr)==0){
      echo ("No record fetched...<br>");
}//end no record
else{//there is/are record(s)
?>
<table width="90%"  border="1">
  <tr align="center">
    <td>Employee no.</td>
    <td>First name</td>
    <td>Last name</td>
    <td>Department code</td>
    <td>Phone no.</td>
  </tr>


<?php
      while ($rekod=mysqli_fetch_array($qr)){//redo to other records
?>
      <tr>
            <td><?php echo $rekod['EMPNO']; ?></td>
            <td><?php echo $rekod['FIRSTNAME']; ?></td>
            <td><?php echo $rekod['LASTNAME']; ?></td>
            <td><?php echo $rekod['WORKDEPT']; ?></td>
            <td><?php echo $rekod['PHONENO']; ?></td>
      </tr>
<?php
      }//end of while
?>
</table>
<?php
}//end if there are records

?>
```

The table header

The data displayed inside the table's cells

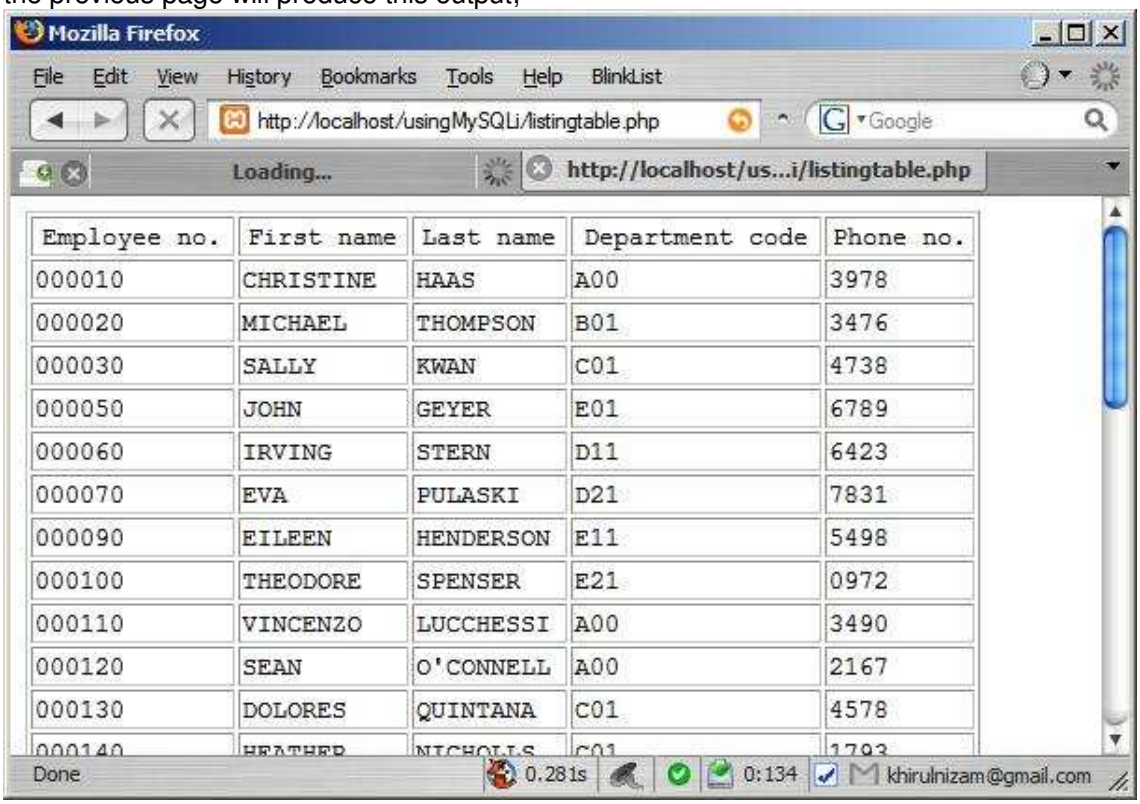
There is much simpler code to display a value from a variable, without having to use echo command.

```
<?=$var ?>
```

So we can simply change all the echo (only to display a variable value) with these;

```
            <td><?=$rekod['EMPNO']?></td>
            <td><?=$rekod['FIRSTNAME']?></td>
            <td><?=$rekod['LASTNAME']?></td>
            <td><?=$rekod['WORKDEPT']?></td>
            <td><?=$rekod['PHONENO']?></td>
```

Copy the script from the previous page, and save the file as *listingtable.php*. The script from the previous page will produce this output;

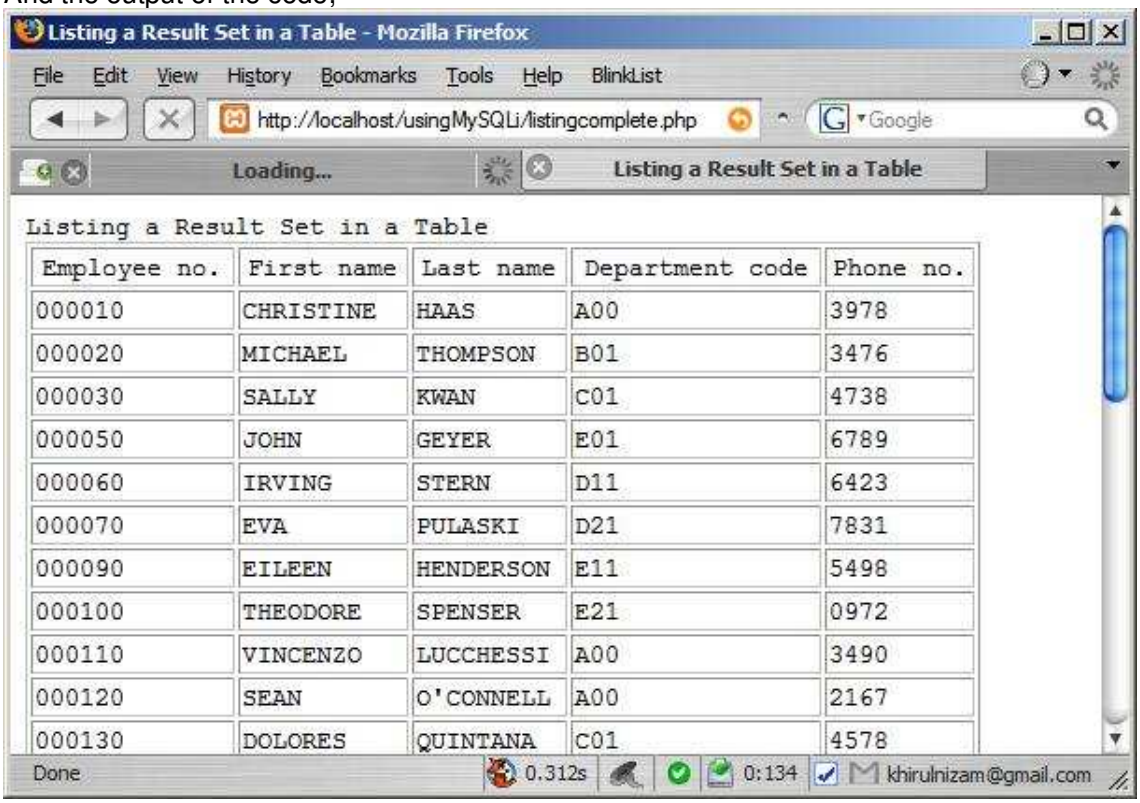


Employee no.	First name	Last name	Department code	Phone no.
000010	CHRISTINE	HAAS	A00	3978
000020	MICHAEL	THOMPSON	B01	3476
000030	SALLY	KWAN	C01	4738
000050	JOHN	GEYER	E01	6789
000060	IRVING	STERN	D11	6423
000070	EVA	PULASKI	D21	7831
000090	EILEEN	HENDERSON	E11	5498
000100	THEODORE	SPENSER	E21	0972
000110	VINCENZO	LUCCHESSI	A00	3490
000120	SEAN	O'CONNELL	A00	2167
000130	DOLORES	QUINTANA	C01	4578
000140	HEATHER	NICHOLLS	C01	1793

The complete code with HTML to list all the information in the result set to a HTML table (give the file name as *listingcomplete.php*).

```
<?php
//Include the connection details
include ("connection.php");

//Create SQL query
$query="select EMPNO, FIRSTNAME, LASTNAME, WORKDEPT, PHONENO
            from employee";

//Execute the query
$qr=mysqli_query($db,$query);
if($qr==false){
      echo ("Query cannot be executed!<br>");
      echo ("SQL Error : ".mysqli_error($db));
}
?>
<html>
<head>
<title>Listing a Result Set in a Table</title>
</head>
<body>
Listing a Result Set in a Table<br>

<?php
//Check the record effected, if no records,
//display a message
if(mysqli_num_rows($qr)==0){
      echo ("No record fetched...<br>");
}//end no record
else{//there is/are record(s)
?>
<table width="90%"  border="1">
  <tr align="center">
    <td>Employee no.</td>
    <td>First name</td>
    <td>Last name</td>
    <td>Department code</td>
    <td>Phone no.</td>
  </tr>

<?php
      while ($rekod=mysqli_fetch_array($qr)){//redo to other records
?>
      <tr>
            <td><?=$rekod['EMPNO']?></td>
            <td><?=$rekod['FIRSTNAME']?></td>
            <td><?=$rekod['LASTNAME']?></td>
            <td><?=$rekod['WORKDEPT']?></td>
            <td><?=$rekod['PHONENO']?></td>
      </tr>
<?php
      }//end of records
?>
</table>
<?php
}//end if there are records
?>
</body>
</html>
```

And the output of the code;



Listing a Result Set in a Table

Employee no.	First name	Last name	Department code	Phone no.
000010	CHRISTINE	HAAS	A00	3978
000020	MICHAEL	THOMPSON	B01	3476
000030	SALLY	KWAN	C01	4738
000050	JOHN	GEYER	E01	6789
000060	IRVING	STERN	D11	6423
000070	EVA	PULASKI	D21	7831
000090	EILEEN	HENDERSON	E11	5498
000100	THEODORE	SPENSER	E21	0972
000110	VINCENZO	LUCCHESSI	A00	3490
000120	SEAN	O'CONNELL	A00	2167
000130	DOLORES	QUINTANA	C01	4578

Exercise Chapter 09: Create a database named BOOKSHOP that contains three tables namely; BOOKS, AUTHORS and PUBLISHERS. Develop a page (for each table below) by using PHP scripts to extract all the records from each of the table and display all the records inside in the page.

Database name: BOOKSHOP

isbn	title	authorid	publisherid	year	number
1047154354	Computer Security	DG	JW	2000	5
7223020711	Anti Hacker Toolkit	MS	MGH	2003	3
0201440997	Computer Security Art and Science	MB	AW	2002	3
0722274274	Hack Notes	MB	AW	2004	4
0772228691	Hacking Exposed	SML	MGH	2003	3
0772228123	Protect Your PC	HA	MGH	2002	3
1568847009	Internet Security Handbook	WS	JW	2003	3
1047154600	Computer Security: 2nd Ed	DG	JW	2004	2
0772229003	Protect Your PC II	HA	MGH	2004	3
0130293636	Visual Basic .NET	HMD	PH	2002	1
0130294022	C# How to Program	HMD	PH	2003	3

Table 1 : BOOKS

authorid	authorname	country
DG	Dieter Gollman	Germany
MS	Mike Shema	France
MB	Matt Bishop	USA
SML	Stuart McLure	USA
HA	Hackers Associate	Multiple
WS	William Stalling	UK
HMD	H. M. Dietel	USA

Table 2 : AUTHORS

publisherid	publishername	specialization
JW	John Wiley	Info tech
MGH	MacGraw Hill	info tech
AW	Addison Wesley	info tech
PH	Prentice Hall	info tech

Table 3 : PUBLISHERS