

## More MySQL

Dr. Michele Weigle

<http://www.cs.odu.edu/~mweigle/CS418-F12/>

### Just a Couple Things

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- ▶ Joins
- ▶ Deprecated PHP/MySQL syntax
- ▶ `fetch_array()` vs. `fetch_assoc()` vs. `fetch_row()`

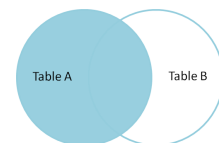
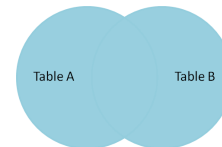
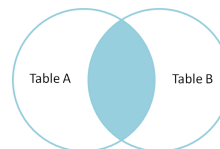
# SQL Joins

- ▶ JOIN: Return rows when there is at least one match in both tables
  - ▶ same as INNER JOIN
  - ▶ [http://www.w3schools.com/sql/sql\\_join\\_inner.asp](http://www.w3schools.com/sql/sql_join_inner.asp)
- ▶ LEFT JOIN: Return all rows from the left table, even if there are no matches in the right table
  - ▶ [http://www.w3schools.com/sql/sql\\_join\\_left.asp](http://www.w3schools.com/sql/sql_join_left.asp)
- ▶ RIGHT JOIN: Return all rows from the right table, even if there are no matches in the left table
  - ▶ [http://www.w3schools.com/sql/sql\\_join\\_right.asp](http://www.w3schools.com/sql/sql_join_right.asp)
- ▶ FULL JOIN: Return rows when there is a match in one of the tables
  - ▶ [http://www.w3schools.com/sql/sql\\_join\\_full.asp](http://www.w3schools.com/sql/sql_join_full.asp)

[http://www.w3schools.com/sql/sql\\_join.asp](http://www.w3schools.com/sql/sql_join.asp)

# SQL Joins

- ▶ Pull in data from two different tables
- ▶ INNER JOIN
  - ▶ find intersection between two tables
- ▶ FULL OUTER JOIN
  - ▶ produce set of all records in both tables
- ▶ LEFT JOIN (or, LEFT OUTER JOIN)
  - ▶ for each item in Table A, find some data in Table B



<http://www.codinghorror.com/blog/2007/10/a-visual-explanation-of-sql-joins.html>

## Deprecated Functions

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- ▶ The entire `mysql_*` API for PHP has been deprecated and should no longer be used
  - ▶ just happened in July 2011
- ▶ We're going to use the `mysqli` (MySQL Improved) API
- ▶ Comparison of accepted APIs
  - ▶ <http://www.php.net/manual/en/mysqlinfo.api.choosing.php>

## PHP and MySQL

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- ▶ Connect to server
  - ▶ DEPRECATED: `mysql_connect ("hostname", "user", "pass")`
  - ▶ MySQLI: `$mysqli = new mysqli ("hostname", "user", "pass", "db")`
- ▶ Send query to server
  - ▶ DEPRECATED: `mysql_query ("query")`
  - ▶ MySQLI: `$results = $mysqli->query("query")`
- ▶ Shows error message
  - ▶ DEPRECATED: `mysql_error()`
  - ▶ MySQLI: `$mysqli->error`
- ▶ Release results array
  - ▶ `$results->free()`
- ▶ Close connection
  - ▶ `$mysqli->close();`

# Fetching Results

## MySQLI

### ► General Note

- If two or more columns of the result have the same field (column) names, the last column will take precedence and overwrite the earlier data
- Can use alias in SELECT statement (AS keyword)
- Can use numeric array index

### ► \$results->fetch\_array()

- stores data in both the numeric indices of the result array AND in associative indices using the field (column) name as the key

## fetch\_array

```
$query="SELECT * " .  
"FROM lab1_store ";  
  
$results = $mysqli->query($query)  
or die ($mysqli->error.__LINE__);  
  
$row = $results->fetch_array();  
print_r($row);
```

lab1_store			
id	name	qty	price
1	apple	10	1
2	pear	5	2
3	banana	10	1.5
4	lemon	100	0.1
5	orange	50	0.2

Array( [0] => 1 [id] => 1 [1] => apple [name] => apple [2] => 10 [qty] => 10 ...)

## fetch\_assoc

```
$query="SELECT * " .  
"FROM lab1_store ";  
  
$results = $mysqli->query($query)  
or die ($mysqli->error.__LINE__);  
  
$row = $results->fetch_assoc();  
// Following line produces the same results  
// $row = $results->fetch_array(MYSQLI_ASSOC);  
  
print_r($row);
```

lab1_store			
id	name	qty	price
1	apple	10	1
2	pear	5	2
3	banana	10	1.5
4	lemon	100	0.1
5	orange	50	0.2

Array( [id] => 1 [name] => apple [qty] => 10 [price] => 1)

## fetch\_row

```
$query="SELECT * " .  
"FROM lab1_store ";  
  
$results = $mysqli->query($query)  
or die ($mysqli->error.__LINE__);  
  
$row = $results->fetch_row();  
// Following line produces the same results  
// $row = $results->fetch_array(MYSQLI_NUM);  
  
print_r($row);
```

lab1_store			
id	name	qty	price
1	apple	10	1
2	pear	5	2
3	banana	10	1.5
4	lemon	100	0.1
5	orange	50	0.2

Array( [0] => 1 [1] => apple [2] => 10 [3] => 1)

# Lab Assignment

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<http://www.cs.odu.edu/~mweigle/CS418-F12/Lab1-MySQL>

- ▶ Table Normalization

- ▶ did this on Tuesday

- ▶ Store Inventory

- ▶ single table, simple SELECT construction

- ▶ Courses

- ▶ 3 tables, using JOINS