

Lab 3: How to Retrieve Data from a Single Table

Step 1: Writing a SELECT statement & adding the ORDER BY clause

The screenshot shows the MySQL Workbench interface. The SQL Editor contains the following query:

```
1 SELECT product_code, product_name, list_price, discount_percent
2 FROM my_guitar_shop.products
3 ORDER BY list_price DESC;
```

The Results window displays the following data:

product_code	product_name	list_price	discount_percent
sg	Gibson SG	2517.00	52.00
les_paul	Gibson Les Paul	1199.00	30.00
precision	Fender Precision	799.99	30.00
tama	Tama 5-Piece Drum Set with Cymbals	799.99	15.00
ludwig	Ludwig 5-piece Drum Set with Cymbals	699.99	30.00
strat	Fender Stratocaster	699.00	30.00
hofner	Hofner Icon	499.99	25.00
...

The Output window shows the following messages:

#	Time	Action	Message	Duration / Fetch
21	12:06:12	INSERT INTO order_items (item_id, order_id, product_id, item_price, discount_amount, quan...	12 row(s) affected Records: 12 Duplicates: 0 Warnings: 0	0.032 sec
22	12:06:12	INSERT INTO administrators (admin_id, email_address, password, first_name, last_name) VA...	3 row(s) affected Records: 3 Duplicates: 0 Warnings: 0	0.031 sec
23	12:06:12	GRANT SELECT, INSERT, UPDATE, DELETE ON * TO mgs_user@localhost IDENTIFIED ...	Error Code: 1064. You have an error in your SQL syntax; check the manual that corresponds ...	0.016 sec
24	12:06:21	SELECT product_code, product_name, list_price, discount_percent FROM my_guitar_shop....	Error Code: 1146. Table 'my_guitar_shop.sql' doesn't exist	0.015 sec
25	12:10:31	SELECT product_code, product_name, list_price, discount_percent FROM my_guitar_shop....	10 row(s) returned	0.016 sec / 0.000 sec

Step 2: SELECT statement that returns customers names

The screenshot shows the MySQL Workbench interface. The SQL Editor contains the following query:

```
1 SELECT CONCAT(last_name, ' ', first_name) AS full_name
2 FROM customers
3 WHERE last_name >= 'H'
4 ORDER BY last_name ASC;
```

The Results window displays the following data:

full_name
Sherwood, Allan
Valentino, Erin
Wilson, Frank Lee
Zimmer, Barry

The Output window shows the following messages:

#	Time	Action	Message	Duration / Fetch
26	12:18:24	SELECT product_code, product_name, list_price, discount_percent FROM my_guitar_shop....	10 row(s) returned	0.016 sec / 0.000 sec
27	12:20:30	SELECT CONCAT(last_name, ' ', first_name) AS full_name FROM Customers WHERE last_...	Error Code: 1146. Table 'my_guitar_shop.Customers' doesn't exist	0.031 sec
28	12:20:53	SELECT CONCAT(last_name, ' ', first_name) AS full_name FROM Customers WHERE last_...	Error Code: 1146. Table 'my_guitar_shop.Customers' doesn't exist	0.032 sec
29	12:22:26	SELECT CONCAT(last_name, ' ', first_name) AS full_name FROM Customers WHERE last_...	Error Code: 1146. Table 'my_guitar_shop.Customers' doesn't exist	0.031 sec
30	12:24:47	SELECT CONCAT(last_name, ' ', first_name) AS full_name FROM customers WHERE last_n...	4 row(s) returned	0.016 sec / 0.000 sec

Step 3: Using SELECT statement to list products that are greater than 500 & less than 2000.

The screenshot shows the MySQL Workbench interface. The SQL Editor contains the following query:

```
1 SELECT product_name, list_price, date_added
2 FROM products
3 WHERE list_price > 500 AND list_price < 2000
4 ORDER BY date_added DESC;
```

The Results window displays the following data:

product_name	list_price	date_added
Tama 5-Piece Drum Set with Cymbals	799.99	2015-07-30 13:14:15
Ludwig 5-piece Drum Set with Cymbals	699.99	2015-07-30 12:46:40
Fender Precision	799.99	2015-06-01 11:29:35
Gibson Les Paul	1199.00	2014-12-05 16:33:13
Fender Stratocaster	699.00	2014-10-30 09:32:40

The Output window shows the execution log with the following entries:

#	Time	Action	Message	Duration / Fetch
28	12:20:53	SELECT CONCAT(last_name, ', ', first_name) AS full_name FROM Customers WHERE last_n...	Error Code: 1146. Table 'my_guitar_shop.Customers' doesn't exist	0.032 sec
29	12:22:26	SELECT CONCAT(last_name, ', ', first_name) AS full_name FROM Customers WHERE last_n...	Error Code: 1146. Table 'my_guitar_shop.Customers' doesn't exist	0.031 sec
30	12:24:47	SELECT CONCAT(last_name, ', ', first_name) AS full_name FROM customers WHERE last_n...	4 row(s) returned	0.016 sec / 0.000 sec
31	12:27:45	SELECT product_name, list_price, date_added FROM Products WHERE list_price > 500 AN...	Error Code: 1146. Table 'my_guitar_shop.Products' doesn't exist	0.032 sec
32	12:28:06	SELECT product_name, list_price, date_added FROM products WHERE list_price > 500 AN...	5 row(s) returned	0.016 sec / 0.000 sec

Step 4: Listed customers discounted price.

The screenshot shows the MySQL Workbench interface. The SQL Editor contains the following query:

```
1 SELECT
2     product_name,
3     list_price,
4     discount_percent,
5     ROUND(list_price * (discount_percent / 100), 2) AS discount_amount,
6     ROUND(list_price - (list_price * (discount_percent / 100)), 2) AS discount_price
7 FROM products
8 ORDER BY discount_price DESC
9 LIMIT 5;
```

The Results window displays the following data:

product_name	list_price	discount_percent	discount_amount	discount_price
Gibson SG	2517.00	52.00	1308.84	1208.16
Gibson Les Paul	1199.00	30.00	359.70	839.30
Tama 5-Piece Drum Set with Cymbals	799.99	15.00	120.00	679.99
Fender Precision	799.99	30.00	240.00	559.99
Ludwig 5-piece Drum Set with Cymbals	699.99	30.00	210.00	489.99

The Output window shows the execution log with the following entries:

#	Time	Action	Message	Duration / Fetch
29	12:22:26	SELECT CONCAT(last_name, ', ', first_name) AS full_name FROM Customers WHERE last_n...	Error Code: 1146. Table 'my_guitar_shop.Customers' doesn't exist	0.031 sec
30	12:24:47	SELECT CONCAT(last_name, ', ', first_name) AS full_name FROM customers WHERE last_n...	4 row(s) returned	0.016 sec / 0.000 sec
31	12:27:45	SELECT product_name, list_price, date_added FROM Products WHERE list_price > 500 AN...	Error Code: 1146. Table 'my_guitar_shop.Products' doesn't exist	0.032 sec
32	12:28:06	SELECT product_name, list_price, date_added FROM products WHERE list_price > 500 AN...	5 row(s) returned	0.016 sec / 0.000 sec
33	12:34:47	SELECT product_name, list_price, discount_percent, ROUND(list_price * (discou...	5 row(s) returned	0.032 sec / 0.000 sec

Step 5: Returning rows where the item total is greater than 500 in descending sequence.

The screenshot shows the MySQL Workbench interface. The SQL editor contains the following query:

```
1 SELECT
2   item_id,
3   item_price,
4   discount_amount,
5   quantity,
6   (item_price * quantity) AS price_total,
7   (discount_amount * quantity) AS discount_total,
8   ((item_price - discount_amount) * quantity) AS item_total
9 FROM order_items
10 HAVING item_total > 500
11 ORDER BY item_total DESC;
```

The Result Grid shows the following data:

item_id	item_price	discount_amount	quantity	price_total	discount_total	item_total
5	1199.00	359.70	2	2398.00	719.40	1678.60
3	2517.00	1308.84	1	2517.00	1308.84	1208.16
1	1199.00	359.70	1	1199.00	359.70	839.30
11	799.99	120.00	1	799.99	120.00	679.99
9	799.99	240.00	1	799.99	240.00	559.99

The Output pane shows the following message:

```
41 12:58:37 SELECT item_id, item_price, discount_amount, quantity, (item_price * quantity) AS price_total, ... Error Code: 1146. Table 'my_guitar_shop.Order_Items' doesn't exist 0.031 sec
42 12:59:07 SELECT item_id, item_price, discount_amount, quantity, (item_price * quantity) AS price_total, ... 5 row(s) returned 0.016 sec / 0.000 sec
```

Step 6: Return only the rows where the ship_date column contains a null value.

The screenshot shows the MySQL Workbench interface. The SQL editor contains the following query:

```
1 SELECT
2   order_id,
3   order_date,
4   ship_date
5 FROM orders
6 WHERE ship_date IS NULL;
```

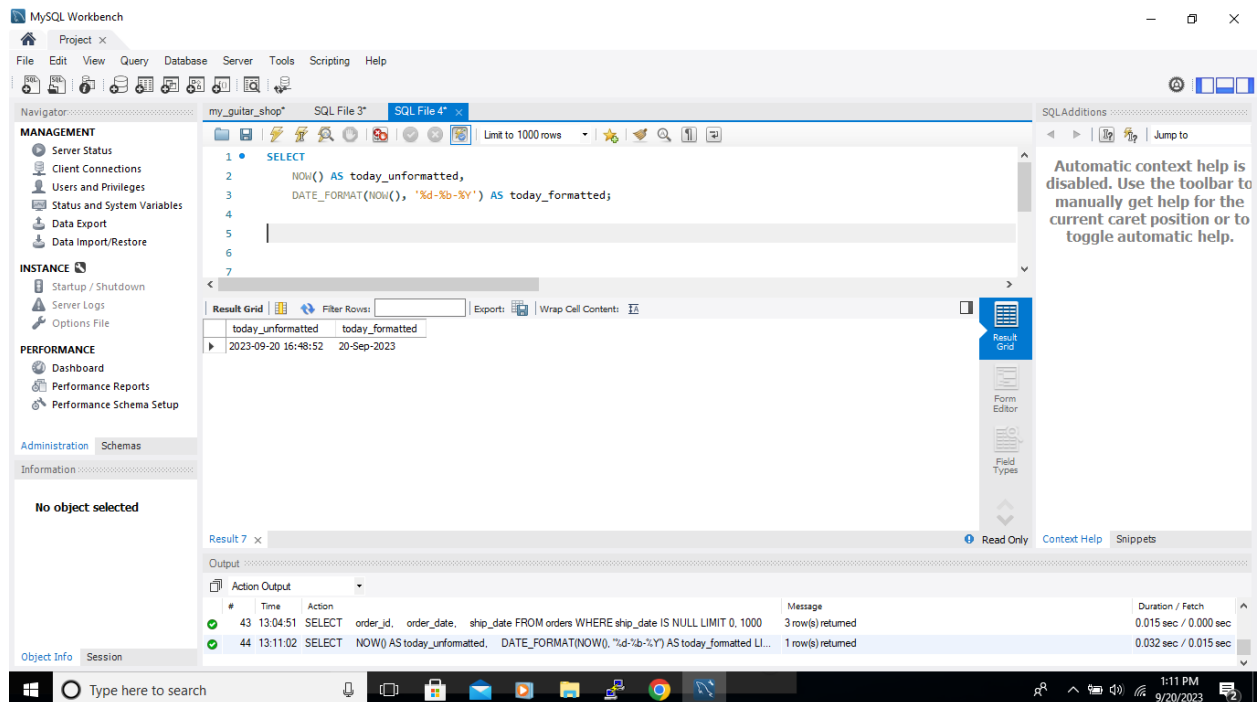
The Result Grid shows the following data:

order_id	order_date	ship_date
6	2015-03-31 18:37:22	NULL
8	2015-04-02 11:26:38	NULL
9	2015-04-03 12:22:31	NULL
*	NULL	NULL

The Output pane shows the following message:

```
42 12:59:07 SELECT item_id, item_price, discount_amount, quantity, (item_price * quantity) AS price_total, ... 5 row(s) returned 0.016 sec / 0.000 sec
43 13:04:51 SELECT order_id, order_date, ship_date FROM orders WHERE ship_date IS NULL LIMIT 0, 1000 3 row(s) returned 0.015 sec / 0.000 sec
```

Step 7: Today unformatted & Today formatted



MySQL Workbench

Project x

File Edit View Query Database Server Tools Scripting Help

Navigator: my_guitar_shop* SQL File 3* SQL File 4*

Limit to 1000 rows

```
1 SELECT
2 NOW() AS today_unformatted,
3 DATE_FORMAT(NOW(), '%d-%b-%Y') AS today_formatted;
4
5
6
7
```

Result Grid

	today_unformatted	today_formatted
▶ 2023-09-20 16:48:52		20-Sep-2023

Output

Action Output

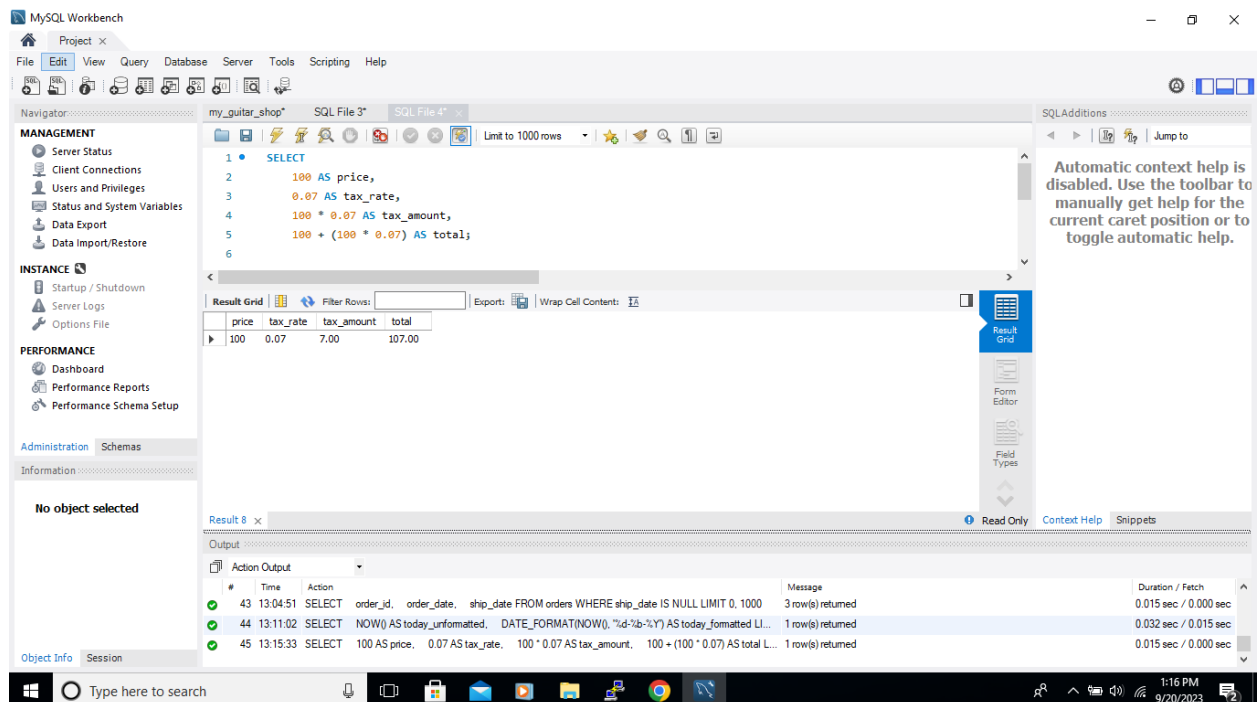
#	Time	Action	Message	Duration / Fetch
43	13:04:51	SELECT order_id, order_date, ship_date FROM orders WHERE ship_date IS NULL LIMIT 0, 1000	3 row(s) returned	0.015 sec / 0.000 sec
44	13:11:02	SELECT NOW() AS today_unformatted, DATE_FORMAT(NOW(), '%d-%b-%Y') AS today_formatted	1 row(s) returned	0.032 sec / 0.015 sec

Object Info Session

SQLAdditions

Automatic context help is disabled. Use the toolbar to manually get help for the current caret position or to toggle automatic help.

Step 8: Calculating the tax amount & total when price is 100 & tax rate is 7%.



MySQL Workbench

Project x

File Edit View Query Database Server Tools Scripting Help

Navigator: my_guitar_shop* SQL File 3* SQL File 4*

Limit to 1000 rows

```
1 SELECT
2 100 AS price,
3 0.07 AS tax_rate,
4 100 * 0.07 AS tax_amount,
5 100 + (100 * 0.07) AS total;
6
```

Result Grid

	price	tax_rate	tax_amount	total
▶ 100	0.07	7.00	107.00	

Output

Action Output

#	Time	Action	Message	Duration / Fetch
43	13:04:51	SELECT order_id, order_date, ship_date FROM orders WHERE ship_date IS NULL LIMIT 0, 1000	3 row(s) returned	0.015 sec / 0.000 sec
44	13:11:02	SELECT NOW() AS today_unformatted, DATE_FORMAT(NOW(), '%d-%b-%Y') AS today_formatted	1 row(s) returned	0.032 sec / 0.015 sec
45	13:15:33	SELECT 100 AS price, 0.07 AS tax_rate, 100 * 0.07 AS tax_amount, 100 + (100 * 0.07) AS total	1 row(s) returned	0.015 sec / 0.000 sec

Object Info Session

SQLAdditions

Automatic context help is disabled. Use the toolbar to manually get help for the current caret position or to toggle automatic help.