

CREATE DATABASE

The screenshot shows the Oracle SQL Developer interface. The title bar reads "Local instance 3306". The left sidebar is titled "SCHEMAS" and lists several schemas: a, homework1, project, Purchases, record_company_mrubel, and sys. The main workspace contains a SQL editor with the following content:

```
1 • CREATE DATABASE record_company_mrubel;
2
3
4
5
6
7
8
```

A tooltip on the right side of the screen states: "Automatic context help is disabled. Use the toolbar to manually get help for the current caret position or to toggle automatic help." At the bottom of the SQL editor, there is an "Action Output" section with the following table:

	Time	Action	Response	Duration / Fetch Time
1	20:29:31	CREATE DATABASE record_company_mrubel	1 row(s) affected	0.0022 sec

The status bar at the bottom of the interface says "Query Completed".

CREATE TABLE

Task: Create a Songs Table

This table should be called songs and have four properties with these exact names.

id: An integer that is the primary key, and auto increments.

name: A string that cannot be null.

length: A float that represents the length of the song in minutes that cannot be null.

album_id: An integer that is a foreign key referencing the albums table that cannot be null.

The screenshot shows the MySQL Workbench interface with the following details:

- Schemas:** The current schema is "record_company_mrubel".
- Tables:** Three tables are defined:
 - bands:** Primary key (id), auto-increment.
 - albums:** Primary key (id), auto-increment, foreign key (band_id) REFERENCES bands(id).
 - songs:** Primary key (id), auto-increment, foreign key (album_id) REFERENCES albums(id).
- Action Output:** Shows the execution log with three entries, all completed successfully in 0.016 to 0.019 seconds.
- Help:** A note on the right says: "Automatic context help is disabled. Use the toolbar to manually get help for the current caret position or to toggle automatic help."

```
2 • USE record_company_mrubel;
3 • CREATE TABLE bands (
4     id INT NOT NULL AUTO_INCREMENT,
5     name VARCHAR(255) NOT NULL,
6     PRIMARY KEY (id)
7 );
8 • CREATE TABLE albums (
9     id INT NOT NULL AUTO_INCREMENT,
10    name VARCHAR(255) NOT NULL,
11    release_year INT,
12    band_id INT NOT NULL,
13    PRIMARY KEY (id),
14    FOREIGN KEY (band_id) REFERENCES bands(id)
15 );
16
17 • CREATE TABLE songs(
18     id INT NOT NULL auto_increment,
19     name VARCHAR(250) NOT NULL,
20     length TIME NOT NULL,
21     album_id INT NOT NULL,
22     PRIMARY KEY(id),
23     FOREIGN KEY (album_id) REFERENCES albums (id)
24 );
25
```

Time	Action	Response	Duration / Fetch Time
20:36:15	CREATE TABLE bands (id INT NOT NULL AUTO_INCREMENT, nam...	0 row(s) affected	0.016 sec
20:36:15	CREATE TABLE albums (id INT NOT NULL AUTO_INCREMENT, na...	0 row(s) affected	0.019 sec
20:36:15	CREATE TABLE songs(id INT NOT NULL auto_increment, name VAR...	0 row(s) affected	0.014 sec

INSERT INTO

The screenshot shows the SSMS interface with the following details:

- Title Bar:** Local instance 3306
- Toolbar:** Includes icons for Home, New Query, Open, Save, Print, Copy, Paste, Find, Replace, and others.
- Tab Bar:** Purchase1, SQL File 8*, purchase2
- Schemas View:** Shows the current database schema structure with objects like a, homework1, project, Purchases, record_company_mr..., sys, Tables, Views, Stored Procedures, Functions.
- Query Editor:** Displays a large block of SQL code for inserting data into bands and albums tables. The code includes numbered comments (37-50) indicating specific rows being inserted.
- Help Context:** A tooltip on the right side of the screen states: "Automatic context help is disabled. Use the toolbar to manually get help for the current caret position or to toggle automatic help."
- Action Output:** A table showing the results of the executed queries. It includes columns for Time, Action, Response, and Duration / Fetch Time.

	Time	Action	Response	Duration / Fetch Time
209	20:39:08	INSERT INTO songs(id,name,length,album_id) VALUES (180,'Magic T...	1 row(s) affected	0.00096 sec
210	20:39:08	INSERT INTO songs(id,name,length,album_id) VALUES (181,'Hearted...)	1 row(s) affected	0.0010 sec
211	20:39:08	INSERT INTO songs(id,name,length,album_id) VALUES (182,'Frodo"...	1 row(s) affected	0.00097 sec

- Status Bar:** Query Completed

Local instance 3306

Administration Schemas Purchases SQL File purchase1 purchase2

Limit to 1000 rows

Object Info Session No object selected

```

51 • INSERT INTO albums(id,name,release_year,band_id) VALUES ('17','Break the Silence',2011,6);
52
53
54 • INSERT INTO songs(id,name,length,album_id) VALUES ('1','Arrival',1,(30/60),1);
55 • INSERT INTO songs(id,name,length,album_id) VALUES ('2','The Everones',6,(33/60),1);
56 • INSERT INTO songs(id,name,length,album_id) VALUES ('3','Dream Machines',6,(38/60),1);
57 • INSERT INTO songs(id,name,length,album_id) VALUES ('4','Against the Grain',6,(58/60),1);
58 • INSERT INTO songs(id,name,length,album_id) VALUES ('5','Victorious',4,(59/60),1);
59 • INSERT INTO songs(id,name,length,album_id) VALUES ('6','Tara''s Song (Farewell Pt. 1)',7,(16/60),1);
60 • INSERT INTO songs(id,name,length,album_id) VALUES ('7','Goodnight (Farewell Pt. 2)',7,(10/60),1);
61 • INSERT INTO songs(id,name,length,album_id) VALUES ('8','The Truth',4,(40/60),1);
62 • INSERT INTO songs(id,name,length,album_id) VALUES ('9','The Line of the Funeral Pyres',18,(66/60),1);
63 • INSERT INTO songs(id,name,length,album_id) VALUES ('10','By the Light of the Funeral Pyres',18,(54/60),1);
64 • INSERT INTO songs(id,name,length,album_id) VALUES ('11','Damnation Below',6,(44/60),1);
65 • INSERT INTO songs(id,name,length,album_id) VALUES ('12','Procession',6,(45/60),1);
66 • INSERT INTO songs(id,name,length,album_id) VALUES ('13','Exhale',6,(30/60),1);
67 • INSERT INTO songs(id,name,length,album_id) VALUES ('14','Wise man',6,(42/60),2);
68 • INSERT INTO songs(id,name,length,album_id) VALUES ('15','Alley Cat',6,(80/60),2);
69 • INSERT INTO songs(id,name,length,album_id) VALUES ('16','The Angelmaker',8,(29/60),2);
70 • INSERT INTO songs(id,name,length,album_id) VALUES ('17','King of Whitewater',7,(20/60),2);
71 • INSERT INTO songs(id,name,length,album_id) VALUES ('18','Long Way Home',4,(20/60),2);
72 • INSERT INTO songs(id,name,length,album_id) VALUES ('19','Move on Through',5,(40/60),2);
73 • INSERT INTO songs(id,name,length,album_id) VALUES ('20','The Great Escape',20,(14/60),2);
74 • INSERT INTO songs(id,name,length,album_id) VALUES ('21','A New Beginning',3,(45/60),2);

```

100% 66:32 Action Output

Time	Action	Response	Duration / Fetch Time
209 20:39:08	INSERT INTO songs(id,name,length,album_id) VALUES (180,'Magic... T...')	1 row(s) affected	0.00096 sec
210 20:39:08	INSERT INTO songs(id,name,length,album_id) VALUES (181,'Heard...')	1 row(s) affected	0.0010 sec
211 20:39:08	INSERT INTO songs(id,name,length,album_id) VALUES (182,'Frodo...')	1 row(s) affected	0.00097 sec

Query Completed

Local instance 3306

Administration Schemas Purchases SQL File purchase1 purchase2

Limit to 1000 rows

Object Info Session No object selected

```

75 • INSERT INTO songs(id,name,length,album_id) VALUES ('22','Welcome to Mercy Falls',5,(11/60),3);
76 • INSERT INTO songs(id,name,length,album_id) VALUES ('23','Welcome to Mercy Falls',5,(11/60),3);
77 • INSERT INTO songs(id,name,length,album_id) VALUES ('24','Tears for a Father',1,(50/60),3);
78 • INSERT INTO songs(id,name,length,album_id) VALUES ('25','A Bay Away',2,(43/60),3);
79 • INSERT INTO songs(id,name,length,album_id) VALUES ('27','Tears for a Son',1,(42/60),3);
80 • INSERT INTO songs(id,name,length,album_id) VALUES ('28','Paradise',5,(46/60),2);
82 • INSERT INTO songs(id,name,length,album_id) VALUES ('29','Fall in Line',6,(49/60),3);
83 • INSERT INTO songs(id,name,length,album_id) VALUES ('30','Hide and Seek',7,(46/60),3);
84 • INSERT INTO songs(id,name,length,album_id) VALUES ('31','Destiny Calls',6,(18/60),3);
85 • INSERT INTO songs(id,name,length,album_id) VALUES ('32','Destiny Calls',6,(18/60),3);
86 • INSERT INTO songs(id,name,length,album_id) VALUES ('33','I'm a Little Teapot',1,(14/60),3);
87 • INSERT INTO songs(id,name,length,album_id) VALUES ('34','Back in Time',1,(14/60),3);
88 • INSERT INTO songs(id,name,length,album_id) VALUES ('35','The Black Parade',6,(57/60),3);
89 • INSERT INTO songs(id,name,length,album_id) VALUES ('36','Battery',5,(43/60),4);
90 • INSERT INTO songs(id,name,length,album_id) VALUES ('37','Master of Puppets',8,(35/60),4);
91 • INSERT INTO songs(id,name,length,album_id) VALUES ('38','The Thing That Should Not Be',6,(36/60),4);
92 • INSERT INTO songs(id,name,length,album_id) VALUES ('39','Welcome Home (Sanitarium)',6,(27/60),4);
93 • INSERT INTO songs(id,name,length,album_id) VALUES ('40','Disposable Heroes',8,(17/60),4);
94 • INSERT INTO songs(id,name,length,album_id) VALUES ('41','Leper Messiah',5,(48/60),4);
95 • INSERT INTO songs(id,name,length,album_id) VALUES ('42','Orion',8,(27/60),4);
96 • INSERT INTO songs(id,name,length,album_id) VALUES ('43','Damage Inc.',5,(32/60),4);
97 • INSERT INTO songs(id,name,length,album_id) VALUES ('44','Blackened',6,(41/60),5);
98 • INSERT INTO songs(id,name,length,album_id) VALUES ('45','...And Justice for All',9,(47/60),5);

```

100% 66:32 Action Output

Time	Action	Response	Duration / Fetch Time
209 20:39:08	INSERT INTO songs(id,name,length,album_id) VALUES (180,'Magic... T...')	1 row(s) affected	0.00098 sec
210 20:39:08	INSERT INTO songs(id,name,length,album_id) VALUES (181,'Heard...')	1 row(s) affected	0.00097 sec
211 20:39:08	INSERT INTO songs(id,name,length,album_id) VALUES (182,'Frodo...')	1 row(s) affected	0.00097 sec

Query Completed

Local instance 3306

Administration Schemas Purchases SQL File purchase1 purchased

Limit to 1000 rows

Object Info Session No object selected

```

99 • INSERT INTO songs(id,name,length,album_id) VALUES ('46','Eye of the Beholder',6,(30/60),5);
100 • INSERT INTO songs(id,name,length,album_id) VALUES ('47','One',7,(27/60),5);
101 • INSERT INTO songs(id,name,length,album_id) VALUES ('48','The Shortest Straw',6,(36/60),5);
102 • INSERT INTO songs(id,name,length,album_id) VALUES ('49','Harvester of Sorrow',5,(40/60),5);
103 • INSERT INTO songs(id,name,length,album_id) VALUES ('50','The Frayed Ends of Sanity',7,(44/60),5);
104 • INSERT INTO songs(id,name,length,album_id) VALUES ('51','To Live Is to Die',6,(39/60),5);
105 • INSERT INTO songs(id,name,length,album_id) VALUES ('52','Dawn of Eternity',5,(32/60),5);
106 • INSERT INTO songs(id,name,length,album_id) VALUES ('53','That Was Just Your Life',7,(08/60),5);
107 • INSERT INTO songs(id,name,length,album_id) VALUES ('54','The End of the Line',7,(52/60),5);
108 • INSERT INTO songs(id,name,length,album_id) VALUES ('55','Broken Beat & Scarred',6,(25/60),6);
109 • INSERT INTO songs(id,name,length,album_id) VALUES ('56','The Day That Never Comes',7,(56/60),6);
110 • INSERT INTO songs(id,name,length,album_id) VALUES ('57','All Nightmare Long',7,(58/60),6);
111 • INSERT INTO songs(id,name,length,album_id) VALUES ('58','Cyanide',6,(49/60),6);
112 • INSERT INTO songs(id,name,length,album_id) VALUES ('59','The Unforgiven III',7,(47/60),6);
113 • INSERT INTO songs(id,name,length,album_id) VALUES ('60','Judas Kiss',8,(07/60),6);
114 • INSERT INTO songs(id,name,length,album_id) VALUES ('61','Sister of Mercy',9,(50/60),6);
115 • INSERT INTO songs(id,name,length,album_id) VALUES ('62','My Apocalypse',5,(01/60),6);
116 • INSERT INTO songs(id,name,length,album_id) VALUES ('63','Shamayin',1,(53/60),7);
117 • INSERT INTO songs(id,name,length,album_id) VALUES ('64','Firmament',7,(29/60),7);
118 • INSERT INTO songs(id,name,length,album_id) VALUES ('65','The First Commandment of the Luminaries',6,(47/60),7);
119 • INSERT INTO songs(id,name,length,album_id) VALUES ('66','Ptolemy Was Wrong',6,(28/60),7);
120 • INSERT INTO songs(id,name,length,album_id) VALUES ('67','Metaphysics of the Hangman',5,(41/60),7);
121 • INSERT INTO songs(id,name,length,album_id) VALUES ('68','Catharsis of a Heretic',2,(08/60),7);
122 • INSERT INTO songs(id,name,length,album_id) VALUES ('69','SealTower by the Earth',4,(59/60),7);

```

100% 58:33 Action Output

Time	Action	Response	Duration / Fetch Time
209 20:39:08	INSERT INTO songs(id,name,length,album_id) VALUES (180,'Magic... T...')	1 row(s) affected	0.00096 sec
210 20:39:08	INSERT INTO songs(id,name,length,album_id) VALUES (181,'Heard...')	1 row(s) affected	0.0010 sec
211 20:39:08	INSERT INTO songs(id,name,length,album_id) VALUES (182,'Frodo...')	1 row(s) affected	0.00097 sec

Query Completed

Local instance 3306

Administration Schemas Purchases SQL File purchase1 purchase2

Limit to 1000 rows

Object Info Session No object selected

```

135 • INSERT INTO songs(id,name,length,album_id) VALUES ('78','Epiphany',3,(37/60),7);
136 • INSERT INTO songs(id,name,length,album_id) VALUES ('79','The Origin of Species',7,(23/60),7);
137 • INSERT INTO songs(id,name,length,album_id) VALUES ('80','The Origin of God',4,(33/60),7);
138 • INSERT INTO songs(id,name,length,album_id) VALUES ('81','The Origin of Species',7,(23/60),8);
139 • INSERT INTO songs(id,name,length,album_id) VALUES ('82','Despopolization',5,(45/60),8);
140 • INSERT INTO songs(id,name,length,album_id) VALUES ('83','Bathyphelagic I: Impasses',4,(24/60),9);
141 • INSERT INTO songs(id,name,length,album_id) VALUES ('84','HedgeLogic I: The Wish in Dreams',3,(18/60),9);
142 • INSERT INTO songs(id,name,length,album_id) VALUES ('85','HedgeLogic II: Disenquilibrated',4,(27/60),9);
143 • INSERT INTO songs(id,name,length,album_id) VALUES ('86','HedgeLogic II: Boundless Vast',3,(27/60),9);
144 • INSERT INTO songs(id,name,length,album_id) VALUES ('87','Abysmalogic II: Signals of Anxiety',5,(05/60),9);
145 • INSERT INTO songs(id,name,length,album_id) VALUES ('88','HedgeLogic II: Open of the Deep',1,(07/60),9);
146 • INSERT INTO songs(id,name,length,album_id) VALUES ('89','HedgeLogic II: Let Them Believe',9,(17/60),9);
147 • INSERT INTO songs(id,name,length,album_id) VALUES ('90','Demeralia: Cognitive Dissonance',9,(05/60),9);
148 • INSERT INTO songs(id,name,length,album_id) VALUES ('91','Antropology',5,(24/60),9);
149 • INSERT INTO songs(id,name,length,album_id) VALUES ('92','The Grand Inquisitor I: Roots of Our Business',5,(02/60),9);
150 • INSERT INTO songs(id,name,length,album_id) VALUES ('93','She Was the Universe',5,(03/60),9);
151 • INSERT INTO songs(id,name,length,album_id) VALUES ('94','The Grand Inquisitor II: Roots & Locusts',6,(33/60),9);
152 • INSERT INTO songs(id,name,length,album_id) VALUES ('95','Sewers of the Soul',3,(44/60),9);
153 • INSERT INTO songs(id,name,length,album_id) VALUES ('96','Willie the Untergang',6,(03/60),9);
154 • INSERT INTO songs(id,name,length,album_id) VALUES ('97','Heaven TV',5,(04/60),9);
155 • INSERT INTO songs(id,name,length,album_id) VALUES ('98','The Almightyness Contradiction',4,(34/60),9);

```

100% 26:29 Action Output

Time	Action	Response	Duration / Fetch Time
209 20:39:08	INSERT INTO songs(id,name,length,album_id) VALUES (180,'Magic... T...')	1 row(s) affected	0.00096 sec
210 20:39:08	INSERT INTO songs(id,name,length,album_id) VALUES (181,'Heard...')	1 row(s) affected	0.0010 sec
211 20:39:08	INSERT INTO songs(id,name,length,album_id) VALUES (182,'Frodo...')	1 row(s) affected	0.00097 sec

Query Completed

Local Instance 3306

Administration Schemas Context... Snippets

SCHEMAS Filter objects

Q Other objects

> a
 147 • INSERT INTO songs(id,name,length,album_id) VALUES ('94, "The Reckoning",4+(11/60),10);
 148 • INSERT INTO songs(id,name,length,album_id) VALUES ('95, "Endless War",4+(09/60),10);
 149 • INSERT INTO songs(id,name,length,album_id) VALUES ('96, "The Power Within",4+(34/60),10);
 150 • INSERT INTO songs(id,name,length,album_id) VALUES ('97, "Superstar",4+(30/60),10);
 151 • INSERT INTO songs(id,name,length,album_id) VALUES ('98, "Holy Grail",4+(10/60),10);
 152 • INSERT INTO songs(id,name,length,album_id) VALUES ('99, "In Vain",4+(25/60),10);
 153 • INSERT INTO songs(id,name,length,album_id) VALUES ('100, "Firelight",4+(40/60),10);
 154 • INSERT INTO songs(id,name,length,album_id) VALUES ('101, "Mad World",4+(57/60),10);
 155 • INSERT INTO songs(id,name,length,album_id) VALUES ('102, "Mercy Mirror",3+(49/60),10);
 156 • INSERT INTO songs(id,name,length,album_id) VALUES ('103, "Trophy Hunter",5+(51/60),10);
 157 • INSERT INTO songs(id,name,length,album_id) VALUES ('104, "Why Not Me",0+(34/60),11);
 158 • INSERT INTO songs(id,name,length,album_id) VALUES ('105, "Shot in the Dark",5+(02/60),11);
 159 • INSERT INTO songs(id,name,length,album_id) VALUES ('106, "In the Middle of the Night",5+(11/60),11);
 160 • INSERT INTO songs(id,name,length,album_id) VALUES ('107, "I'm Gonna Be (500 Miles)",4+(27/60),11);
 161 • INSERT INTO songs(id,name,length,album_id) VALUES ('108, "Fire and Rain",4+(57/60),11);
 162 • INSERT INTO songs(id,name,length,album_id) VALUES ('109, "Iron",5+(08/60),11);
 163 • INSERT INTO songs(id,name,length,album_id) VALUES ('110, "Where is the Edge",3+(59/60),11);
 164 • INSERT INTO songs(id,name,length,album_id) VALUES ('111, "Sinead",4+(23/60),11);
 165 • INSERT INTO songs(id,name,length,album_id) VALUES ('112, "Lost",3+(14/60),11);
 166 • INSERT INTO songs(id,name,length,album_id) VALUES ('113, "Murder",4+(16/60),11);
 167 • INSERT INTO songs(id,name,length,album_id) VALUES ('114, "A Demon's Fate",5+(30/60),11);
 168 • INSERT INTO songs(id,name,length,album_id) VALUES ('115, "Stairway to the Skies",3+(32/60),11);
 169 • INSERT INTO songs(id,name,length,album_id) VALUES ('116, "Restless",6+(08/60),12);
 170 • INSERT INTO songs(id,name,length,album_id) VALUES ('117, "Enter",7+(15/60),12);

Object Info Session No object selected

Action Output

Time	Action	Responses	Duration / Fetch Time
209 20:39:08	INSERT INTO songs(id,name,length,album_id) VALUES (180,Magic_T... 1 rows) affected	0.00096 sec	
210 20:39:08	INSERT INTO songs(id,name,length,album_id) VALUES (181,Hearted... 1 rows) affected	0.0010 sec	
211 20:39:08	INSERT INTO songs(id,name,length,album_id) VALUES (182,Frodo)... 1 rows) affected	0.00097 sec	

Query Completed

Local Instance 3306

Administration Schemas Context... Snippets

SCHEMAS Filter objects

Q Other objects

> a
 171 • INSERT INTO songs(id,name,length,album_id) VALUES ('118, "Pearls of Light",5+(15/60),12);
 172 • INSERT INTO songs(id,name,length,album_id) VALUES ('119, "Deep Within",4+(30/60),12);
 173 • INSERT INTO songs(id,name,length,album_id) VALUES ('120, "Layla",5+(10/60),12);
 174 • INSERT INTO songs(id,name,length,album_id) VALUES ('121, "Grace",5+(10/60),12);
 175 • INSERT INTO songs(id,name,length,album_id) VALUES ('122, "Blonde",3+(30/60),12);
 176 • INSERT INTO songs(id,name,length,album_id) VALUES ('123, "Candles",7+(07/60),12);
 177 • INSERT INTO songs(id,name,length,album_id) VALUES ('124, "Scavenger of Human Sorrow",6+(56/60),13);
 178 • INSERT INTO songs(id,name,length,album_id) VALUES ('125, "Bite the Pain",4+(29/60),13);
 179 • INSERT INTO songs(id,name,length,album_id) VALUES ('126, "Split Crusher",4+(47/60),13);
 180 • INSERT INTO songs(id,name,length,album_id) VALUES ('127, "Tell",6+(34/60),13);
 181 • INSERT INTO songs(id,name,length,album_id) VALUES ('128, "Flesh and the Power It Holds",8+(26/60),13);
 182 • INSERT INTO songs(id,name,length,album_id) VALUES ('129, "Voice of the Soul",3+(43/60),13);
 183 • INSERT INTO songs(id,name,length,album_id) VALUES ('130, "To Forget Is to Suffer",5+(53/60),13);
 184 • INSERT INTO songs(id,name,length,album_id) VALUES ('131, "Clarity",7+(25/60),13);
 185 • INSERT INTO songs(id,name,length,album_id) VALUES ('132, "Painkiller",6+(36/60),13);
 186 • INSERT INTO songs(id,name,length,album_id) VALUES ('133, "Overactive Imagination",2+(30/60),14);
 187 • INSERT INTO songs(id,name,length,album_id) VALUES ('134, "In Human Form",3+(57/60),14);
 188 • INSERT INTO songs(id,name,length,album_id) VALUES ('135, "Jealousy",3+(43/60),14);
 189 • INSERT INTO songs(id,name,length,album_id) VALUES ('136, "Trapped in a Corner",4+(14/60),14);
 190 • INSERT INTO songs(id,name,length,album_id) VALUES ('137, "Nothing Is Everything",3+(19/60),14);
 191 • INSERT INTO songs(id,name,length,album_id) VALUES ('138, "Mentally Blind",4+(43/60),14);
 192 • INSERT INTO songs(id,name,length,album_id) VALUES ('139, "Individual Thought Patterns",4+(01/60),14);
 193 • INSERT INTO songs(id,name,length,album_id) VALUES ('140, "Destiny",4+(08/60),14);
 194 • INSERT INTO songs(id,name,length,album_id) VALUES ('141, "Out of Touch",4+(22/60),14);

Object Info Session No object selected

Action Output

Time	Action	Responses	Duration / Fetch Time
209 20:39:08	INSERT INTO songs(id,name,length,album_id) VALUES (180,Magic_T... 1 rows) affected	0.00096 sec	
210 20:39:08	INSERT INTO songs(id,name,length,album_id) VALUES (181,Hearted... 1 rows) affected	0.0010 sec	
211 20:39:08	INSERT INTO songs(id,name,length,album_id) VALUES (182,Frodo)... 1 rows) affected	0.00097 sec	

Query Completed

Local Instance 3306

Administration Schemas Context... Snippets

SCHEMAS Filter objects

Q Other objects

> a
 195 • INSERT INTO songs(id,name,length,album_id) VALUES ('140, "The Price of Power",4+(13/60),15);
 196 • INSERT INTO songs(id,name,length,album_id) VALUES ('141, "Fluttering of Butterflies",4+(28/60),15);
 197 • INSERT INTO songs(id,name,length,album_id) VALUES ('144, "Secret Machine",4+(23/60),15);
 198 • INSERT INTO songs(id,name,length,album_id) VALUES ('145, "Together as One",4+(10/60),15);
 199 • INSERT INTO songs(id,name,length,album_id) VALUES ('146, "Secret Face",4+(39/60),15);
 200 • INSERT INTO songs(id,name,length,album_id) VALUES ('147, "Lack of Comprehension",2+(43/60),15);
 201 • INSERT INTO songs(id,name,length,album_id) VALUES ('148, "See Through Dreams",4+(39/60),15);
 202 • INSERT INTO songs(id,name,length,album_id) VALUES ('149, "Cosmic Sea",4+(27/60),15);
 203 • INSERT INTO songs(id,name,length,album_id) VALUES ('150, "Vacant Planets",3+(52/60),15);
 204 • INSERT INTO songs(id,name,length,album_id) VALUES ('151, "Stora Rovardansen",1+(33/60),16);
 205 • INSERT INTO songs(id,name,length,album_id) VALUES ('152, "King",3+(44/60),16);
 206 • INSERT INTO songs(id,name,length,album_id) VALUES ('153, "The Mission",4+(18/60),16);
 207 • INSERT INTO songs(id,name,length,album_id) VALUES ('154, "Lifeline",4+(49/60),16);
 208 • INSERT INTO songs(id,name,length,album_id) VALUES ('155, "Rain",4+(37/60),16);
 209 • INSERT INTO songs(id,name,length,album_id) VALUES ('156, "I'm A Slave",4+(12/60),16);
 210 • INSERT INTO songs(id,name,length,album_id) VALUES ('157, "I Stand Alone",4+(44/60),16);
 211 • INSERT INTO songs(id,name,length,album_id) VALUES ('158, "Starlight",4+(40/60),16);
 212 • INSERT INTO songs(id,name,length,album_id) VALUES ('159, "Battery",5+(13/60),16);
 213 • INSERT INTO songs(id,name,length,album_id) VALUES ('160, "If I Die in Battle",4+(46/60),17);
 214 • INSERT INTO songs(id,name,length,album_id) VALUES ('161, "The Seller of Souls",3+(24/60),17);
 215 • INSERT INTO songs(id,name,length,album_id) VALUES ('162, "Prince Victoria",3+(44/60),17);
 216 • INSERT INTO songs(id,name,length,album_id) VALUES ('163, "Dangers in My Head",4+(05/60),17);
 217 • INSERT INTO songs(id,name,length,album_id) VALUES ('164, "Black Wings of Hate",4+(41/60),17);
 218 • INSERT INTO songs(id,name,length,album_id) VALUES ('165, "Bed of Nails",3+(37/60),17);

Object Info Session No object selected

Action Output

Time	Action	Responses	Duration / Fetch Time
209 20:39:08	INSERT INTO songs(id,name,length,album_id) VALUES (180,Magic_T... 1 rows) affected	0.00096 sec	
210 20:39:08	INSERT INTO songs(id,name,length,album_id) VALUES (181,Hearted... 1 rows) affected	0.0010 sec	
211 20:39:08	INSERT INTO songs(id,name,length,album_id) VALUES (182,Frodo)... 1 rows) affected	0.00097 sec	

Query Completed

Local Instance 3306

Administration Schemas Context... Snippets

SCHEMAS Filter objects

Q Other objects

> a
 219 • INSERT INTO songs(id,name,length,album_id) VALUES ('166, "Spirited Sisters",4+(26/60),17);
 220 • INSERT INTO songs(id,name,length,album_id) VALUES ('167, "Never Mind",3+(21/60),17);
 221 • INSERT INTO songs(id,name,length,album_id) VALUES ('168, "The Higher Flight",5+(00/60),17);
 222 • INSERT INTO songs(id,name,length,album_id) VALUES ('169, "Master of the Wind",6+(09/60),17);
 223 • INSERT INTO songs(id,name,length,album_id) VALUES ('170, "Lost Forever",4+(44/60),18);
 224 • INSERT INTO songs(id,name,length,album_id) VALUES ('171, "To Sing a Metal Song",3+(24/60),18);
 225 • INSERT INTO songs(id,name,length,album_id) VALUES ('172, "One in Ten",4+(86/60),18);
 226 • INSERT INTO songs(id,name,length,album_id) VALUES ('173, "I Am Human",3+(56/60),18);
 227 • INSERT INTO songs(id,name,length,album_id) VALUES ('174, "My Voice",5+(39/60),18);
 228 • INSERT INTO songs(id,name,length,album_id) VALUES ('175, "Rebellion",4+(85/60),18);
 229 • INSERT INTO songs(id,name,length,album_id) VALUES ('176, "Last Night of the Kings",3+(52/60),18);
 230 • INSERT INTO songs(id,name,length,album_id) VALUES ('177, "Tribe",3+(17/60),18);
 231 • INSERT INTO songs(id,name,length,album_id) VALUES ('178, "Water Fire Heaven",3,(32/60),18);
 232 • INSERT INTO songs(id,name,length,album_id) VALUES ('179, "Master of the Purple",4+(23/60),18);
 233 • INSERT INTO songs(id,name,length,album_id) VALUES ('180, "Master of the Table",3-(42/60),18);
 234 • INSERT INTO songs(id,name,length,album_id) VALUES ('181, "Hearted",4+(08/60),18);
 235 • INSERT INTO songs(id,name,length,album_id) VALUES ('182, "Frodo's Dream",3+(85/60),18);
 236
 237
 238
 239
 240
 241
 242

Object Info Session No object selected

Action Output

Time	Action	Responses	Duration / Fetch Time
209 20:39:08	INSERT INTO songs(id,name,length,album_id) VALUES (180,Magic_T... 1 rows) affected	0.00096 sec	
210 20:39:08	INSERT INTO songs(id,name,length,album_id) VALUES (181,Hearted... 1 rows) affected	0.0010 sec	
211 20:39:08	INSERT INTO songs(id,name,length,album_id) VALUES (182,Frodo)... 1 rows) affected	0.00097 sec	

Query Completed

AS

Task: Select only the Names of all the Bands

Change the name of the column the data returns to Band Name.

The screenshot shows the MySQL Workbench interface with the following details:

- Toolbar:** Standard MySQL Workbench icons for Home, SQL, Schemas, Tables, Views, Procedures, Functions, and Help.
- Session Tab:** Local instance 3306.
- Schemas Tab:** Shows the current schema is record_company_mr... with tables, views, stored procedures, and functions listed.
- Query Editor:** Displays the following SQL code:

```
229 • INSERT INTO songs(id,name,length,album_id) VALUES (176,'Last Night of the Kings',3+(52/60),18);
230 • INSERT INTO songs(id,name,length,album_id) VALUES (177,'Tribe of Force',3+(17/60),18);
231 • INSERT INTO songs(id,name,length,album_id) VALUES (178,'Water Fire Heaven Earth',3+(32/60),18);
232 • INSERT INTO songs(id,name,length,album_id) VALUES (179,'Master of Puppets',8+(23/60),18);
233 • INSERT INTO songs(id,name,length,album_id) VALUES (180,'Magic Taborea',3+(22/60),18);
234 • INSERT INTO songs(id,name,length,album_id) VALUES (181,'Hearted',4+(00/60),18);
235 • INSERT INTO songs(id,name,length,album_id) VALUES (182,'Frodo''s Dream',3+(06/60),18);
236
237 • SELECT name AS 'Band Name' FROM bands;
238
```
- Result Grid:** Shows the results of the query:

Band Name
Seventh Wonder
Metallica
The Ocean
Within Temptation
Death
Van Canto
Dream Theater
- Action Output:** Shows the execution log:

Time	Action	Response	Duration / Fetch Time
20:39:08	INSERT INTO songs(id,name,length,album_id) VALUES (181,'Heart...	1 row(s) affected	0.0010 sec
20:39:08	INSERT INTO songs(id,name,length,album_id) VALUES (182,'Frodo...	1 row(s) affected	0.00097 sec
00:18:58	SELECT name AS 'Band Name' FROM bands LIMIT 0, 1000	7 row(s) returned	0.049 sec / 0.00079...
- Status Bar:** Query Completed.
- Help Panel:** A vertical panel on the right with the text: "Automatic context help is disabled. Use the toolbar to manually get help for the current caret position or to toggle automatic help." It also has icons for Result Grid, Form Editor, and Field Types.

WHERE, ORDER BY, LIMIT

Task: Select the Oldest Album

The screenshot shows the MySQL Workbench interface with the following details:

- Schemas:** Local instance 3306
- Query Editor:** Shows the following SQL code:

```
235 • INSERT INTO songs(id,name,length,album_id) VALUES (182,'Frodo''s Dream',3+(06/60),18);
236
237 • SELECT name AS 'Band Name' FROM bands;
238
239 • SELECT * FROM albums
240 WHERE release_year IS NOT NULL
ORDER BY release_year
LIMIT 1;
```
- Result Grid:** Displays the result of the last query:

id	name	release_year	band_id
5	...And Justice for All	1988	2
HULL	HULL	HULL	HULL
- Action Output:** Shows the log of actions taken:

Time	Action	Response	Duration / Fetch Time
20:39:08	INSERT INTO songs(id,name,length,album_id) VALUES (182,'Frod...	1 row(s) affected	0.00097 sec
00:18:58	SELECT name AS 'Band Name' FROM bands LIMIT 0, 1000	7 row(s) returned	0.049 sec / 0.00079...
00:23:01	SELECT * FROM albums WHERE release_year IS NOT NULL ORDE...	1 row(s) returned	0.0069 sec / 0.00007...
- Help Note:** A note on the right side states: "Automatic context help is disabled. Use the toolbar to manually get help for the current caret position or to toggle automatic help."
- Status:** Query Completed

DISTINCT, JOIN, AS

Task: Get all Bands that have Albums

Return the band name as Band Name.

The screenshot shows the MySQL Workbench interface with the following details:

- Toolbar:** Includes icons for Home, Local instance 3306, SQL, SQL File, Purchase1, SQL File 8*, purchase2, Context..., and Snippets.
- Schemas:** A tree view showing databases like a, homework1, project, Purchases, record_company_mr..., sys, and a selected schema.
- Query Editor:** Displays the following SQL code:

```
240 WHERE release_year IS NOT NULL
241 ORDER BY release_year
242 LIMIT 1;
243
244 • SELECT DISTINCT bands.name AS 'Band Name'
245 FROM bands
246 JOIN albums ON bands.id = albums.band_id;
```
- Result Grid:** Shows the output of the query:

Band Name
▶ Seventh Wonder
Metallica
The Ocean
Within Temptation
Death
Van Canto
- Action Output:** Displays the execution log:

Time	Action	Response	Duration / Fetch Time
212 00:18:58	SELECT name AS 'Band Name' FROM bands LIMIT 0, 1000	7 row(s) returned	0.049 sec / 0.00079...
213 00:23:01	SELECT * FROM albums WHERE release_year IS NOT NULL ORDE...	1 row(s) returned	0.0069 sec / 0.00007...
214 00:26:05	SELECT DISTINCT bands.name AS 'Band Name' FROM bands JO...	6 row(s) returned	0.0056 sec / 0.00001...
- Status Bar:** Shows "Query Completed".
- Help Panel:** A sidebar message states: "Automatic context help is disabled. Use the toolbar to manually get help for the current caret position or to toggle automatic help."

LEFT JOIN, GROUP BY, HAVING, COUNT

Task: Get all Bands that have No Albums

Return the band name as Band Name.

The screenshot shows the MySQL Workbench interface with a query editor window. The query is:

```
245  FROM bands
246  JOIN albums ON bands.id = albums.band_id;
247
248 •  SELECT bands.name AS 'Band Name'
249    FROM bands
250    LEFT JOIN albums ON bands.id = albums.band_id
251    GROUP BY albums.band_id
252    HAVING COUNT(albums.id) = 0;
```

The results grid shows one row:

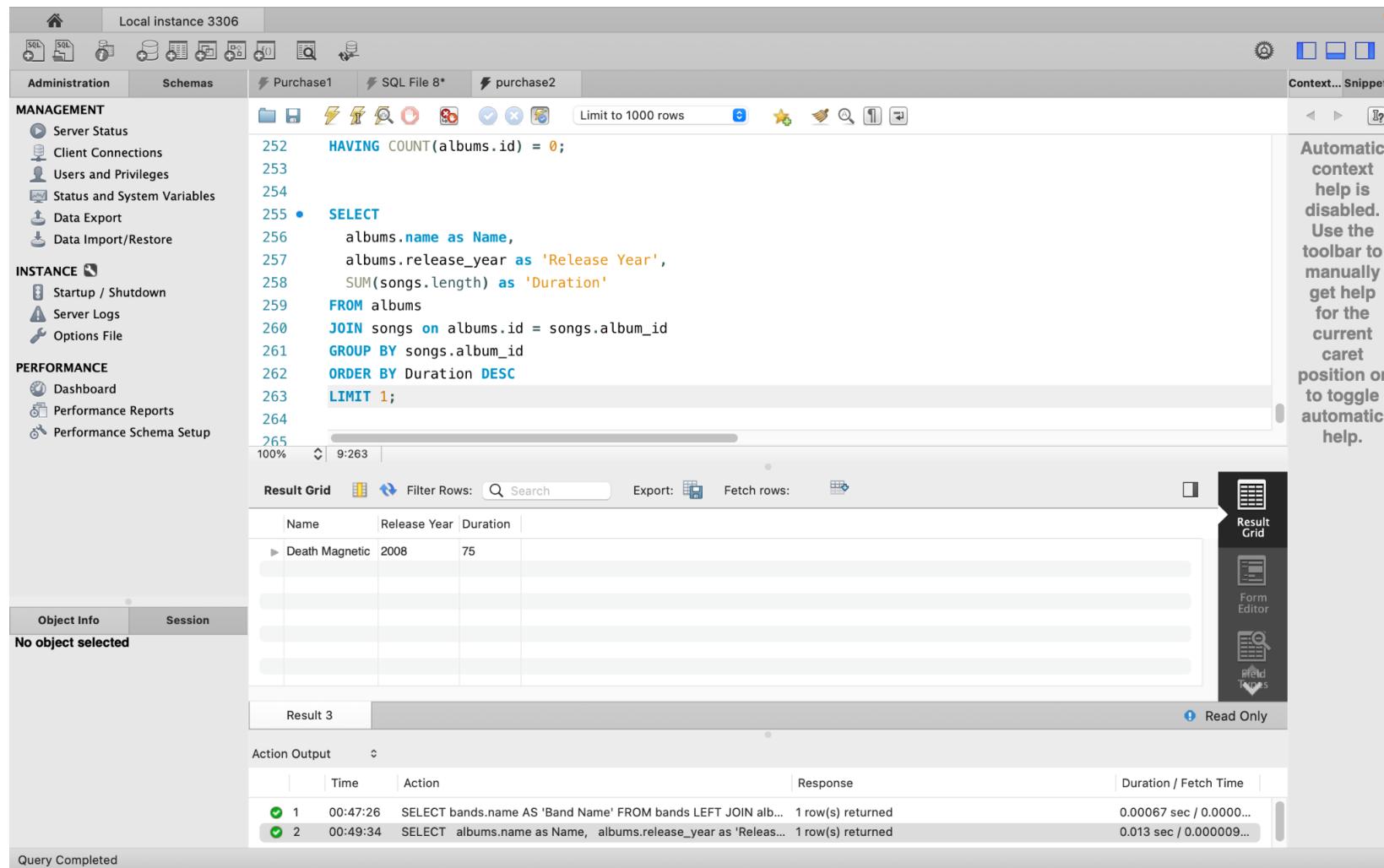
Band Name
Dream Theater

The status bar at the bottom left says "Query Completed". On the right side of the interface, there is a vertical toolbar with icons for Result Grid, Form Editor, Field Types, and Query Stats. A tooltip message is displayed: "Automatic context help is disabled. Use the toolbar to manually get help for the current caret position or to toggle automatic help."

SUM, DESC

Task: Get the Longest Album

Return the album name as Name, the album release year as Release Year, and the album length as Duration.



The screenshot shows the MySQL Workbench interface with the following details:

- Query Editor:** Displays the SQL query:

```
252 HAVING COUNT(albums.id) = 0;
253
254
255 •  SELECT
256     albums.name as Name,
257     albums.release_year as 'Release Year',
258     SUM(songs.length) as 'Duration'
259     FROM albums
260     JOIN songs on albums.id = songs.album_id
261     GROUP BY songs.album_id
262     ORDER BY Duration DESC
263
264
265
```
- Result Grid:** Shows the result of the query:

Name	Release Year	Duration
Death Magnetic	2008	75
- Action Output:** Shows the execution log:

Time	Action	Response	Duration / Fetch Time
00:47:26	SELECT bands.name AS 'Band Name' FROM bands LEFT JOIN alb...	1 row(s) returned	0.00067 sec / 0.0000...
00:49:34	SELECT albums.name as Name, albums.release_year as 'Releas...	1 row(s) returned	0.013 sec / 0.000009...
- Right Panel:** A vertical panel with icons for Result Grid, Form Editor, and Field Types, with a note: "Automatic context help is disabled. Use the toolbar to manually get help for the current caret position or to toggle automatic help."

SELECT, FROM, WHERE UPDATE

Task: Update the Release Year of the Album with no Release Year

Set the release year to 1986.

The screenshot shows two separate sessions in Oracle SQL Developer:

Session 1 (Purchase1):

```

257    albums.release_year AS 'Release Year',
258    SUM(songs.length) AS 'Duration'
259  FROM albums
260 JOIN songs ON albums.id = songs.album_id
261 GROUP BY songs.album_id
262 ORDER BY Duration DESC
263
264
265 • SELECT * FROM albums WHERE release_year IS NULL;
266
267
268

```

Session 2 (Purchase2):

```

248 • SELECT bands.name AS 'Band Name'
249   FROM bands
250 LEFT JOIN albums ON bands.id = albums.band_id
251 GROUP BY albums.band_id
252 HAVING COUNT(albums.id) = 0;
253
254
255 • SELECT
256   albums.name AS Name,
257   albums.release_year AS 'Release Year',
258   SUM(songs.length) AS 'Duration'
259  FROM albums
260 JOIN songs ON albums.id = songs.album_id
261 GROUP BY songs.album_id
262 ORDER BY Duration DESC
263
264
265 • SELECT * FROM albums WHERE release_year IS NULL;
266
267
268 • UPDATE albums
269   SET release_year=1986
270 WHERE id=4;
271

```

Action Output:

Action	Time	Action	Response	Duration / Fetch Time
2	00:49:34	SELECT albums.name AS Name, albums.release_year AS 'Release Year', SUM(songs.length) AS 'Duration' FROM albums	1 row(s) returned	0.013 sec / 0.000009...
3	00:51:38	SELECT * FROM albums WHERE release_year IS NULL LIMIT 0, 1000	1 row(s) returned	0.00041 sec / 0.0000...
4	00:53:32	UPDATE albums SET release_year=1986 WHERE id=4	1 row(s) affected Rows matched: 1 Changed: 1 Warnings: 0	0.071 sec

INSERT INTO

Task: Insert a record for your favourite Band and one of their Albums

The screenshot shows the MySQL Workbench interface with the following details:

- Toolbar:** Includes icons for Home, Local instance 3306, Administration, Schemas, Purchase1, SQL File 8*, purchase2, and various database management tools.
- Sidebar:** Contains sections for MANAGEMENT (Server Status, Client Connections, Users and Privileges, Status and System Variables, Data Export, Data Import/Restore), INSTANCE (Startup / Shutdown, Server Logs, Options File), and PERFORMANCE (Dashboard, Performance Reports, Performance Schema Setup).
- Query Editor:** Displays a numbered list of SQL statements:
 - 253
 - 254
 - 255 • **SELECT**
 albums.name as Name,
 albums.release_year as 'Release Year',
 SUM(songs.length) as 'Duration'
 FROM albums
 JOIN songs **on** albums.id = songs.album_id
 GROUP BY songs.album_id
 ORDER BY Duration **DESC**
 LIMIT 1;
 - 264
 - 265 • **SELECT * FROM** albums **WHERE** release_year **is null**;
 - 266
 - 267
 - 268 • **UPDATE** albums
 SET release_year=1986
 WHERE id=4;
 - 271
 - 272 • **INSERT INTO** bands (name)
 VALUE ('Radiohead');
 - 273 • **INSERT INTO** albums (name, release_year, band_id)
 VALUE ('Pablo Honey', 1993,8);
 - 275
 - 276
- Action Output:** A table showing the results of the last two queries:

	Time	Action	Response	Duration / Fetch Time
5	00:54:56	INSERT INTO bands (name) VALUE ('Radiohead')	1 row(s) affected	0.018 sec
6	00:54:56	INSERT INTO albums (name, release_year, band_id) VALUE ('Pabl...')	1 row(s) affected	0.0047 sec
- Status Bar:** Shows "Query Completed".

A vertical toolbar on the right side of the interface has the following message: "Automatic context help is disabled. Use the toolbar to manually get help for the current caret position or to toggle automatic help."

DELETE FROM table

Task: Delete the Band and Album you added in #8

The screenshot shows the MySQL Workbench interface with a session titled "Local instance 3306". The left sidebar contains navigation links for Administration, Schemas, and three tabs: Purchase1, SQL File 8*, and purchase2. The main pane displays the following SQL code:

```
264
265 •  SELECT * FROM albums WHERE release_year is null;
266
267
268 •  UPDATE albums
269     SET release_year=1986
270     WHERE id=4;
271
272 •  INSERT INTO bands (name)
273     VALUE ('Radiohead');
274 •  INSERT INTO albums (name, release_year, band_id)
275     VALUE ('Pablo Honey', 1993,8);
276
277
278 •  DELETE FROM albums
279     WHERE id=19;
280
281 •  DELETE FROM bands
282     WHERE id=8;
```

A tooltip on the right side of the interface reads: "Automatic context help is disabled. Use the toolbar to manually get help for the current caret position or to toggle automatic help."

The bottom pane shows the "Action Output" section with a table:

	Time	Action	Response
13	00:59:42	DELETE FROM albums WHERE id=19	1 row(s) affected
14	00:59:42	DELETE FROM bands WHERE id=8	1 row(s) affected

The status bar at the bottom indicates "Query Completed".

AVG

Task: Get the Average Length of all Songs

Return the average length as Average Song Duration.

The screenshot shows the MySQL Workbench interface with the following details:

- Toolbar:** Includes icons for Home, Local instance 3306, Administration, Schemas, Purchase1, SQL File 8*, purchase2, and Context... Snippets.
- Left Sidebar:** Management section with Server Status, Client Connections, Users and Privileges, Status and System Variable, Data Export, and Data Import/Restore; Instance section with Startup / Shutdown, Server Logs, Options File; Performance section with Dashboard, Performance Reports, and Performance Schema Setup.
- Query Editor:** Displays the following SQL code:

```
274 • INSERT INTO albums (name, release_year, band_id)
275   VALUE ('Pablo Honey', 1993,8);
276
277
278 • DELETE FROM albums
279   WHERE id=19;
280
281 • DELETE FROM bands
282   WHERE id=8;
283
284
285 • SELECT AVG(length) FROM songs;
```
- Result Grid:** Shows the result of the last query: **AVG(length)** = **5.3516**.
- Action Output:** Shows two entries:

Time	Action	Response
00:59:42	DELETE FROM bands WHERE id=8	1 row(s) affected
01:02:11	SELECT AVG(length) FROM songs LIMIT 0, 1000	1 row(s) returned
- Status Bar:** Query Completed.
- Help Message:** A tooltip on the right says: "Automatic context help is disabled. Use the toolbar to manually get help for the current caret position or to toggle automatic help."

MAX

Task: Select the longest Song of each Album

Return the album name as Album, the album release year as Release Year, and the longest song length as Duration.

The screenshot shows the MySQL Workbench interface with the following details:

- Toolbar:** Includes icons for Home, Local instance 3306, SQL, Schemas, Purchase1, SQL File 8*, purchase2, and Context... Snippets.
- Left Sidebar:** Management, Instance, Performance, Object Info, and Session sections.
- Central Area:** A code editor window displaying the following SQL query:

```
285 •  SELECT AVG(length) FROM songs;
286
287
288 •  SELECT
289     albums.name AS 'Album',
290     albums.release_year AS 'Release Year',
291     MAX(songs.length) AS 'Duration'
292     FROM albums
293     JOIN songs ON albums.id=songs.album_id
294     GROUP BY songs.album_id;
295
296
```
- Result Grid:** Shows the results of the query in a tabular format:

Album	Release Year	Duration
Tiara	2018	00:00:10
The Great Escape	2010	00:00:30
Mercy Falls	2008	00:00:09
Master of Puppets	1986	00:00:09
...And Justice for All	1988	00:00:10
Death Magnetic	2008	00:00:10
Heliocentric	2010	00:00:07
Pelagial	2013	00:00:09
Anthropocentric	2010	00:00:09
Resist	2018	00:00:06
The Unforgiving	2011	00:00:06

- Action Output:** Displays the history of actions taken:| Time | Action | Response |
| --- | --- | --- |
| 01-02-11 01:03:40 | SELECT AVG(length) FROM songs LIMIT 0, 1000 | 1 row(s) returned |
| 01-03-40 | SELECT albums.name AS 'Album', albums.release_year AS 'Relea... | 18 row(s) returned |
- Right Sidebar:** A vertical panel with icons for Result Grid, Form Editor, Field Types, and a help message: "Automatic context help is disabled. Use the toolbar to manually get help for the current caret position or to toggle automatic help."
- Status Bar:** Shows "Query Completed".

2 JOINS, COUNT, GROUP BY

Task: Get the number of Songs for each Band

Return the band name as Band, the number of songs as Number of Songs.

The screenshot shows the MySQL Workbench interface with a query editor window. The query is:

```
296
297 •  SELECT
298     bands.name AS 'Band',
299     COUNT(songs.id) AS 'Number of Songs'
300   FROM bands
301   JOIN albums ON bands.id=albums.band_id
302   JOIN songs ON albums.id=songs.album_id
303   GROUP BY (albums.band_id);
304
305
306
307
```

The results grid displays the following data:

Band	Number of Son...
▶ Seventh Wonder	35
Metallica	27
The Ocean	31
Within Temptation	30
Death	27
Van Canto	32

Below the results, the Action Output pane shows two log entries:

Action	Time	Response
16	01:03:40	SELECT albums.name AS `Album`, albums.release_year AS `Releas...
17	01:06:27	SELECT bands.name AS 'Band'; COUNT(songs.id) AS 'Number of ...

A vertical toolbar on the right side of the interface includes icons for Result Grid, Form Editor, and Field Types.