

Task 2 Queries

MySQL Workbench

Local instance MySQL801

File Edit View Query Database Server Tools Scripting Help

Navigator

SCHEMAS

xyzutility

- Tables
- Views
- Stored Procedures
- Functions

Administration - Startup / Shutdo... XYZutilityDML

1 -- Task 2.1.1

2 • USE xyzutility;

3

4 • INSERT INTO Customers (`Name`)

5 VALUES

6 ('Will Draper'),

7 ('Elliot Alders');

8

9

10 • SELECT * FROM CUSTOMERS;

Administration Schemas

Information

Connection Details

N Local instance MySQL801

H localhost

P 806

L root

User: root@localhost

C root@localhost

SSL TLS_AES_256_GCM_SHA256

cipher

Server

M MySQL Community

P Server - GPL

V 8.0.22

Connector

V C++ 8.0.22

Result Grid | Filter Rows:

	CustomerID	Name
▶	113	Johnath Dun
	454	Kalie Gratton
	856	Ruperta Horsewood
	1010	Bat Scamel
	1125	Roxi Falvey
	1126	Will Draper
	1127	Elliot Alders
*	HULL	NULL

2.2 Assigning tasks

MySQL Workbench

Local instance MySQL801

File Edit View Query Database Server Tools Scripting Help

Navigator

SCHEMAS

Filter objects

sys

Administration - Startup / Shutdown XYZutilityDML XYZutilityDDL XYZutilityDCL

1 -- 2.2
2 • USE xyzutility;
3
4 • INSERT INTO Tasks (AddressID, ReaderID, TaskDate)
5 VALUES
6 (4, 4, '2020-04-22'),
7 (6, 4, '2021-04-24');
8
9 • SELECT * FROM Tasks
10 WHERE ReaderID = 4;

Administration Schemas

Information

Connection Details

N Local instance MySQL801
H localhost
P 8306
L root
U root
C root@localhost
U root
S SSL
C cipher
T TLS_AES_256_GCM_SHA384
S Server

Result Grid | Filter Rows: Export: Wrap Cell Content:

	TaskID	AddressID	ReaderID	TaskDate	MeterReading	BillID	Notes
▶	8	1	4	2019-07-15	830	4	
	10	3	4	2018-01-05	612	5	
	11	3	4	2018-01-05	612	6	
	12	3	4	2018-02-05	890	6	
	21	1	4	2019-07-15	830	NULL	
	30	3	4	2018-02-05	890	NULL	needs new reading
	31	4	4	2020-04-22	NULL	NULL	
	32	6	4	2021-04-24	NULL	NULL	

Task 2.3

New readings and Bill

Note: User
Gaspar is
Reader

The screenshot shows the MySQL Workbench interface. In the top navigation bar, the database is set to "Local instance MySQL801" and the schema is "Gaspar". The SQL editor contains the following code:

```

1 • use xyzutility;
2 • SELECT * FROM TASKS
3 WHERE AddressID = 4;
4
5 -- AddressID 4, Dottie Junction needs a new reading

```

The results pane displays a table with the following data:

	TaskID	AddressID	ReaderID	TaskDate	MeterReading	BillID	Notes
▶	13	4	6	2018-09-21	1350	7	
	14	4	6	2018-10-21	1870	7	
	20	4	6	2018-10-21	1870	NUL	
	31	4	4	2020-04-22	NUL	NUL	
*	NULL	NULL	NULL	NULL	NULL	NULL	NULL

Reader reports
meter reading

The screenshot shows the MySQL Workbench interface. In the top navigation bar, the database is set to "Local instance MySQL801" and the schema is "Gaspar". The SQL editor contains the following code:

```

1 • use xyzutility;
2 • SELECT * FROM ReaderTask;
3
4 • UPDATE Tasks
5 SET MeterReading = 1900
6 WHERE TaskID = 31;

```

The results pane displays a table with the following data:

	TaskID	ReaderID	Name	TaskDate	MeterReading	MeterNo	Address
▶	8	4	Gaspar McCaskill	2019-07-15	830	27	36 Laurel Center Canyon TX 79015
	10	4	Gaspar McCaskill	2018-01-05	612	56	22509 Holmberg Point Canyon TX 79016
	12	4	Gaspar McCaskill	2018-02-05	890	56	22509 Holmberg Point Canyon TX 79016
	31	4	Gaspar McCaskill	2020-04-22	1900	48	07245 Dottie Junction Canyon TX 79015
	32	4	Gaspar McCaskill	2021-04-24	NUL	16	656 Weeping Birch Avenue Canyon TX 79016

2.3 Creating bill from reading

MySQL Workbench

Local instance MySQL801 × Gaspar ×

File Edit View Query Database Server Tools Scripting Help

SQL DDL DML Scripts Tables Views Stored Procedures Functions

Navigator Administration - Startup / Shutdown XYZUtilityDML* XYZUtilityDDL* XYZUtilityDCL

SCHEMAS

Filter objects

sys xyzutility

Tables Views Stored Procedures Functions

Administration Schemas

Information

Connection Details

Local instance MySQL801
Host localhost
Port 306
User root
Connected as root@localhost
SSL cipher TLS_AES_256_GCM_SHA384
Server MySQL Community Server

Administration - Startup / Shutdown XYZUtilityDML* XYZUtilityDDL* XYZUtilityDCL

1 --
2
3 • SELECT * FROM BILLS;
4
5 • INSERT INTO Bills
6 VALUES (10, 2008, '2020-04-23', '2020-05-23', '30', '11.7');

Result Grid | Filter Rows: Edit: Export/Import:

	BillID	BillNo	IssueDate	DueDate	Consumption	TotalDue
4	1004	2019-07-15	2019-08-14	160	78.40	
5	1005	2017-12-04	2018-01-03	271	102.98	
6	1006	2018-01-05	2018-02-04	278	105.64	
7	1007	2018-10-21	2018-11-20	520	202.80	
8	2006	2018-09-19	2018-10-19	131	34.06	
9	2007	2019-11-23	2019-12-23	330	135.30	
10	2008	2020-04-23	2020-05-23	30	11.70	
*	NULL	NULL	NULL	NULL	NULL	

2.4 Terminating a contract

MySQL Workbench

```

1 -- 2.4 Termination task
2 • Use xyzutility;
3 • INSERT INTO Tasks (AddressID, ReaderID, TaskDate)
4 VALUES
5 (3, 4, '2020-06-11');
6
7 • SELECT * FROM Tasks;

```

	TaskID	AddressID	ReaderID	TaskDate	MeterReading	BillID	Notes
27	5	5		2019-10-23	400	NULL	
28	5	1		2019-11-23	730	NULL	need...
29	5	1		2019-11-23	730	NULL	
30	3	4		2018-02-05	890	NULL	need...
31	4	4		2020-04-22	1900	NULL	
32	6	4		2021-04-24	NULL	NULL	
33	3	4		2020-06-11	NULL	NULL	
*	HULL	HULL	HULL	HULL	HULL	HULL	HULL

Reader reports
reading

MySQL Workbench

```

1 • use xyzutility;
2 • SELECT * FROM ReaderTask;
3
4 • UPDATE Tasks
5 SET MeterReading = 900
6 WHERE TaskID = 33;
7

```

	TaskID	ReaderID	Name	TaskDate	MeterReading	MeterNo	Address
8	4	Gaspar McCaskill	2019-07-15	830	27	36 Laurel Center Canyon TX 79015	
10	4	Gaspar McCaskill	2018-01-05	612	56	22509 Holmberg Point Canyon TX 79016	
12	4	Gaspar McCaskill	2018-02-05	890	56	22509 Holmberg Point Canyon TX 79016	
33	4	Gaspar McCaskill	2020-06-11	900	56	22509 Holmberg Point Canyon TX 79016	
31	4	Gaspar McCaskill	2020-04-22	1900	48	07245 Dottie Junction Canyon TX 79015	
32	4	Gaspar McCaskill	2021-04-24	NULL	16	656 Weeping Birch Avenue Canyon TX 79016	

Bill is issued and tasks are logged as referring to Bill

MySQL Workbench

Local instance MySQL801 × Gaspar ×

File Edit View Query Database Server Tools Scripting Help

Navigator XYZutilityDML* × XYZutilityDDL XYZutilityDCL DataInputs Administration - Startup / Shutdo... SQL File 6*

SCHEMAS

Filter objects

sys xyzutility

Tables Views Stored Procedures Functions

XYZutilityDML* ×

```
57
58      -- then calculate and insert the bill information
59 •   SELECT * FROM Bills;
60 •   INSERT INTO Bills
61     VALUES (11, 2009, '2020-06-11', '2020-07-11', 10, 3.8);
62 •   UPDATE Tasks
63     SET BillID = 11
64     WHERE TaskID = 30 OR TaskID = 33;    -- Logs these tasks as the tasks used to produce the Bill
65
66
```

Administration Schemas

Information

Connection Details

NLocal instance MySQL801
Hdocalhost
Pc306
Lo root
User: Croot@localhost
User: SSL TLS_AES_256_GCM_SHA256
Server MySQL Community Server - GPL

Result Grid | Filter Rows: | Edit: | Export/Import: | Wrap Cell Content:

BillID	BillNo	IssueDate	DueDate	Consumption	TotalDue
5	1005	2017-12-04	2018-01-03	271	102.98
6	1006	2018-01-05	2018-02-04	278	105.64
7	1007	2018-10-21	2018-11-20	520	202.80
8	2006	2018-09-19	2018-10-19	131	34.06
9	2007	2019-11-23	2019-12-23	330	135.30
10	2008	2020-04-23	2020-05-23	30	11.70
11	2009	2020-06-11	2020-07-11	10	3.80
*	HULL	HULL	HULL	HULL	HULL

Deactivate contract

MySQL Workbench

Local instance MySQL801 × Gaspar ×

File Edit View Query Database Server Tools Scripting Help

Navigator XYZutilityDML* × XYZutilityDDL XYZutilityDCL DataInputs Administration - Startup / Shutdo...

SCHEMAS

Filter objects

sys xyzutility

Tables Views Stored Procedures Functions

XYZutilityDML* ×

```
64     WHERE TaskID = 30 OR TaskID = 33;    -- Logs these tasks as the tasks used to produce the Bill
65
66     -- Finally, update deactivation date for the customer on their contract
67 •   UPDATE Contracts
68     SET DeactivationDate = '2020-07-11'
69     WHERE ContractID = 2795;
70 •   SELECT * FROM CONTRACTS
71     WHERE ContractID = 2795;
72
73
```

Administration Schemas

Information

Connection Details

NLocal instance MySQL801
Hdocalhost
Pc306
Lo root
User: Croot@localhost

Result Grid | Filter Rows: | Edit: | Export/Import: | Wrap Cell Content:

ContractID	AddressID	ActivationDate	DeactivationDate	BillingRate
2795	3	2017-12-04	2020-07-11	0.38
*	HULL	HULL	HULL	HULL

Note: AddressID is specific for the customer who resides at that address

Task 2.2

2.2.1

File Edit View Query Database Server Tools Scripting Help

Navigator XYZutilityDML XYUtilityDDL XYZutilityDCL DataInputs Administration - S

SCHEMAS

sys xyzutility

Tables Views Stored Procedures Functions

Administration Schemas

Information

Connection Details

NLocal instance MySQL801
Hlocalhost
P08306
Lroot
User Croot@localhost
User
SSL TLS_AES_256_GCM_SHA256

75
76 -- Task 2.2 Informational Queries
77 -- 1
78
79 • SELECT c.`Name`, p.Balance
80 FROM Customers c, Addresses a, Tasks t, Bills b, Payments p
81 WHERE p.Balance > 100
82 AND c.CustomerID = a.CustomerID
83 AND a.AddressID = t.AddressID
84 AND t.BillID = b.BillID
85 AND b.BillID = p.BillID
86 GROUP BY p.Balance;
87

Result Grid Filter Rows: Export: Wrap Cell Content:

Name	Balance
Karie Gratton	102.80

2.2.2

MySQL Workbench

File Edit View Query Database Server Tools Scripting Help

Navigator XYZutilityDML* XYZutilityDDL XYZutilityDCL DataInputs Administration - Startup / Shutdown SQL File 6*

SCHEMAS

sys xyzutility

Tables Views Stored Procedures Functions

Administration Schemas

Information

Connection Details

NLocal instance MySQL801
Hlocalhost
P08306
Lroot
User Croot@localhost
User
SSL TLS_AES_256_GCM_SHA256

Server MySQL Community Server - GPL
V8.0.22
Connector Vc++ 8.0.22

81 WHERE p.Balance > 100
82 AND c.CustomerID = a.CustomerID
83 AND a.AddressID = t.AddressID
84 AND t.BillID = b.BillID
85 AND b.BillID = p.BillID
86 GROUP BY p.Balance;
87
88 -- 2
89
90 • SELECT t.TaskID, t.ReaderID, r.`Name`, t.TaskDate, t.MeterReading, a.MeterNo, a.Address
FROM Tasks t, Addresses a, Readers r
WHERE r.readerID = 1
AND r.ReaderID = t.ReaderID
AND t.AddressID = a.AddressID;

Result Grid Filter Rows: Export: Wrap Cell Content:

TaskID	ReaderID	Name	TaskDate	MeterReading	MeterNo	Address
1	1	Genieve Creighton	2019-04-15	211	27	36 Laurel Center Canyon TX 79015
2	1	Genieve Creighton	2019-05-15	411	27	36 Laurel Center Canyon TX 79015
5	1	Genieve Creighton	2019-05-15	411	27	36 Laurel Center Canyon TX 79015
6	1	Genieve Creighton	2019-06-15	670	27	36 Laurel Center Canyon TX 79015
7	1	Genieve Creighton	2019-06-15	670	27	36 Laurel Center Canyon TX 79015
18	1	Genieve Creighton	2019-11-23	730	16	656 Weeping Birch Avenue Canyon TX 79016
25	1	Genieve Creighton	2019-11-23	730	16	656 Weeping Birch Avenue Canyon TX 79016
28	1	Genieve Creighton	2019-11-23	730	16	656 Weeping Birch Avenue Canyon TX 79016
29	1	Genieve Creighton	2019-11-23	730	16	656 Weeping Birch Avenue Canyon TX 79016

2.2.3

Customer Energy Consumption & Payment Data											
Customer Information		Bill Details		Usage & Dates		Financial Summary		Payment History			
Name	Address	TaskDate	MeterReading	BillNo	IssueDate	Consumption	totaldue	DateOfPayment	Payment	Balance	
Johnath Dun	2768 Clarendon Trail Canyon TX 79015	2020-05-06	3851	1002	2020-06-06	209	71.06	2020-06-07	71.06	0.00	
Kalie Gratton	36 Laurel Center Canyon TX 79015	2019-04-15	211	1001	2019-05-15	200	98.00	2019-05-20	98.00	0.00	
Kalie Gratton	36 Laurel Center Canyon TX 79015	2019-05-15	411	1003	2019-06-15	259	126.91	2019-06-20	126.91	0.00	
Kalie Gratton	36 Laurel Center Canyon TX 79015	2019-06-15	670	1004	2019-07-15	160	78.40	2019-07-16	78.40	0.00	
Kalie Gratton	07245 Dottie Junction Canyon TX 79015	2018-09-21	1350	1007	2018-10-21	520	202.80	2018-10-22	100.00	102.80	
Rupert Horsewood	656 Weeping Birch Avenue Canyon TX 79016	2019-10-23	400	2007	2019-11-23	330	135.30	2019-11-25	100.00	35.30	
Bat Scamel	656 Weeping Birch Avenue Canyon TX 79016	2018-08-19	269	2006	2018-09-19	131	34.06	NULL	34.06	34.06	
Roxi Falvey	22509 Holmberg Point Canyon TX 79016	2017-12-04	341	1005	2017-12-04	271	102.98	2017-12-06	102.98	0.00	
Roxi Falvey	22509 Holmberg Point Canyon TX 79016	2018-01-05	612	1006	2018-01-05	278	105.64	2018-01-08	105.64	0.00	

2.2.4

2.2.5

MySQL Workbench

Local instance MySQL801 × Gaspar ×

File Edit View Query Database Server Tools Scripting Help

Navigator: XYZutilityDML × XYZutilityDDL XYZutilityDCL DataInputs Administration

SCHEMAS

Filter objects

- sys
- xyzutility
 - Tables
 - Views
 - Stored Procedures
 - Functions

Administration Schemas

Information

Connection Details

- Host: Local instance MySQL801
- Port: 3306
- User: root
- Character Set: UTF8
- SSL: None

```

110     AND (TaskDate BETWEEN '2019-01-01' AND '2020-04-25');
111
112     -- 5
113 •   SELECT b.BillNo, t.ReaderID, r.`Name`, t.TaskDate
114     FROM Bills b, Tasks t, Readers r
115     WHERE b.BillNo = 1002
116     AND b.BillID = t.BillID
117     AND t.ReaderID = r.ReaderID;
118
119

```

Result Grid | Filter Rows: | Export: | Wrap Cell Content

	BillNo	ReaderID	Name	TaskDate
▶	1002	2	Lancelot Tschiersch	2020-05-06
	1002	3	Bernita Munson	2020-06-06

2.2.6

MySQL Workbench

Local instance MySQL801 × Gaspar ×

File Edit View Query Database Server Tools Scripting Help

Navigator: XYZutilityDML × XYZutilityDDL XYZutilityDCL DataInputs Administration

SCHEMAS

Filter objects

- sys
- xyzutility
 - Tables
 - Views
 - Stored Procedures
 - Functions

Administration Schemas

Information

Connection Details

- Host: Local instance MySQL801
- Port: 3306
- User: root
- Character Set: UTF8
- SSL: TLS_AES_256_GCM_SHA384

```

119     -- 6
120 •   SELECT `Name`, MAX(sumcons) as `MaxConsumption`
121     FROM
122     (SELECT SUM(b.Consumption) as sumcons, c.`Name` as `Name`
123     FROM Bills b, Customers c, Tasks t, Addresses a
124     WHERE b.BillID = t.BillID
125     AND t.AddressID = a.AddressID
126     AND a.CustomerID = c.CustomerID
127     AND (b.IssueDate BETWEEN '1990-05-01' AND '2020-07-04')
128     GROUP BY c.`Name`) as T1
129     GROUP BY `Name`
130     ORDER BY `MaxConsumption` desc
131     LIMIT 1;
132

```

Result Grid | Filter Rows: | Export: | Wrap Cell Content

	Name	MaxConsumption
▶	Kalie Gratton	2278

2.2.7

MySQL Workbench

Local instance MySQL801 × Gaspar ×

File Edit View Query Database Server Tools Scripting Help

Navigator: XYZutilityDML* × XYZutilityDDL XYZutilityDCL DataInputs Administrat...

SCHEMAS

Filter objects

- sys
- xyzutility
 - Tables
 - Views
 - Stored Procedures
 - Functions

Administration Schemas

Information

Connection Details

- Local instance MySQL801
- Hostname
- Port 306
- User root
- Client root@localhost
- User root
- SSL cipher TLS_AES_256_GCM_SHA256

```

124 WHERE b.BillID = t.BillID
125 AND t.AddressID = a.AddressID
126 AND a.CustomerID = c.CustomerID
127 AND (b.IssueDate BETWEEN '1990-05-01' AND '2020-07-04')
128 GROUP BY c.`Name` ) as T1
129 GROUP BY `Name`
130 ORDER BY `MaxConsumption` desc
131 LIMIT 1;

132 --
133 -- 7
134 • SELECT avg(b.Consumption) as avgConsumption
135 FROM Bills b
136 WHERE (b.IssueDate BETWEEN '2017-05-01' AND '2020-07-04'
137

```

Result Grid | Filter Rows: Export: Wrap Cell Content:

avgConsumption
218.0000

2.2.8

MySQL Workbench

Local instance MySQL801 × Gaspar ×

File Edit View Query Database Server Tools Scripting Help

Navigator: XYZutilityDML* × XYZutilityDDL XYZutilityDCL DataInputs Administration - Startup / Shutdown SQL File 6*

SCHEMAS

Filter objects

- sys
- xyzutility
 - Tables
 - Views
 - Stored Procedures
 - Functions

Administration Schemas

Information

Connection Details

- Local instance MySQL801
- Hostname
- Port 306
- User root
- Client root@localhost
- User root
- SSL cipher TLS_AES_256_GCM_SHA256

```

134 • SELECT avg(b.Consumption) as avgConsumption
135 FROM Bills b
136 WHERE (b.IssueDate BETWEEN '2017-05-01' AND '2020-07-04');

137 --
138 -- 8
139 • SELECT `Name`, IF (Consumption > avgcons, Consumption, NULL) as Above_Avg_Consumption
140 FROM
141   (SELECT b.Consumption as Consumption, avg(b.Consumption) as avgcons, c.`Name` as `Name`
142   FROM Bills b, Customers c, Tasks t, Addresses a
143   WHERE b.BillID = t.BillID
144   AND t.AddressID = a.AddressID
145   AND a.CustomerID = c.CustomerID
146   AND (b.IssueDate BETWEEN '2017-05-01' AND '2020-07-04')
147   GROUP BY c.`Name` ) as T2;
148

```

Result Grid | Filter Rows: Export: Wrap Cell Content:

Name	Above_Avg_Consumption
Kalie Gratton	HULL
Johnnath Dun	HULL
Roxi Falvey	271
Bat Scamel	HULL
Rupert Horsewood	HULL