LAB01: SQL Review

Submission:

- Submit a lab file named "int205_lab01_xxxxxxxxxxx.docx/.pdf" into the LEB2 system. xxxxxxxxxxx = your student id

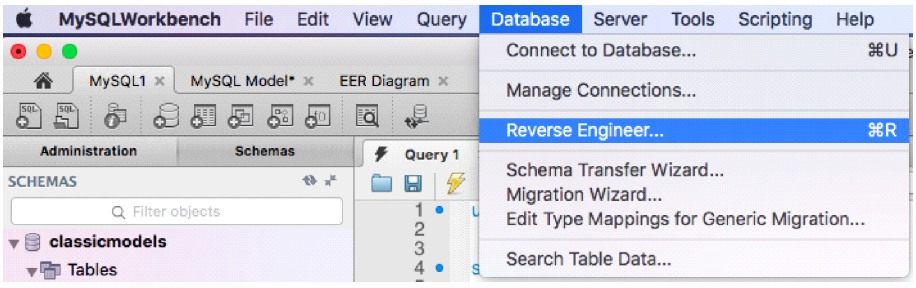
Due Date & Time:

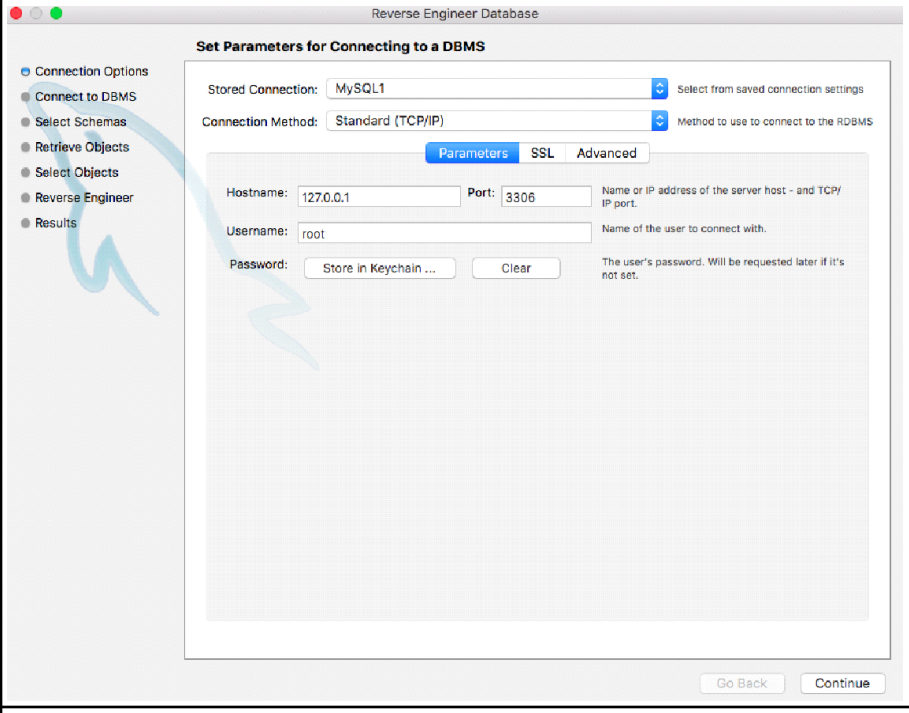
- Lecturer will inform the LAB01 due date and time in a lab class.

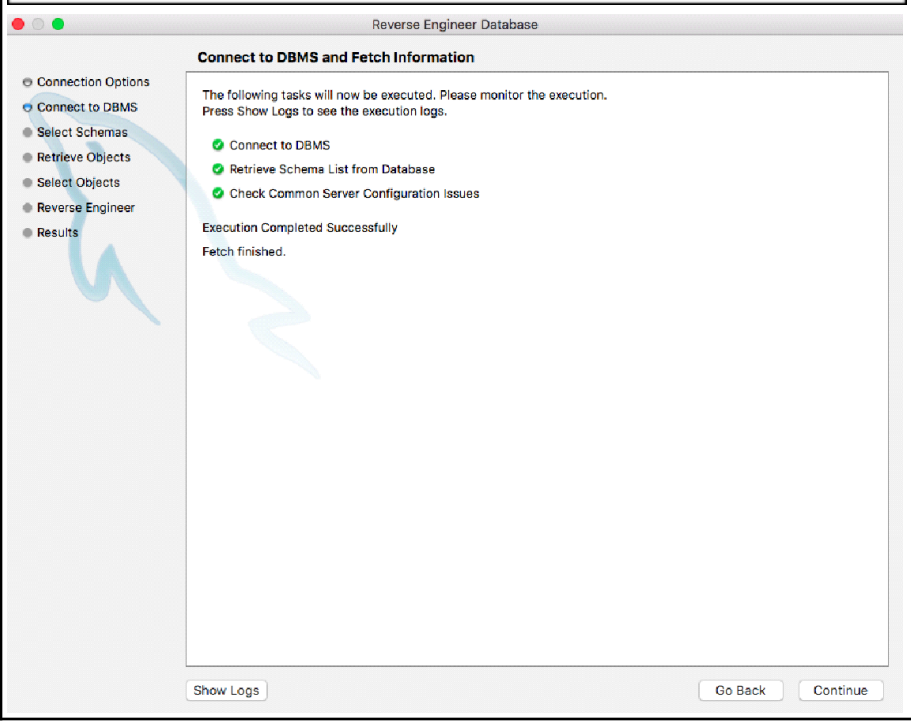
Week#1 Recap: Run the script "classicmodels.sql" and create an ER-diagram for the "classicmodels" database.

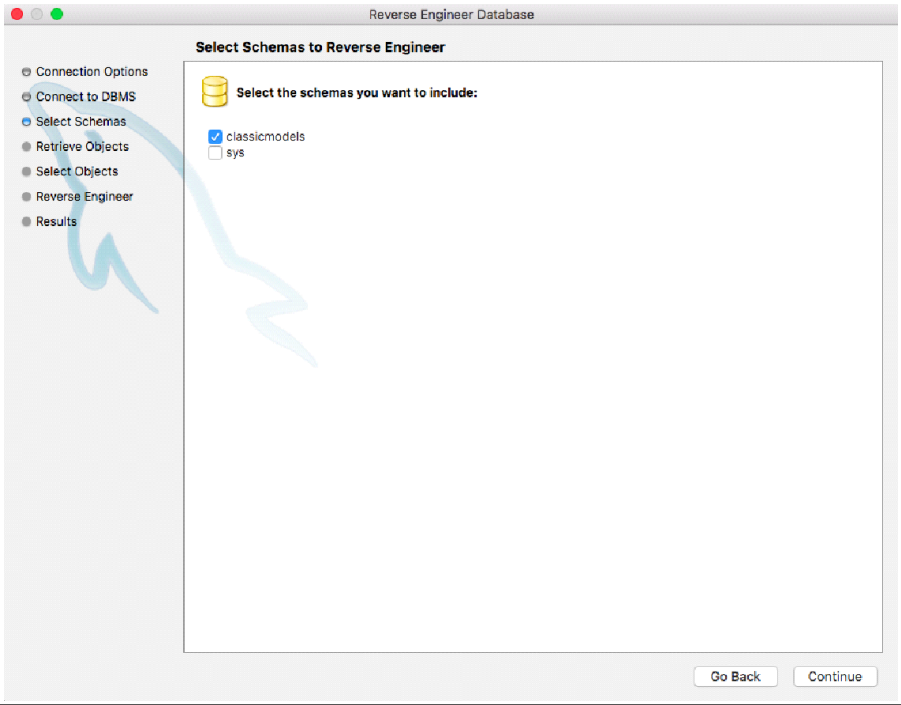
1.1 Use the script named "classicmodels" to generate ER diagram (Reverse Engineering technique).

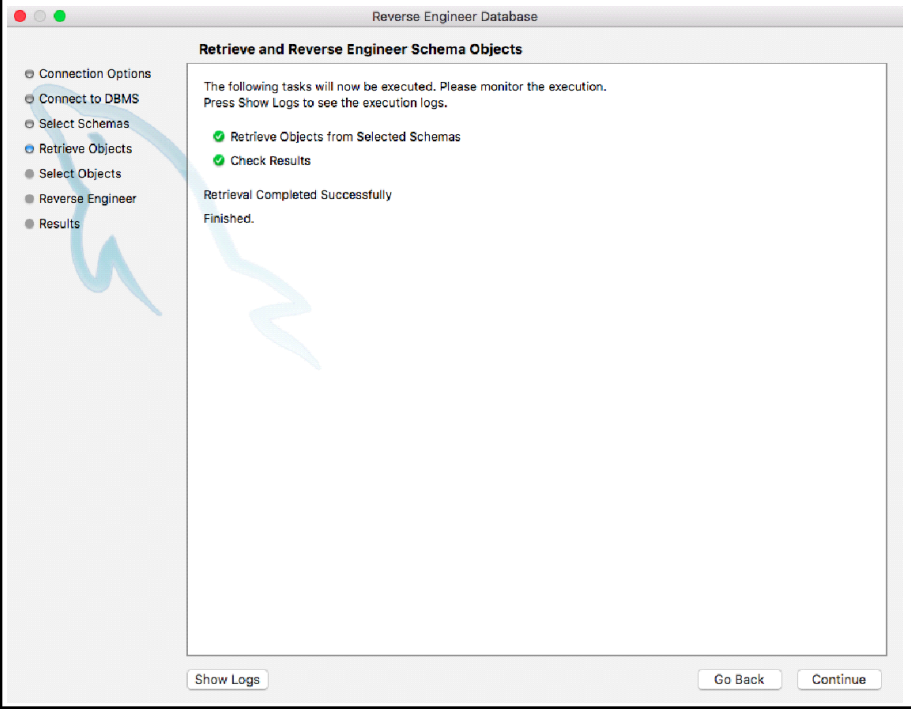
- Open the MySQL Workbench program
- Select the menu "Database" => "Reverse Engineer…".
- Please follow the step by step instructions below:

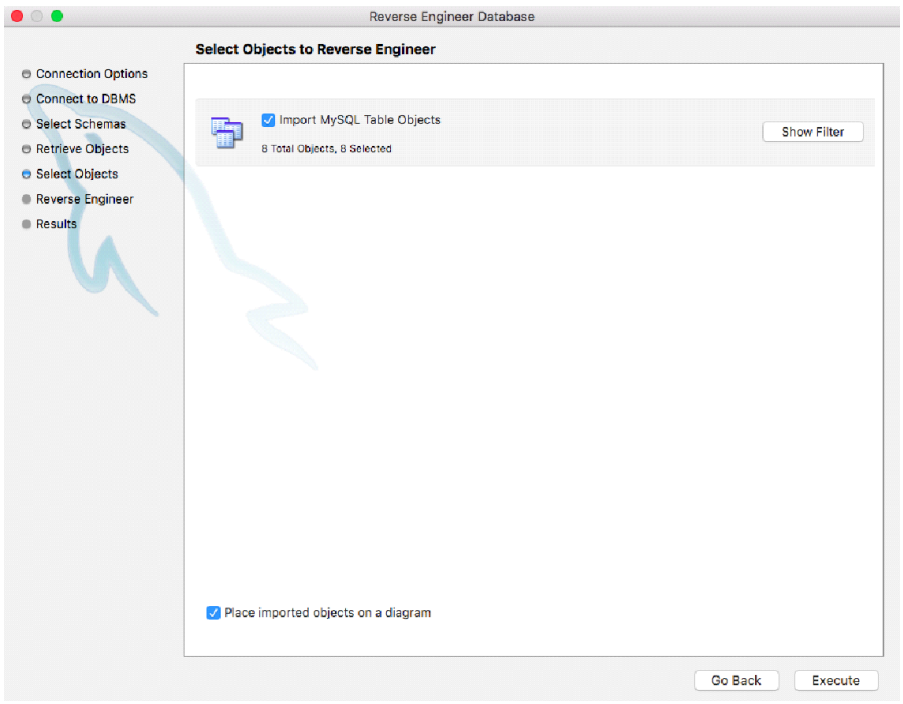


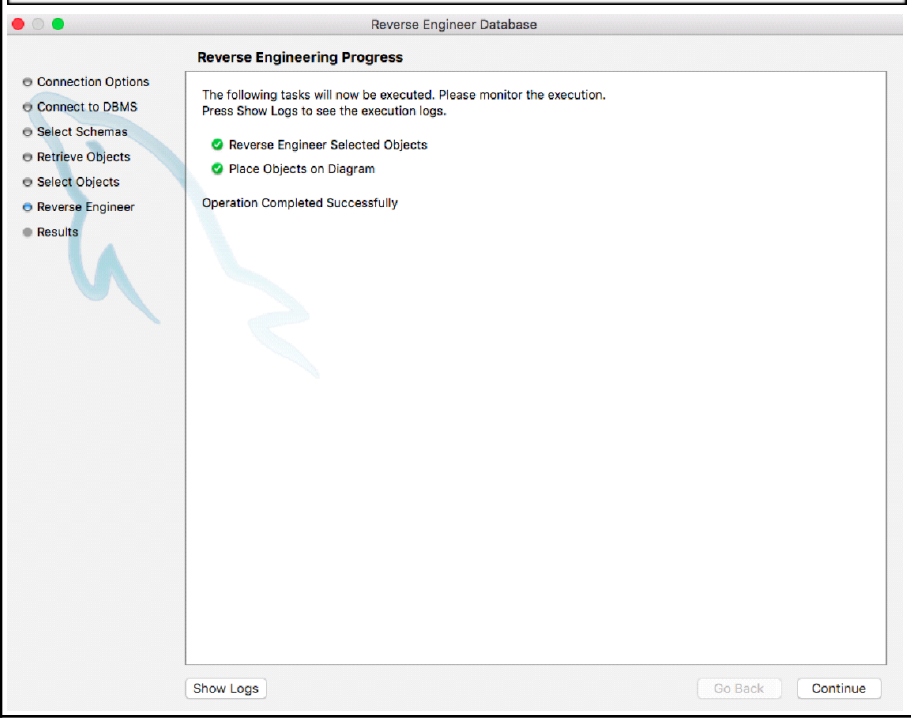

Reverse Engineer Database
Set Parameters for Connecting to a DBMS
Connection Options
Connect to DBMS
Select Schemas
Retrieve Objects
Select Objects
Reverse Engineer
Results
Stored Connection:
MySQL1
Select from saved connection settings
Connection Method:
Standard (TCP/IP)
Method to use to connect to the RDBMS
Parameters
SSL
Advanced
Hostname:
127.0.0.1
Port:
3306
Name or IP address of the server host - and TCP/IP port.
Username:
root
Name of the user to connect with.
Password:
Store in Keychain ...
Clear
The user's password. Will be requested later if it's not set.
Go Back
Continue

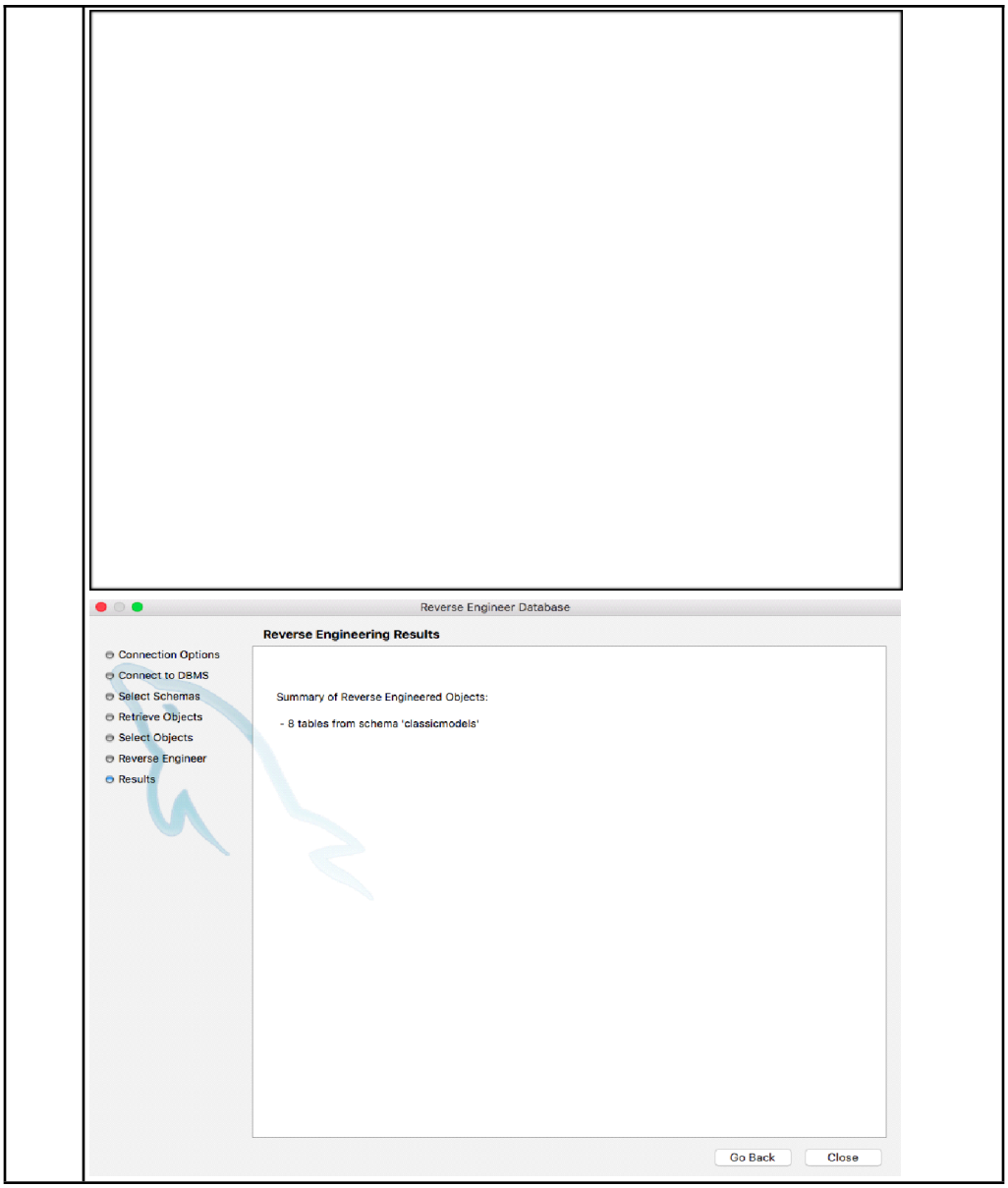

Reverse Engineer Database
Connect to DBMS and Fetch Information
Connection Options
Connect to DBMS
Select Schemas
Retrieve Objects
Select Objects
Reverse Engineer
Results
The following tasks will now be executed. Please monitor the execution.
Press Show Logs to see the execution logs.
Connect to DBMS
Retrieve Schema List from Database
Check Common Server Configuration Issues
Execution Completed Successfully
Fetch finished.
Show Logs
Go Back
Continue


Reverse Engineer Database
Select Schemas to Reverse Engineer
Connection Options
Connect to DBMS
Select Schemas
Retrieve Objects
Select Objects
Reverse Engineer
Results
Select the schemas you want to include:
classicmodels
sys
Go Back
Continue


Reverse Engineer Database
Retrieve and Reverse Engineer Schema Objects
Connection Options
Connect to DBMS
Select Schemas
Retrieve Objects
Select Objects
Reverse Engineer
Results
The following tasks will now be executed. Please monitor the execution.
Press Show Logs to see the execution logs.
Retrieve Objects from Selected Schemas
Check Results
Retrieval Completed Successfully
Finished.
Show Logs
Go Back
Continue

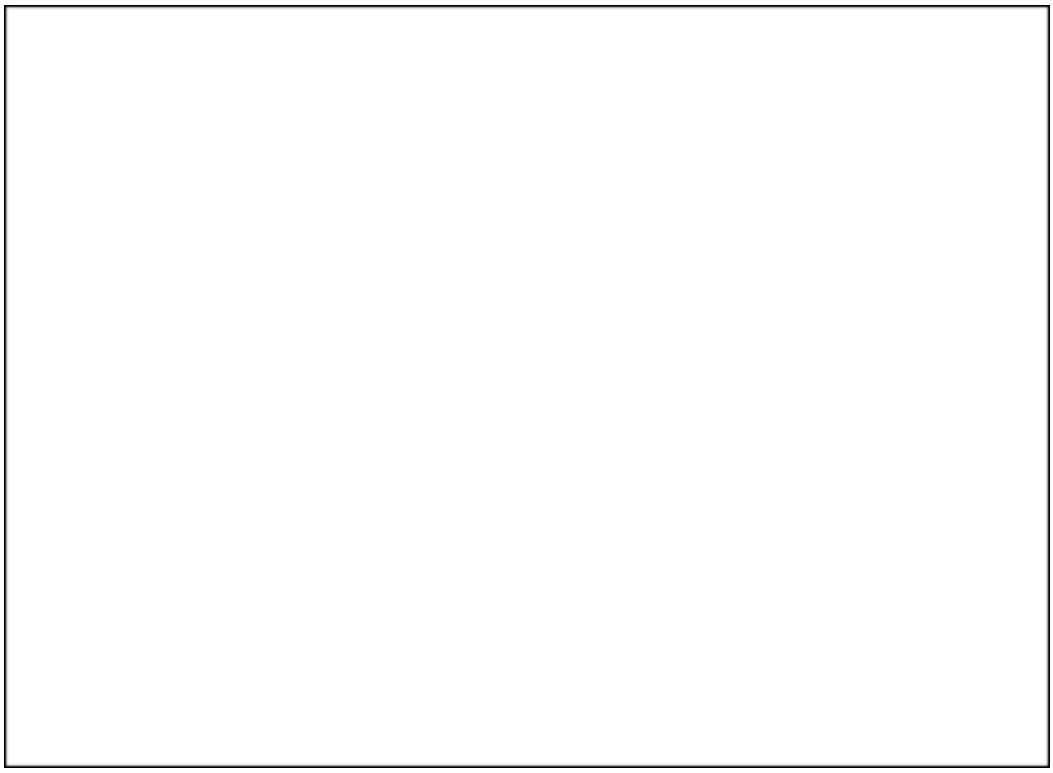

Reverse Engineer Database
Select Objects to Reverse Engineer
Connection Options
Connect to DBMS
Select Schemas
Retrieve Objects
Select Objects
Reverse Engineer
Results
Import MySQL Table Objects
8 Total Objects, 8 Selected
Show Filter
Place imported objects on a diagram
Go Back
Execute

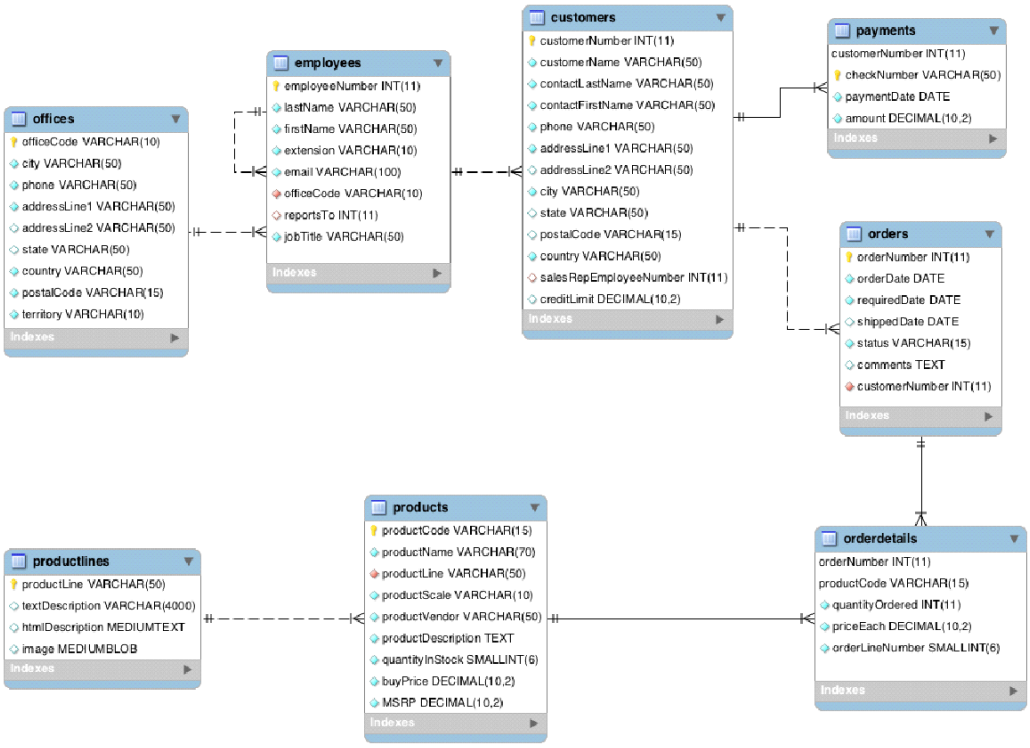

Reverse Engineer Database
Reverse Engineering Progress
Connection Options
Connect to DBMS
Select Schemas
Retrieve Objects
Select Objects
Reverse Engineer
Results
The following tasks will now be executed. Please monitor the execution.
Press Show Logs to see the execution logs.
Reverse Engineer Selected Objects
Place Objects on Diagram
Operation Completed Successfully
Show Logs
Go Back
Continue



1.2 Re-arrange the ER diagram for readability and review the tables, columns, data types and relationships among the tables.Save a model named “classicmodels.mwb” (the default extension file is .mwb) stored in your computer.

The example ER diagram for the classicmodels.





Note:

The MSRP is “Manufacturer's suggested retail price” (ราคาขายปลีกแนะนำของผู้ผลิต).

Practice: Using the “classicmodels” database and write SQL statements to answer the following questions.

The Syntax of SELECT statement:
Documentation: https://dev.mysql.com/doc/refman/8.0/en/select.html

Note: The MySQL error code 1064 is a syntax error. This means the reason there's a problem is because MySQL doesn't understand what you're asking it to do.

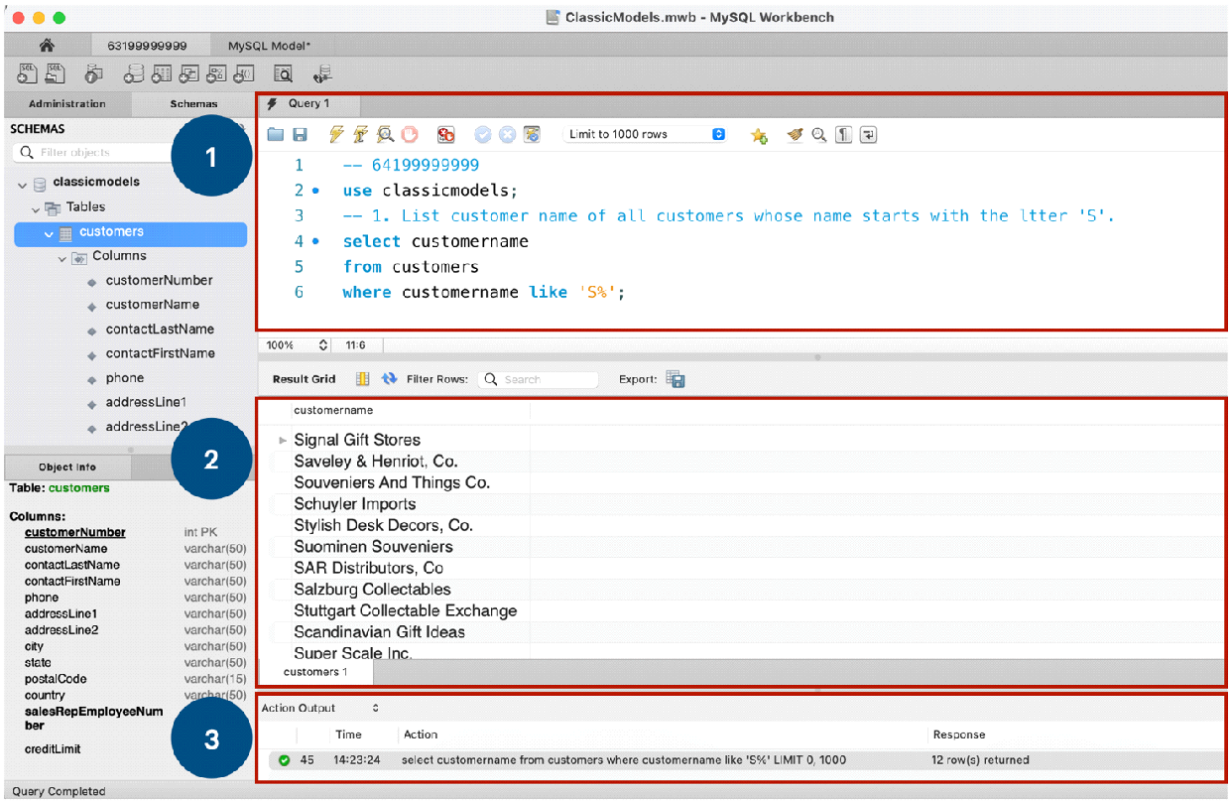
Switch to SQL Editor

- You should specify the classicmodels database before writing SQL statements using the following command:

  USE db_name;

The USE statement tells MySQL to use the named database as the default (current) database for subsequent statements. This statement requires some privilege for the database or some object within it.

The example of the result screen: Please insert your student id in the first line of the query section


ClassicModels.mwb - MySQL Workbench
63199999999
MySQL Model*
Administration
Schemas
SCHEMAS
Filter objects
classicmodels
Tables
customers
Columns
customerNumber
customerName
contactLastName
contactFirstName
phone
addressLine1
addressLine2
1
2
3
Object Info
Table: customers
Columns:
customerNumber int PK
customerName varchar(50)
contactLastName varchar(50)
contactFirstName varchar(50)
phone varchar(50)
addressLine1 varchar(50)
addressLine2 varchar(50)
city varchar(50)
state varchar(50)
postalCode varchar(15)
country varchar(50)
salesRepEmployeeNumber
creditLimit
Query 1
Limit to 1000 rows
-- 64199999999
use classicmodels;
-- 1. List customer name of all customers whose name starts with the ltter 'S'.
select customername
from customers
where customername like 'S%';
100%
11:6
Result Grid
Filter Rows:
Search
Export:
customername
Signal Gift Stores
Saveley & Henriot, Co.
Souveniers And Things Co.
Schuyler Imports
Stylish Desk Decors, Co.
Suominen Souveniers
SAR Distributors, Co
Salzburg Collectables
Stuttgart Collectable Exchange
Scandinavian Gift Ideas
Super Scale Inc.
customers 1
Action Output
Time
Action
Response
45 14:23:24 select customername from customers where customername like 'S%' LIMIT 0, 1000
12 row(s) returned
Query Completed

2.1 List the product name and quantity in stock of all products that classified in the “Classic Cars” product line (**กลุ่มของสินค้า/ผลิตภัณฑ์**) and their buy prices are more than 80.

-- Capture the screen (see the above example of the result screen) and place here

```
/* 2.1 64130500083 List the product name and quantity in stock of all products that classified in the “Classic Cars” product line (กลุ่มของสินค้า/ผลิตภัณฑ์)
and their buy prices are more than 80.*/
select productname, quantityinstock
from products
where productline = 'Classic Cars' and buyprice > 80;
```

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

productname	quantityinstock
1952 Alpine Renault 1300	7305
1972 Alfa Romeo GTA	3252
1962 LanciaA Delta 16V	6791
1968 Ford Mustang	68
2001 Ferrari Enzo	3619
1969 Corvair Monza	6906
1969 Ford Falcon	1049
1993 Mazda RX-7	3975
1995 Honda Civic	9772
1998 Chrysler Plymouth Prowler	4724
1970 Triumph Spitfire	5545
1956 Porsche 356A Coupe	6600

2.2 List the customer name, city and country of all customers who live in the country named: Japan, Germany or Canada. Sort the results in descending order by country and ascending order by customer name.

```
/*2.2 64130500083 List the customer name, city and country of all customers who live in the country named: Japan, Germany or Canada.
Sort the results in descending order by country and ascending order by customer name.*/
select customername, city, country
from customers
where country in ('Japan','Germany','Canada')
order by country desc , customername asc;
```

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

productname	quantityinstock
1952 Alpine Renault 1300	7305
1972 Alfa Romeo GTA	3252
1962 LanciaA Delta 16V	6791
1968 Ford Mustang	68
2001 Ferrari Enzo	3619
1969 Corvair Monza	6906
1969 Ford Falcon	1049
1993 Mazda RX-7	3975
1995 Honda Civic	9772
1998 Chrysler Plymouth Prowler	4724
1970 Triumph Spitfire	5545
1956 Porsche 356A Coupe	6600

2.3 List the order number and the total amount of sales for all orders. Name the total amount of sales column to “total_amount”.

```
15  /*2.3 64130500083 List the order number and the total amount of sales for all orders. Name the total amount of sales column to "total_amount".*/
16  select ordernumber, sum(quantityordered*priceEach) as total_amount
17  from orderdetails
18  group by ordernumber;
19
```

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

customername	city	country
Osaka Souveniers Co.	Kita-ku	Japan
Tokyo Collectables, Ltd	Minato-ku	Japan
Bavarian Collectables Imports, Co.	Munich	Germany
Blauer See Auto, Co.	Frankfurt	Germany
Cramer Spezialitäten, Ltd	Brandenburg	Germany
Der Hund Imports	Berlin	Germany
Feuer Online Stores, Inc	Leipzig	Germany
Franken Gifts, Co	München	Germany
Kommission Auto	Münster	Germany
Messner Shopping Network	Frankfurt	Germany
Mit Vergnügen & Co.	Mannheim	Germany
Natürlich Autos	Cunewalde	Germany
Stuttgart Collectable Exchange	Stuttgart	Germany
Toms Spezialitäten, Ltd	Köln	Germany
Warburg Exchange	Aachen	Germany
Canadian Gift Exchange Network	Vancouver	Canada
Québec Home Shopping Network	Montréal	Canada
Royal Canadian Collectables, Ltd.	Tsawassen	Canada

2.4 List the order number and the total amount of sales of all orders that their total amount of sales is more than 55000. Name the total amount of sales column to “total_amount”.

```
20  /*2.4 64130500083 List the order number and the total amount of sales of all orders that their total amount of sales is more than 55000.
21  Name the total amount of sales column to "total_amount".*/
22  select ordernumber, sum(quantityordered*priceEach) as total_amount
23  from orderdetails
24  group by ordernumber
25  having total_amount > 55000;
```

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

ordernumber	total_amount
10100	10223.83
10101	10549.01
10102	5494.78
10103	50218.95
10104	40206.20
10105	53959.21
10106	52151.81
10107	22292.62
10108	51001.22
10109	25833.14
10110	48425.69
10111	16537.85
10112	7674.94
10113	11044.30
10114	33383.14
10115	21665.98
10116	1627.56
10117	44380.15
10118	3101.40
10119	35826.33
10120	45864.03
10121	16700.47
10122	50824.66
10123	14571.44
10124	32641.98
10125	7565.08
10126	57131.92

Result 18

Output

Action Output

#	Time	Action	Message
58	22:44:40	select productname, quantityinstock from products where productline = 'Classic Cars' and buyprice > 80 LIMIT 0, 1000	12 row(s) returned
59	22:45:25	select productname, quantityinstock from products where productline = 'Classic Cars' and buyprice > 80 LIMIT 0, 1000	12 row(s) returned
60	22:45:38	select customername, city, country from customers where country in ('Japan','Germany','Canada') order by country desc , customername asc LIMIT 0, 10...	18 row(s) returned
61	22:46:11	select ordernumber, sum(quantityordered*priceEach) as total_amount from orderdetails group by ordernumber LIMIT 0, 1000	326 row(s) returned

2.5 List the customer name and the number of sales orders of all customers whose name start with the letter ‘D’. Name the number of sales orders column to “num_orders”.

```
/*2.5 64130500083 List the customer name and the number of sales orders of all customers whose name start with the letter ‘D’.
Name the number of sales orders column to “num_orders”.*/
select c.customername, count(o.ordernumber) as num_orders
from customers c, orders o
where c.customername like 'D%' and c.customerNumber = o.customernumber
group by c.customernumber;
```

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

customername	num_orders
Danish Wholesale Imports	5
Dragon Souveniers, Ltd.	5
Diecast Classics Inc.	4
Daedalus Designs Imports	2
Down Under Souveniers, Inc	5
Double Decker Gift Stores, Ltd	2
Diecast Collectables	2

2.6 List the customer name, the sales rep employee last name, and the check number of all customers who made the payment in year 2005. Name the sales rep employee last name column to “salesempname”.

```
/*2.6 64130500083 List the customer name, the sales rep employee last name, and the check number of all customers who made the payment in year 2005.
Name the sales rep employee last name column to “salesempname”.*/
select c.customername, e.lastname as saleempname, p.checknumber
from employees e, customers c, payments p
where c.salesRepEmployeeNumber = e.employeenumber and c.customerNumber = p.customernumber and p.paymentdate like '%2005%';
```

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

customername	saleempname	checknumber
La Rochelle Gifts	Hernandez	NG94694
Mini Gifts Distributors Ltd.	Jennings	AE215433
Mini Gifts Distributors Ltd.	Jennings	ET64396
Euro+ Shopping Channel	Hernandez	DL460618
Euro+ Shopping Channel	Hernandez	IN446258
Euro+ Shopping Channel	Hernandez	JE105477
Dragon Souveniers, Ltd.	Nishi	ME497970
Technics Stores Inc.	Jennings	KG644125
Gift Depot Inc.	Vanauf	CITI3434344
Toys of Finland, Co.	Bott	AE192287
Toys4GrownUps.com	Thompson	NM739638
Mini Caravy	Hernandez	BOAF82044
Boards & Toys Co.	Thompson	BN17870
Québec Home Shopping ...	Tseng	BOFA23232
Alpha Cognac	Hernandez	HR224331
Lyon Souveniers	Bondur	EQ12267
Anna's Decorations, Ltd	Fixter	EM979878
Anna's Decorations, Ltd	Fixter	OJ819725
Souveniers And Things Co.	Fixter	OD327378
Oulu Toy Supplies, Inc.	Bott	DG336041
Mini Creations Ltd.	Firrelli	GJ597719
Corporate Gift Ideas Co.	Jennings	LA556321
Down Under Souveniers,...	Marsh	AL493079
Australian Gift Network, Co	Fixter	NF959653
Suominen Souveniers	Bott	CS435306
Marseille Mini Autos	Bondur	OB648482
Reims Collectables	Bondur	CO351193

Result 20

Output

Action Output

#	Time	Action	Message
60	22:45:38	select customername, city, country from customers where country in ('Japan','Germany','Canada') order by country desc , customername asc LIMIT 0, 10...	18 row(s) returned
61	22:46:11	select ordernumber, sum(quantityordered*priceEach) as total_amount from orderdetails group by ordernumber LIMIT 0, 1000	326 row(s) returned
62	22:46:33	select c.customername, count(o.ordernumber) as num_orders from customers c, orders o where c.customername like 'D%' and c.customerNumber = o.c...	7 row(s) returned
63	22:46:52	select c.customername, e.lastname as saleempname, p.checknumber from employees e, customers c, payments p where c.salesRepEmployeeNumber ...	37 row(s) returned

2.7 List the manager last name (the employee who were reported to) and the number of employees of all managers. Name the manager last name and the number of employees columns to “mgrname” and “num_emp”, respectively.

```
/*2.7 List the manager last name (the employee who were reported to) and the number of employees of all managers.
Name the manager last name and the number of employees columns to “mgrname” and “num_emp”, respectively.*/

select e1.lastname as mgrname , count(e1.reportsTo) as num_emp
from employees e1, employees e2
where e1.jobtitle like '%Manager%' and e1.employeeNumber = e2.reportsTo
group by e1.lastname;
```

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

mgrname	num_emp
Patterson	3
Bondur	6
Bow	6

2.8 Create your own question and the answered SQL statement should have SELECT, FROM, WHERE, GROUP BY and HAVING clauses.

-- Please write your question in English or Thai.

ระบุชื่อและนามสกุลของลูกค้าที่อาศัยอยู่ที่อเมริกาและมีวงเงินมากกว่า 100000

list customername who live in USA and creditlimit is more than 50000

```
/*2.8 Create your own question and the answered SQL statement should have SELECT,
       FROM, WHERE, GROUP BY and HAVING clauses.*/
select customerName, creditLimit, country
from customers
where country = 'USA'
group by customerName
having creditLimit > 50000;
```

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

customerName	creditLimit	country
Signal Gift Stores	71800.00	USA
Mini Gifts Distributors Ltd.	210500.00	USA
Mini Wheels Co.	64600.00	USA
Land of Toys Inc.	114900.00	USA
Muscle Machine Inc	138500.00	USA
Diecast Classics Inc.	100600.00	USA
Technics Stores Inc.	84600.00	USA
Gift Depot Inc.	84300.00	USA
Vitachrome Inc.	76400.00	USA
Online Mini Collectables	68700.00	USA
Toys4GrownUps.com	90700.00	USA
Collectable Mini Designs ...	105000.00	USA

customers 77

Output

Action Output

#	Time	Action	Message
93	21:08:07	select c.customerName, p.paymentdate, count(o.orderNumber) from customers c, payments p, orders o where c.customerNumber = o.customerNumber ...	98 row(s) returned
94	21:08:12	select c.customerName, p.paymentdate, count(o.orderNumber) from customers c, payments p, orders o where country = 'France' and c.customerNumbe...	12 row(s) returned
95	21:11:16	select e1.lastname as mgrname , count(e1.reportsTo) as num_emp from employees e1, employees e2 where e1.jobtitle like '%Manager%' and e1.employ...	3 row(s) returned
96	21:11:34	select customerName, creditLimit, country from customers where country = 'USA' group by customerName having creditLimit > 50000 LIMIT 0, 1000	28 row(s) returned

2.9 Create your own question and the answered SQL statement should have SELECT, FROM 3 tables, WHERE and ORDER BY clauses.

-- Please write your question in English or Thai.

ระบุชื่อลูกค้าที่อาศัยอยู่ที่ฝรั่งเศษ วันที่จ่ายเงินและจำนวนออเดอร์ เรียงลำจากน้อยไปมากโดยใช้ชื่อลูกค้า

list name of customer who live in france paymentdat and order Sort the results in ascending order by name of customer.

```
61  /*2.9 Create your own question and the answered SQL statement should have SELECT,
62        FROM 3 tables, WHERE and ORDER BY clauses.*/
63  select c.customerName, p.paymentdate, count(o.orderNumber)
64  from customers c, payments p, orders o
65  where country = 'France' and c.customerNumber = o.customerNumber and c.customerNumber = p.customerNumber
66  group by c.customerName
67  order by c.customerName asc;
68
```

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

customerName	paymentdate	count(o.orderNumber)
Alpha Cognac	2003-11-22	9
Atelier graphique	2004-10-19	9
Auto Associés & Cie.	2004-02-10	4
Auto Canal+ Petit	2005-04-23	9
Daedalus Designs Imports	2004-03-15	4
La Corne D'abondance, Co.	2004-09-09	9
La Rochelle Gifts	2004-11-14	12
Lyon Souveniers	2005-05-17	9
Marseille Mini Autos	2004-12-11	9
Mini Caravy	2005-05-03	9
Reims Collectables	2005-01-10	20
Saveley & Henriot, Co.	2004-03-18	9

Result 78

2.10 Create your own question and the answered SQL statement should have SELECT, FROM 3 tables, WHERE, GROUP BY, HAVING and ORDER BY clauses.

-- Please write your question in English or Thai.

ระบุชื่อพนักงานที่ทำยอดขายได้มากกว่า 5 และเบอร์โทรศัพท์ เรียงจากมากไปน้อย ตั้งชื่อคอลัมน์ชื่อว่า Name_emp

list name of employee who can do reportsTo more than 5 and telephone number
name of the name of employee columns to “Nane_emp” . sort the results in descending order by reportsTo.

```
69  /*2.10 Create your own question and the answered SQL statement should have SELECT,
70        FROM 3 tables, WHERE, GROUP BY, HAVING and ORDER BY clauses.*/
71  select concat(e.lastName,e.firstName) as Name_emp, count(reportsTo), o.phone
72  from employees e, customers c, offices o
73  where e.employeeNumber = c.salesRepEmployeeNumber and e.officecode = o.officecode
74  group by Name_emp
75  having count(reportsTo) > 5
76  order by count(reportsTo) desc;
```

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

Name_emp	count(reportsTo)	phone
CastilloPamela	10	+33 14 723 4404
JonesBarry	9	+44 20 7877 2041
VanaufGeorge	8	+1 212 555 3000
BottLarry	8	+44 20 7877 2041
TsengFoon Yue	7	+1 212 555 3000
HernandezGerard	7	+33 14 723 4404
JenningsLeslie	6	+1 650 219 4782
ThompsonLeslie	6	+1 650 219 4782
FirrelliJulie	6	+1 215 837 0825
PattersonSteve	6	+1 215 837 0825
BondurLoui	6	+33 14 723 4404
GerardMartin	6	+33 14 723 4404