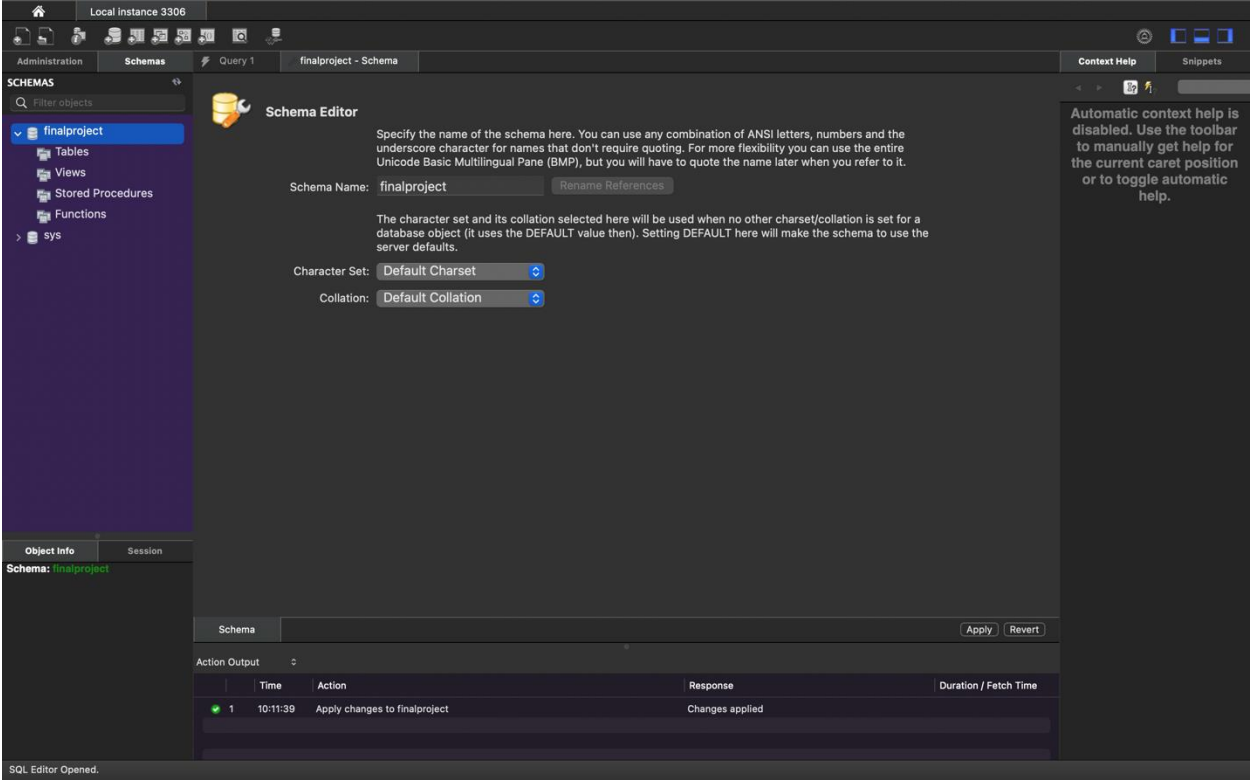


Database Management - Assignment: Database System

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Study.com

PROMPT #1:

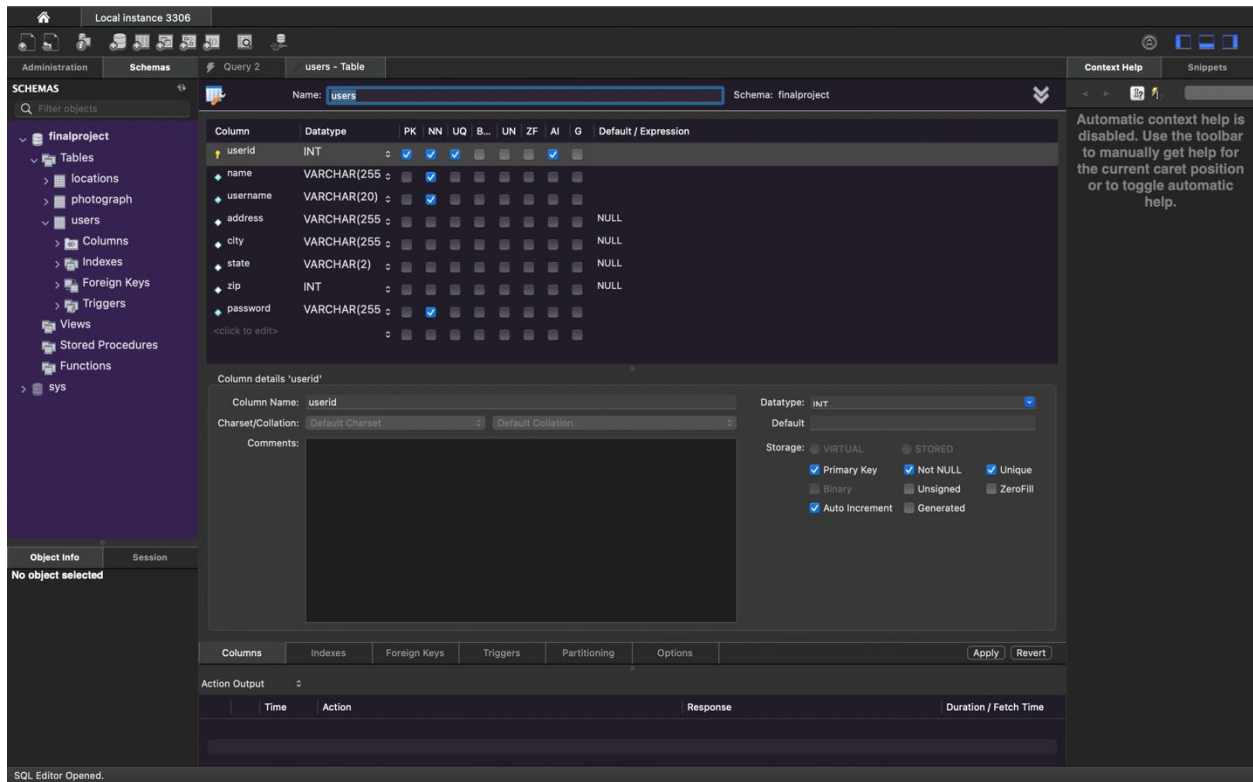


PROMPT #2:

To Create the first table users. Could not figure out how to set zip(5) so tried to do it with a check statement. Thought of going another route and using a decimal instead. Zip(5) would not work. Also had to assign values to varchar or else it would be set to 1 by default so went with 255 as it seems to be the standard.

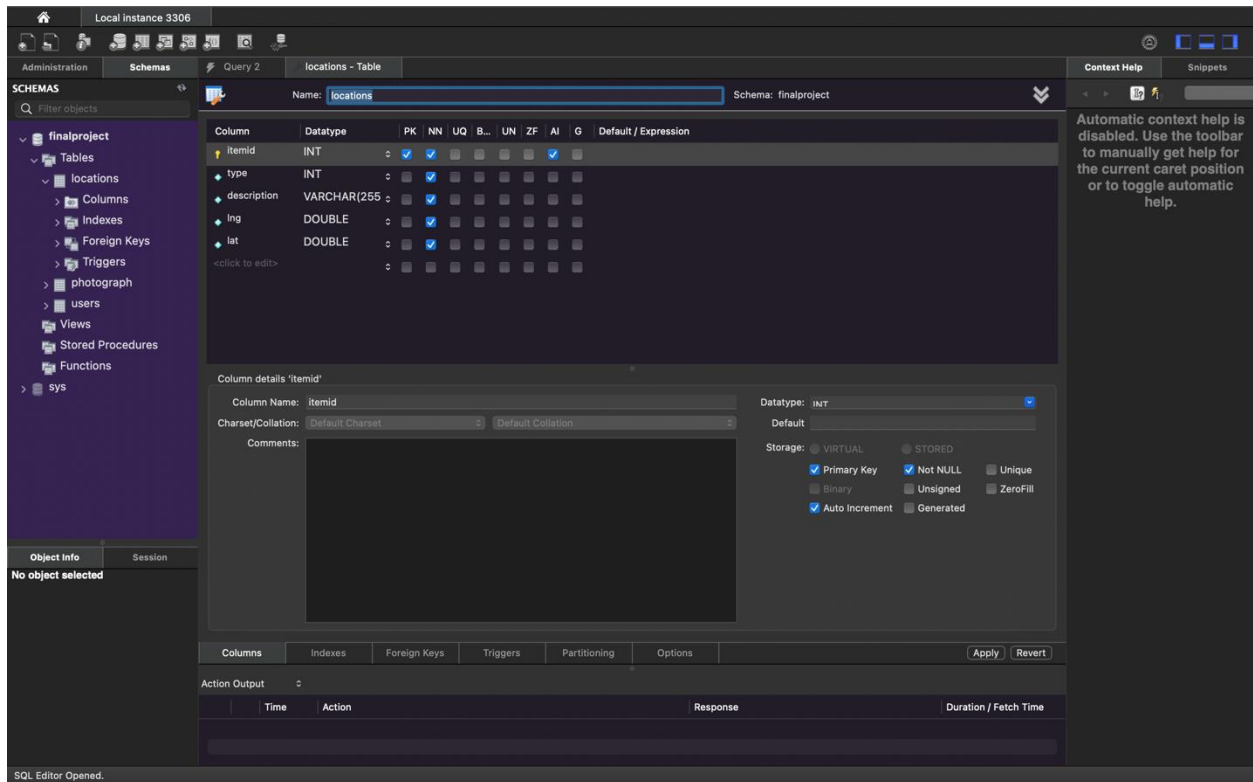
** Note took screenshots of tables after assignment so some values say not null but it was added in prompt 3 not prior

```
CREATE TABLE users (  
  userid INT NOT NULL AUTO_INCREMENT PRIMARY KEY,  
  name VARCHAR (255),  
  username VARCHAR (255),  
  address VARCHAR (255),  
  city VARCHAR(255),  
  state VARCHAR(2),  
  zip INT,  
  CHECK(CHAR_LENGTH(zip) = 5),  
  password VARCHAR (255)  
);
```



Code to create locations table was not able to add auto increment without adding a primary key to the table.

```
CREATE TABLE locations (
itemid INT NOT NULL AUTO_INCREMENT PRIMARY KEY,
type INT,
description VARCHAR(255),
lng REAL,
lat REAL
);
```



Final photograph table

```
CREATE TABLE photograph (
  photoid INT,
  locationid INT
);
```

Local Instance 3306

AdministrationSchemasQuery 2locations - Tablephotograph - Table

Context HelpSnippets

SCHEMAS

Filter objects

finalproject

- Tables
 - locations
 - Columns
 - Indexes
 - Foreign Keys
 - Triggers
 - photograph
 - users
 - Views
 - Stored Procedures
 - Functions
- sys

Name: photographSchema: finalproject

Column	Datatype	PK	NN	UQ	B...	UN	ZF	AI	G	Default / Expression
photoid	INT			<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>					
locationid	INT			<input checked="" type="checkbox"/>						
userid	INT			<input checked="" type="checkbox"/>						
<click to edit>										

Column details 'photoid'

Column Name: photoidDatatype: INT

Charset/Collation: Default CharsetDefault Collation

Comments:

Storage: ☐ VIRTUAL☒ STORED

☐ Primary Key☒ Not NULL☒ Unique

☐ Binary☐ Unsigned☐ ZeroFill

☐ Auto Increment☐ Generated

ColumnsIndexesForeign KeysTriggersPartitioningOptions

ApplyRevert

Action Output

Time	Action	Response	Duration / Fetch Time
------	--------	----------	-----------------------

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

SQL Editor Opened.

Prompt 3:

Alters all table to make values not nullable

```
ALTER TABLE locations MODIFY type INT NOT NULL;
ALTER TABLE locations MODIFY description VARCHAR(255) NOT NULL;
ALTER TABLE locations MODIFY lng REAL NOT NULL;
ALTER TABLE locations MODIFY lat REAL NOT NULL;
ALTER TABLE users MODIFY name VARCHAR(255) NOT NULL;
ALTER TABLE users MODIFY username VARCHAR(20) NOT NULL;
ALTER TABLE users MODIFY password VARCHAR(255) NOT NULL;
ALTER TABLE photograph MODIFY photoid INT NOT NULL;
ALTER TABLE photograph MODIFY locationid INT NOT NULL;
```

The screenshot shows a database management tool interface. The top bar indicates 'Local instance 3306'. The left sidebar shows a tree view of the database schema, with 'finalproject' selected. The main pane displays a query editor with the following SQL commands:

```
1 ALTER TABLE locations MODIFY type INT NOT NULL;
2 ALTER TABLE locations MODIFY description VARCHAR(255) NOT NULL;
3 ALTER TABLE locations MODIFY lng REAL NOT NULL;
4 ALTER TABLE locations MODIFY lat REAL NOT NULL;
5 ALTER TABLE users MODIFY name VARCHAR(255) NOT NULL;
6 ALTER TABLE users MODIFY username VARCHAR(20) NOT NULL;
7 ALTER TABLE users MODIFY password VARCHAR(255) NOT NULL;
8 ALTER TABLE photograph MODIFY photoid INT NOT NULL;
9 ALTER TABLE photograph MODIFY locationid INT NOT NULL;
```

The right sidebar shows a message: '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' table, which displays the execution results of the queries:

	Time	Action	Response	Duration / Fetch Time
7	19:16:53	ALTER TABLE users MODIFY password VARCHAR(255) NOT NULL	0 row(s) affected Records: 0 Duplicates: 0 Warnin...	0.0066 sec
8	19:16:53	ALTER TABLE photograph MODIFY photoid INT NOT NULL	0 row(s) affected Records: 0 Duplicates: 0 Warnin...	0.0041 sec
9	19:16:53	ALTER TABLE photograph MODIFY locationid INT NOT NULL	0 row(s) affected Records: 0 Duplicates: 0 Warnin...	0.0034 sec

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

Prompt 4:

CREATE UNIQUE INDEX photographid ON photograph (photoid);

Local instance 3306

AdministrationSchemasQuery 2finalproject.usersusers - Tablefinalproject.photographContext HelpSnippets

SCHEMAS

Filter objects

finalproject

- Tables
 - locations
 - photograph
 - Columns
 - photoid
 - locationid
 - Indexes
 - Foreign Keys
 - Triggers
 - users
 - Views
 - Stored Procedures
 - Functions
 - sys

Object InfoSession

Table: photograph

Columns:

- photoid int
- locationid int

InfoColumnsIndexesTriggersForeign keysPartitionsGrantsDDL

Indexes in Table

Visible	Key	Type	Uniq...	Columns
<input checked="" type="checkbox"/>	photographid	BTREE	YES	photoid

Drop Index

Index Details

Key Name:
Index Type:
Allows NULL:
Cardinality:
Comment:
User Comment:

Packed:
Unique:

Columns in table

Column	Type	Nullable	Indexes
photoid	int	NO	photographid
locationid	int	NO	

Create Index for Selected Columns...

Action Output

	Time	Action	Response	Duration / Fetch Time
9	19:16:53	ALTER TABLE photograph MODIFY locationid INT NOT NULL	0 row(s) affected Records: 0 Duplicates: 0 Warnin...	0.0034 sec
10	19:24:26	CREATE UNIQUE INDEX id ON users (userid)	0 row(s) affected, 1 warning(s): 1831 Duplicate inde...	0.025 sec
11	19:24:26	CREATE UNIQUE INDEX photographid ON photograph (photoid)	0 row(s) affected Records: 0 Duplicates: 0 Warnin...	0.0071 sec

Query Completed

PROMPT 5:

Added new users to the data base for auto increment to work had to decalre the first value as null.

The screenshot displays the SQL Server Enterprise Manager interface. The left pane shows the 'finalproject' database schema with tables 'locations', 'photograph', and 'users'. The 'users' table columns are listed: userid (int AI PK), name (varchar(50)), username (varchar(255)), address (varchar(255)), city (varchar(255)), state (varchar(2)), zip (int), and password (varchar(255)). The central pane shows a query window with the following SQL script:

```
1 INSERT INTO users
2 VALUES (null, 'Bonnie Buntcake', 'bbunt', '6709 Wonder Street', 'Wonderbread', 'OH', 46105, 'eclectic');
3 INSERT INTO users
4 VALUES (null, 'Sam Smarf', 'ssmarf', '356 A Street', 'Beefy', 'PA', 19943, 'swimming');
5 INSERT INTO users
6 VALUES (null, 'Wendy Grog', 'wgrog', '900 Star Street', 'Mary', 'MD', 21340, 'wells');
7 INSERT INTO users
8 VALUES (null, 'Joe Jogger', 'jjogger', '183713 N North Street', 'Nortner', 'WV', 51423, 'tarts');
9 SELECT * FROM users;
10
```

The 'Result Grid' shows the data returned by the query:

userid	name	username	address	city	state	zip	password
1	Bonnie Buntcake	bbunt	6709 Wonder Street	Wonderbread	OH	46105	eclectic
2	Sam Smarf	ssmarf	356 A Street	Beefy	PA	19943	swimming
3	Wendy Grog	wgrog	900 Star Street	Mary	MD	21340	wells
4	Joe Jogger	jogger	183713 N North Street	Nortner	WV	51423	tarts
NULL	NULL	NULL	NULL	NULL	NULL	NULL	NULL

The 'Action Output' pane shows the execution results:

Time	Action	Response	Duration / Fetch Time
29 20:06:26	INSERT INTO users VALUES (null, 'Wendy Grog', 'wgrog', '900 Star Street', 'M...	1 row(s) affected	0.0037 sec
30 20:06:26	INSERT INTO users VALUES (null, 'Joe Jogger', 'jogger', '183713 N North Stre...	1 row(s) affected	0.00087 sec
31 20:06:26	SELECT * FROM users LIMIT 0, 1000	4 row(s) returned	0.00041 sec / 0.0000...

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

PROMPT 6:

AdministrationSchemasQuery 2finalproject.usersusersContext HelpSnippets

SCHEMAS

Filter objects

finalproject

- Tables
 - locations
 - photograph
 - users
- Columns
 - userid
 - name
 - username
 - address
 - city
 - state
 - zip
 - password
- Indexes
- Foreign Keys
- Triggers
- Views
- Stored Procedures
- Functions

Object InfoSession

Table: users

Columns:

- userid: int AI PK
- name: varchar(255)
- username: varchar(20)
- address: varchar(255)
- city: varchar(255)
- state: varchar(2)
- zip: int
- password: varchar(255)

12

SELECT count(*) from users;

Limit to 1000 rows

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

100%1:2

Result Grid

Filter Rows: SearchExport:

count(*)

4

Result 6Read Only

Action Output

	Time	Action	Response	Duration / Fetch Time
31	20:06:26	SELECT * FROM users LIMIT 0, 1000	4 row(s) returned	0.00041 sec / 0.0000...
32	20:06:38	Refresh Recordset	There are pending changes. Please commit or rollba...	
33	20:12:33	SELECT count(*) from users LIMIT 0, 1000	1 row(s) returned	0.0052 sec / 0.00024...

Query Completed

PROMPT 7:

Local instance 3306

AdministrationSchemasQuery 2finalproject.usersusersContext HelpSnippets

SCHEMAS

Filter objects

finalproject

- Tables
 - locations
 - photograph
 - Columns
 - photoid
 - locationid
 - userid
 - Indexes
 - Foreign Keys
 - Triggers
 - users
 - Views
 - Stored Procedures
 - Functions
- sys

Object InfoSession

Table: photograph

Columns:

- photoidint PK
- locationidint
- useridint

ALTER TABLE photograph ADD COLUMN userid INT AFTER locationid ;

100%64:1

Action Output

	Time	Action	Response	Duration / Fetch Time
✖ 32	20:06:38	Refresh Recordset	There are pending changes. Please commit or rollba...	
✔ 33	20:12:33	SELECT count(*) from users LIMIT 0, 1000	1 row(s) returned	0.0052 sec / 0.00024...
✔ 34	20:29:53	ALTER TABLE photograph ADD COLUMN userid INT AFTER locationid	0 row(s) affected Records: 0 Duplicates: 0 Warnin...	0.041 sec

Query Completed

Context Help

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

Local instance 3306

AdministrationSchemasQuery 2finalproject.photographContext HelpSnippets

SCHEMAS

Filter objects

finalproject

- Tables
 - locations
 - photograph
 - Columns
 - photoid
 - locationid
 - userid
 - Indexes
 - Foreign Keys
 - Triggers
 - users
 - Views
 - Stored Procedures
 - Functions
- sys

Object InfoSession

Table: photograph

Columns:

- photoidint PK
- locationidint
- useridint

InfoColumnsIndexesTriggersForeign keysPartitionsGrantsDDL

Column	Type	Default Value	Nullable	Character Set	Collation	Privileges	Ext
locationid	int		NO			select,insert,update,references	
photoid	int		NO			select,insert,update,references	
userid	int		NO			select,insert,update,references	

Count: 3Refresh

Action Output

	Time	Action	Response	Duration / Fetch Time
✔ 34	20:29:53	ALTER TABLE photograph ADD COLUMN userid INT AFTER locationid	0 row(s) affected Records: 0 Duplicates: 0 Warnin...	0.041 sec
✔ 35	20:58:54	ALTER TABLE photograph ADD FOREIGN KEY (userid) REFERENCES users(use...	0 row(s) affected Records: 0 Duplicates: 0 Warnin...	0.044 sec
✔ 36	20:58:54	ALTER TABLE photograph MODIFY userid INT NOT NULL	0 row(s) affected Records: 0 Duplicates: 0 Warnin...	0.0087 sec

Query Completed

Context Help

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

PROMPT:8

There are two issues that arise when we add this column to the photograph tables. The first is what we did earlier by declaring that the variable cannot be null. In the users table the userid column cannot be null to ensure data integrity we have to make sure this is the case in this table to. The second problem is that we need to recognize the relationship existing within the database. Userid is the primary key in another table making it a foreign key in this table, to maintain data integrity we have to recognize this relationship exist.

The screenshot displays a database management tool interface with a dark theme. The top bar shows 'Local instance 3306'. The main window is divided into several panes:

- SCHEMAS:** A tree view on the left showing the database structure. The 'finalproject' schema is expanded, showing tables like 'locations', 'photograph', and 'users', as well as 'Views', 'Stored Procedures', and 'Functions'.
- Query 2:** A central pane showing three SQL queries:

```
1 ALTER TABLE photograph
2 ADD FOREIGN KEY (userid) REFERENCES users(userid);
3 ALTER TABLE photograph MODIFY userid INT NOT NULL;
```
- Context Help:** A pane on the right with a message: 'Automatic context help is disabled. Use the toolbar to manually get help for the current caret position or to toggle automatic help.'
- Object Info:** A pane at the bottom left showing 'No object selected'.
- Action Output:** A table at the bottom right showing the execution results of the queries.

The 'Action Output' table has the following data:

	Time	Action	Response	Duration / Fetch Time
34	20:29:53	ALTER TABLE photograph ADD COLUMN userid INT AFTER locationid	0 row(s) affected Records: 0 Duplicates: 0 Warnin...	0.041 sec
35	20:58:54	ALTER TABLE photograph ADD FOREIGN KEY (userid) REFERENCES users(use...	0 row(s) affected Records: 0 Duplicates: 0 Warnin...	0.044 sec
36	20:58:54	ALTER TABLE photograph MODIFY userid INT NOT NULL	0 row(s) affected Records: 0 Duplicates: 0 Warnin...	0.0087 sec

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

PROMPT 9:

Local Instance 3306

AdministrationSchemasQuery 2

SCHEMAS

Filter objects

finalproject

- Tables
 - locations
 - Columns
 - itemid
 - type
 - description
 - lng
 - lat
 - Indexes
 - Foreign Keys
 - Triggers
 - photograph
 - users
 - Views
 - Stored Procedures
 - Functions
 - sys

Object InfoSession

Column: description

Collation: utf8mb4_0900_ai_ci

Definition: description varchar(255)

1 • INSERT INTO locations

2 VALUES (null, 1, 'Independence Hall', 794.35, 651.43);

3 • INSERT INTO locations

4 VALUES (null, 2, '6709 Wonder Street', 323.41, 412.22);

5 • INSERT INTO locations

6 VALUES (null, 1, 'Sunrise', 221.45, 132.43);

7 • INSERT INTO locations

8 VALUES (null, 2, '356 A Street', 123.32, 222.43);

9 • INSERT INTO locations

10 VALUES (null, 1, 'Mountains', 34.12, 87.99);

11 • INSERT INTO locations

12 VALUES (null, 2, '900 Star Street', 1071.9, 206.45);

13 • INSERT INTO locations

14 VALUES (null, 1, 'Moonrise', 816.2, 111.2);

15 • INSERT INTO locations

16 VALUES (null, 2, '183714 N North Street', 176.11, 11.176);

17 • SELECT * FROM locations;

100%25:17

Result Grid

Filter Rows: Search

Edit

Export/Import:

Result Grid

Form Editor

itemid	type	description	lng	lat
1	1	Independence Hall	794.35	651.43
2	2	6709 Wonder Street	323.41	412.22
3	1	Sunrise	221.45	132.43
4	2	356 A Street	123.32	222.43
5	1	Mountains	34.12	87.99
6	2	900 Star Street	1071.9	206.45
7	1	Moonrise	816.2	111.2
8	2	183714 N North Street	176.11	11.176
NULL	NULL	NULL	NULL	NULL

locations 7

ApplyRevert

Action Output

	Time	Action	Response	Duration / Fetch Time
43	21:22:06	INSERT INTO locations VALUES (null, 1, 'Moonrise', 816.2, 111.2)	1 row(s) affected	0.00033 sec
44	21:22:06	INSERT INTO locations VALUES (null, 2, '183714 N North Street', 176.11, 11.176)	1 row(s) affected	0.00034 sec
45	21:22:06	SELECT * FROM locations LIMIT 0, 1000	8 row(s) returned	0.00064 sec / 0.000...

Query Completed

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

Local Instance 3306

AdministrationSchemasQuery 2photograph

SCHEMAS

Filter objects

finalproject

- Tables
 - locations
 - photograph
 - users
- Views
- Stored Procedures
- Functions

sys

1INSERT INTO photograph

2VALUES (1, 2, 1);

3INSERT INTO photograph

4VALUES (2, 2, 1);

5INSERT INTO photograph

6VALUES (3, 6, 3);

7INSERT INTO photograph

8VALUES (4, 8, 4);

9SELECT * FROM photograph;

10

100%26:9

Result Grid

Filter Rows:Search

EditExport/Import

photoid	locationid	userid
1	2	1
2	2	1
3	6	3
4	8	4
NULL	NULL	NULL

Form EditorField TypesQuery Stats

Object InfoSession

Table: photograph

Columns:

- photoidint PK
- locationidint
- useridint

photograph 2

ApplyRevert

Action Output

	Time	Action	Response	Duration / Fetch Time
52	17:03:16	INSERT INTO photograph VALUES (3, 6, 3)	1 row(s) affected	0.00050 sec
53	17:03:16	INSERT INTO photograph VALUES (4, 8, 4)	1 row(s) affected	0.00096 sec
54	17:03:16	SELECT * FROM photograph LIMIT 0, 1000	4 row(s) returned	0.00062 sec / 0.0000...

Query Completed

Context HelpSnippets

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

PROMPT #10

Local Instance 3306

AdministrationSchemasQuery 2photograph

SCHEMAS

Filter objects

finalproject

- Tables
 - locations
 - photograph
 - users
- Views
- Stored Procedures
- Functions

- sys

1

SELECT name FROM users;

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

100%24:1

Result GridFilter Rows:SearchExport:

name
Bonnie Buntcake
Sam Smart
Wendy Grog
Joe Jogger

Form Editor

Field Types

Query Stats

Object Info

Session

Table: photograph

Columns:

- photoIdint PK
- locationIdint
- userIdint

users 3

Read Only

Action Output

	Time	Action	Response	Duration / Fetch Time
63	17:03:16	INSERT INTO photograph VALUES (4, 8, 4)	1 row(s) affected	0.00096 sec
64	17:03:16	SELECT * FROM photograph LIMIT 0, 1000	4 row(s) returned	0.00062 sec / 0.0000...
65	17:08:25	SELECT name FROM users LIMIT 0, 1000	4 row(s) returned	0.0015 sec / 0.00001...

Query Completed

PROMPT #11

```
SELECT name
FROM users, photograph
WHERE users.userid = photograph.userid ;
```

Local instance 3306

Administration Schemas Query 2 photograph

Context Help Snippets

SCHEMAS

Filter objects

finalproject

- Tables
 - locations
 - photograph
 - users
- Views
- Stored Procedures
- Functions

- sys

Object Info Session

Table: photograph

Columns:

- photoId int PK
- locationId int
- userid int

1 SELECT name

2 FROM users, photograph

3 WHERE users.userid = photograph.userid ;

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

100% 12:1

Result Grid

Filter Rows: Search Export

name
Bonnie Buntcake
Bonnie Buntcake
Wendy Grog
Joe Jogger

Result 5

Read Only

Action Output

	Time	Action	Response	Duration / Fetch Time
62	17:37:49	SELECT * FROM users, photographs WHERE users.userid = photographs.useri...	Error Code: 1146. Table 'finalproject.photos' d...	0.00077 sec
63	17:38:13	SELECT * FROM users, photograph WHERE users.userid = photograph.userid...	4 row(s) returned	0.019 sec / 0.00076 s...
64	17:38:21	SELECT name FROM users, photograph WHERE users.userid = photograph.us...	4 row(s) returned	0.00064 sec / 0.000...

Query Completed

PROMPT #12

SELECT DISTINCT name

FROM users, photograph

WHERE users.userid = photograph.userid ;

Local Instance 3306

Administration Schemas Query 2 photograph

SCHEMAS

Filter objects

finalproject

Tables

locations

photograph

users

Views

Stored Procedures

Functions

sys

1 SELECT DISTINCT name

2 FROM users, photograph

3 WHERE users.userid = photograph.userid ;

Context Help Snippets

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

100% 17:1

Result Grid Filter Rows: Search Export:

name
Bonnie Burtcake
Wendy Grog
Joe Jogger

Object Info Session

Table: photograph

Columns:

photoId int PK

locationId int

userid int

Result 6 Read Only

Action Output

	Time	Action	Response	Duration / Fetch Time
✓ 63	17:38:13	SELECT * FROM users, photograph WHERE users.userid = photograph.userid...	4 row(s) returned	0.019 sec / 0.00076 s...
✓ 64	17:38:21	SELECT name FROM users, photograph WHERE users.userid = photograph.us...	4 row(s) returned	0.00064 sec / 0.000...
✓ 65	20:55:55	SELECT DISTINCT name FROM users, photograph WHERE users.userid = phot...	3 row(s) returned	0.013 sec / 0.00067 s...

Query Completed