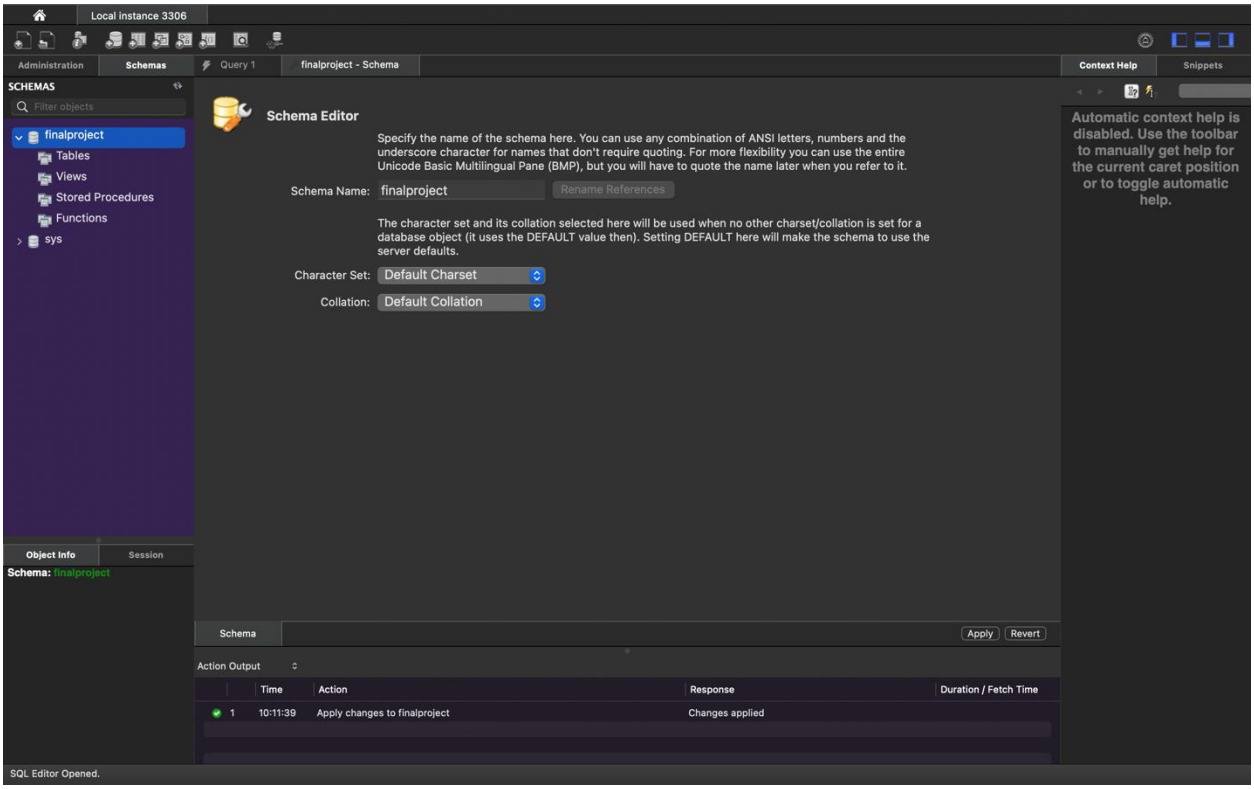
Database Management - Assignment: Database System

Christian Oxner

Study.com

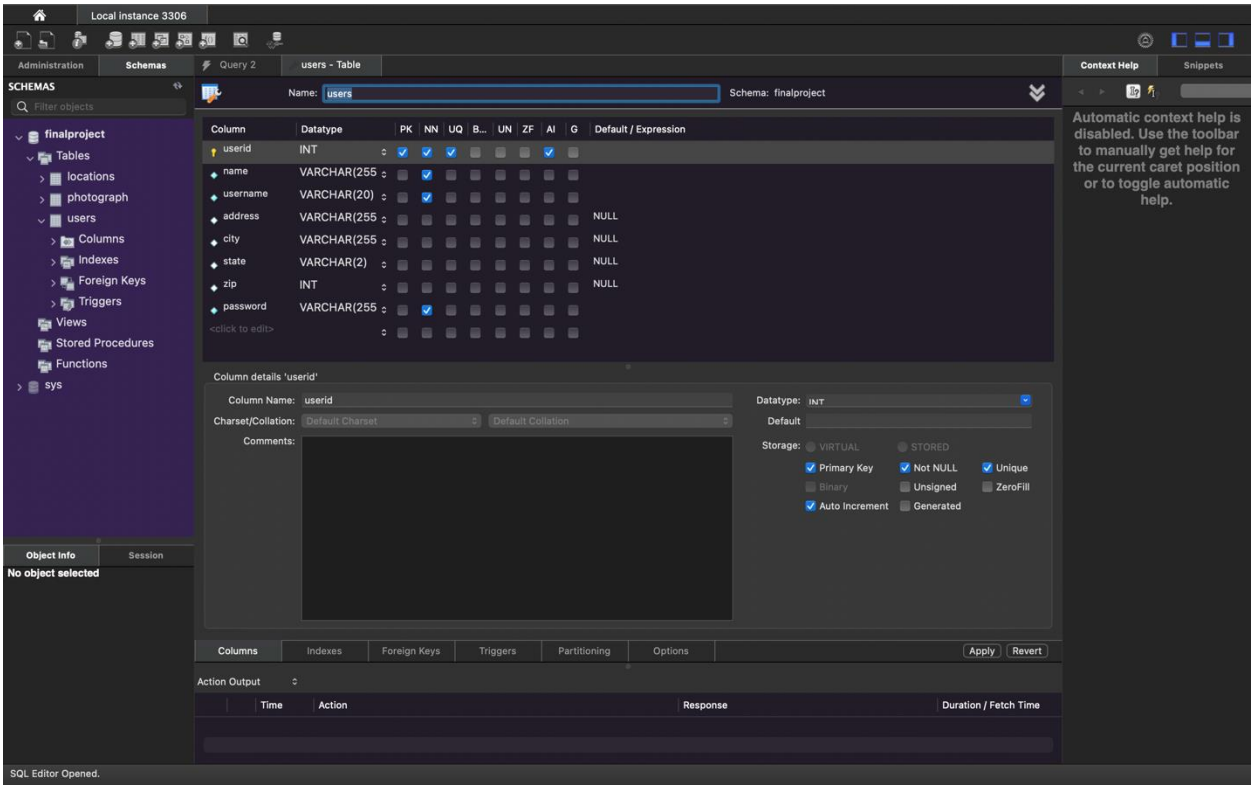
PROMPT #1:


Local instance 3306
Administration
Schemas
Query 1
finalproject - Schema
Context Help
Snippets
SCHEMAS
Filter objects
finalproject
Tables
Views
Stored Procedures
Functions
sys
Schema Editor
Specify the name of the schema here. You can use any combination of ANSI letters, numbers and the underscore character for names that don't require quoting. For more flexibility you can use the entire Unicode Basic Multilingual Pane (BMP), but you will have to quote the name later when you refer to it.
Schema Name:
finalproject
Rename References
The character set and its collation selected here will be used when no other charset/collation is set for a database object (it uses the DEFAULT value then). Setting DEFAULT here will make the schema to use the server defaults.
Character Set:
Default Charset
Collation:
Default Collation
Automatic context help is disabled. Use the toolbar to manually get help for the current caret position or to toggle automatic help.
Object Info
Session
Schema: finalproject
Schema
Apply
Revert
Action Output
Time
Action
Response
Duration / Fetch Time
1
10:11:39
Apply changes to finalproject
Changes applied
SQL Editor Opened.

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.

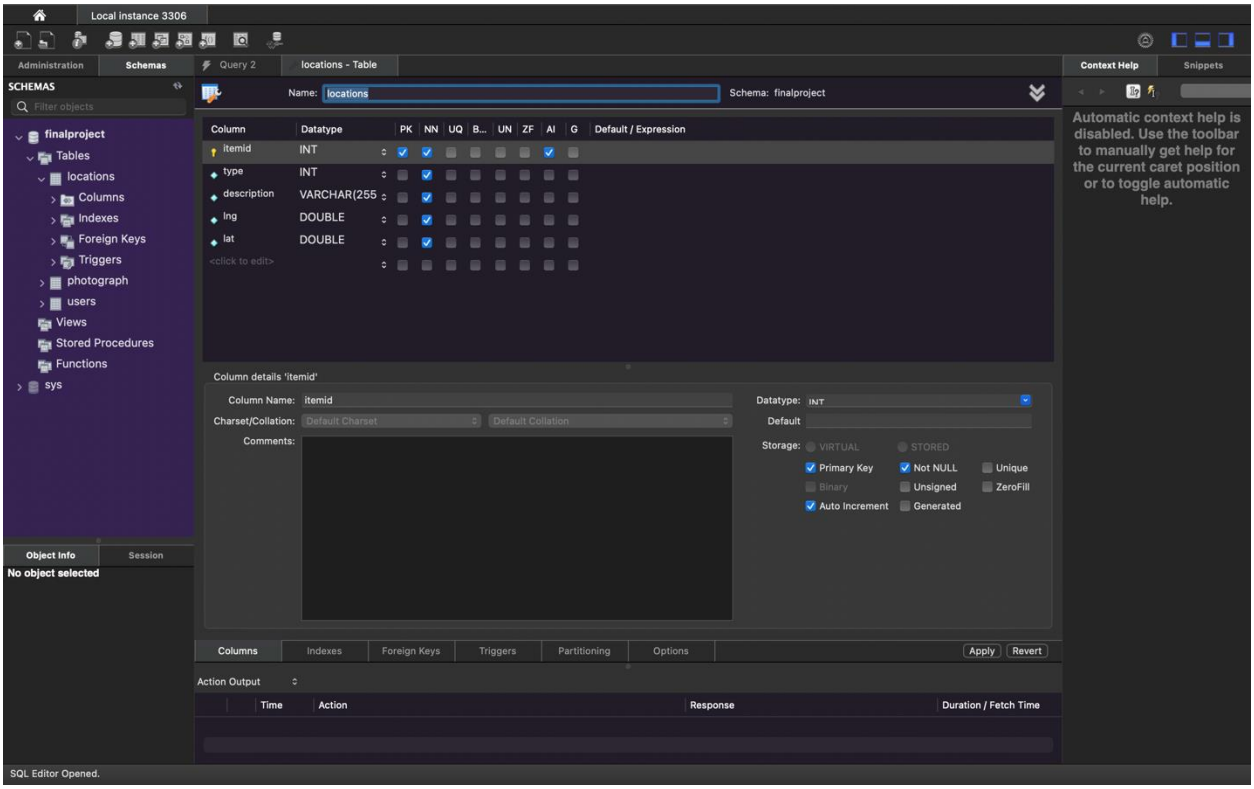
** Note took screenshots of tables after assignment so some values say not null but it was added in prompt 3 not prior

```
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)
);
```



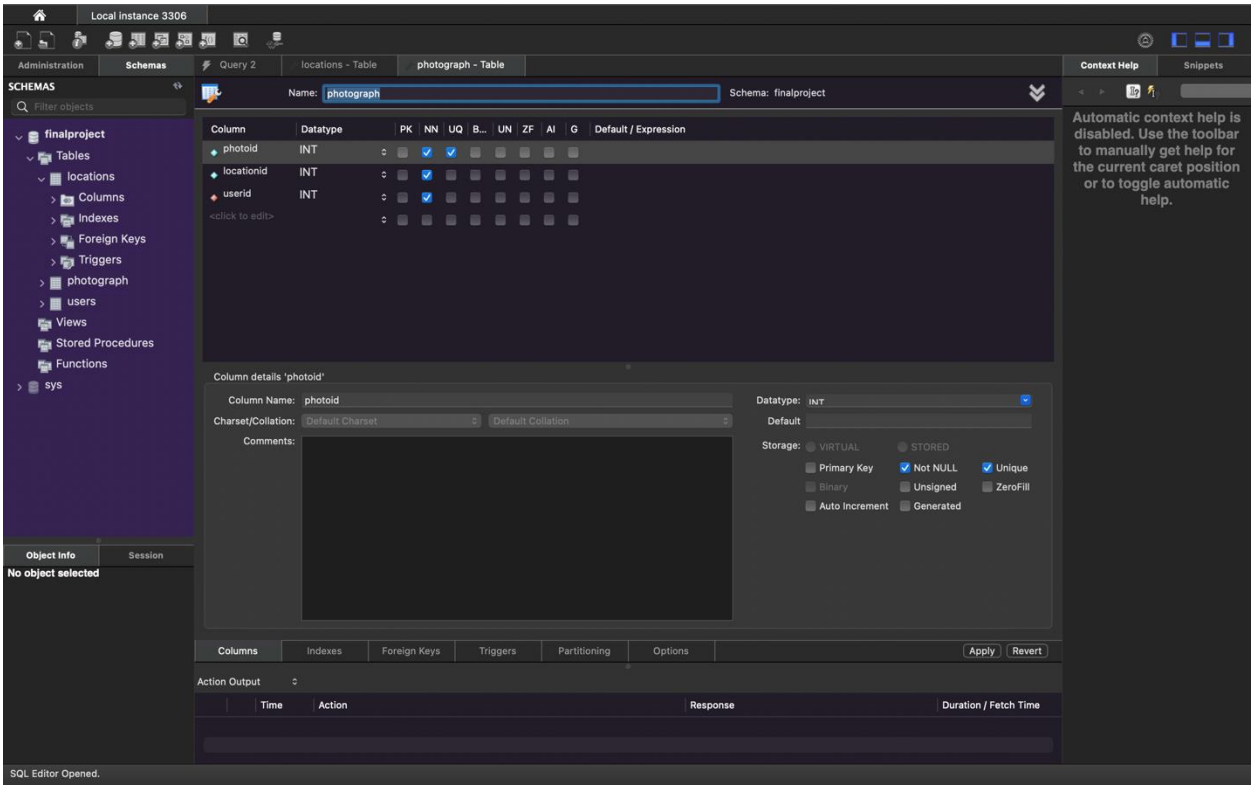
Code to create locations table was not able to add auto increment without adding a primary key to the table.

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



Final photograph table

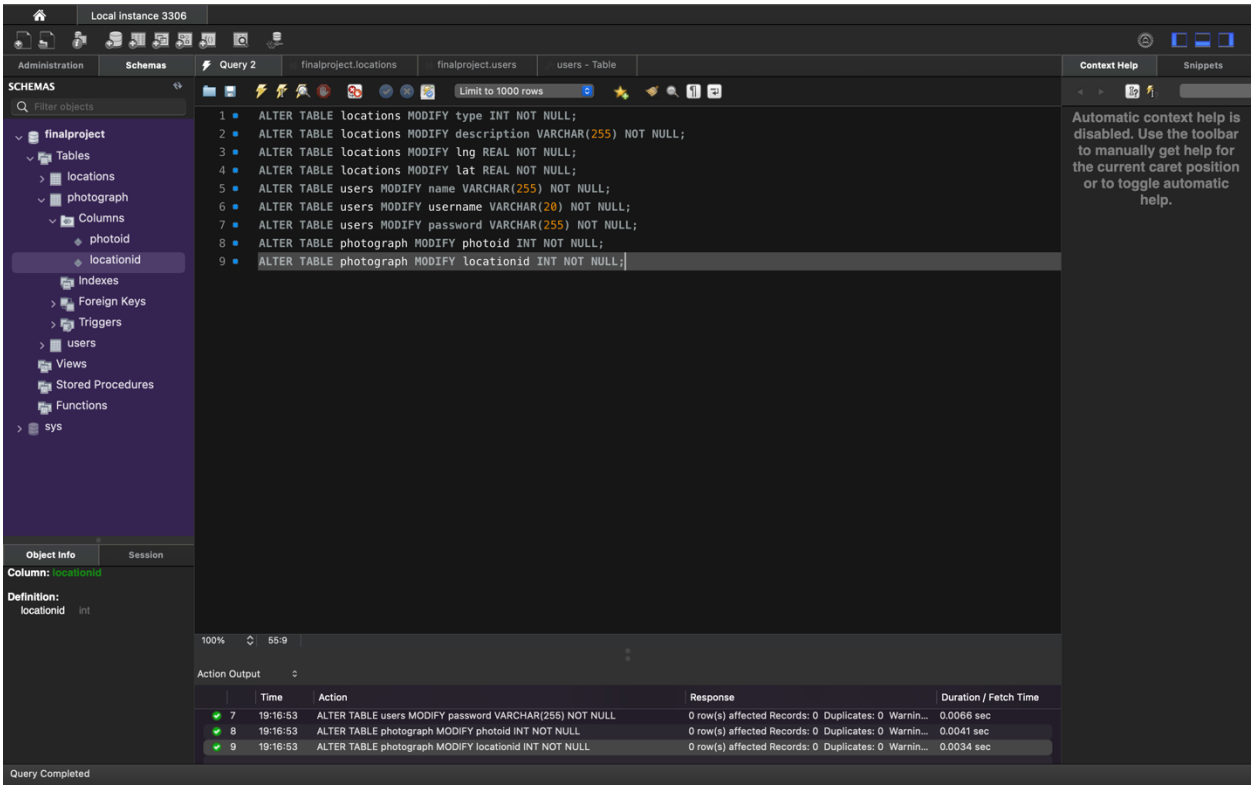
```
CREATE TABLE photograph (
    photoid INT,
    locationid INT
);
```


Local instance 3306
Administration
Schemas
SCHEMAS
Filter objects
finalproject
Tables
locations
Columns
Indexes
Foreign Keys
Triggers
photograph
users
Views
Stored Procedures
Functions
sys
Object Info
Session
No object selected
Query 2
locations - Table
photograph - Table
Name: photograph
Schema: finalproject
Column
Datatype
PK
NN
UQ
B...
UN
ZF
AI
G
Default / Expression
photoid
INT
locationid
INT
userid
INT
<click to edit>
Column details 'photoid'
Column Name: photoid
Charset/Collation: Default Charset
Default Collation
Comments:
Datatype: INT
Default
Storage: VIRTUAL STORED
Primary Key
Not NULL
Unique
Binary
Unsigned
ZeroFill
Auto Increment
Generated
Columns
Indexes
Foreign Keys
Triggers
Partitioning
Options
Apply
Revert
Action Output
Time
Action
Response
Duration / Fetch Time
SQL Editor Opened.
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.

Prompt 3:

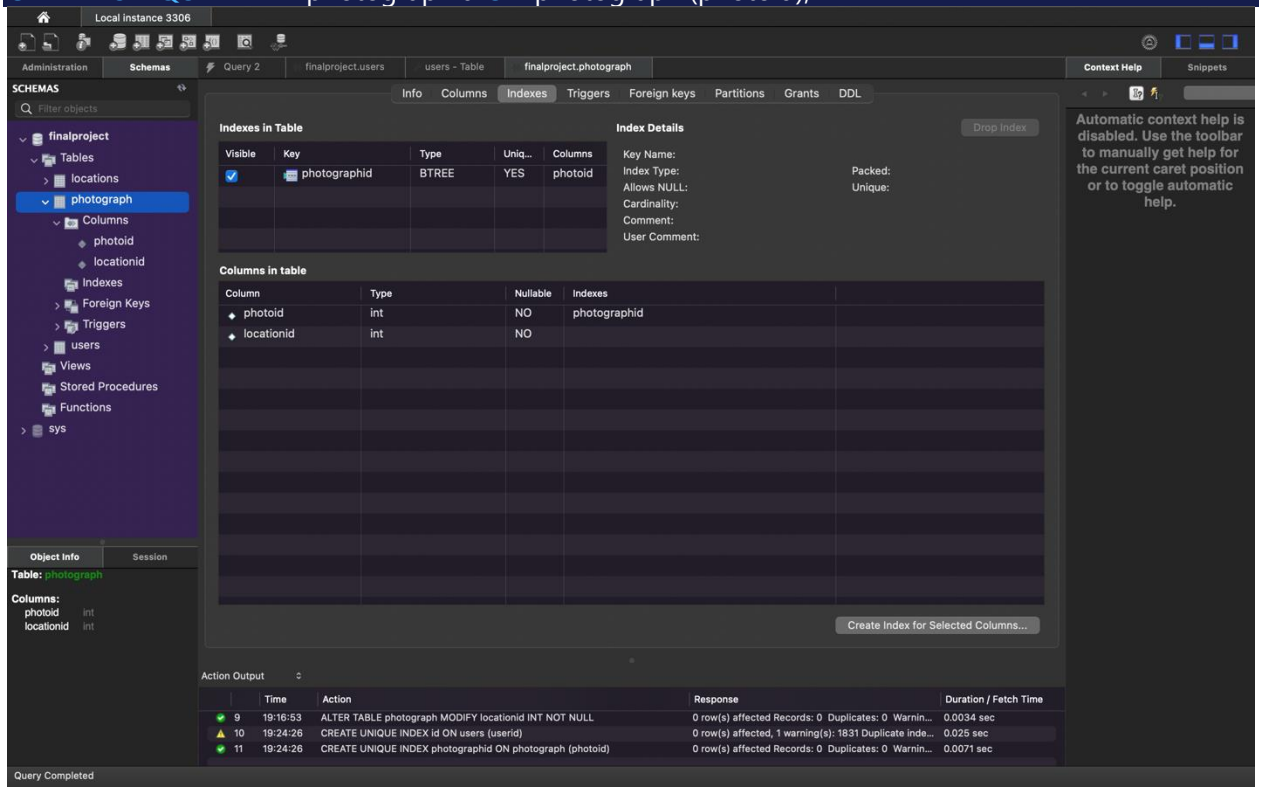
Alters all table to make values not nullable

```
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;
```



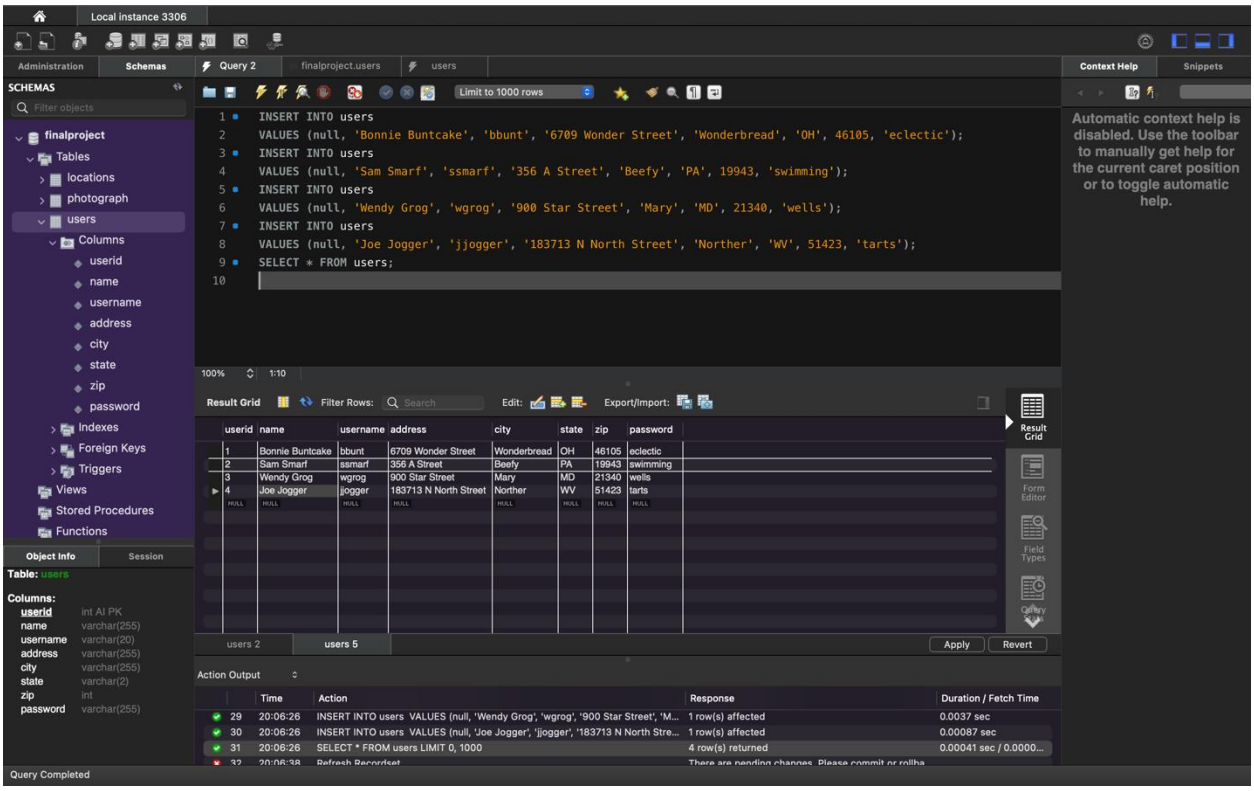
Prompt 4:

```
CREATE UNIQUE INDEX photographid ON photograph (photoid);
```

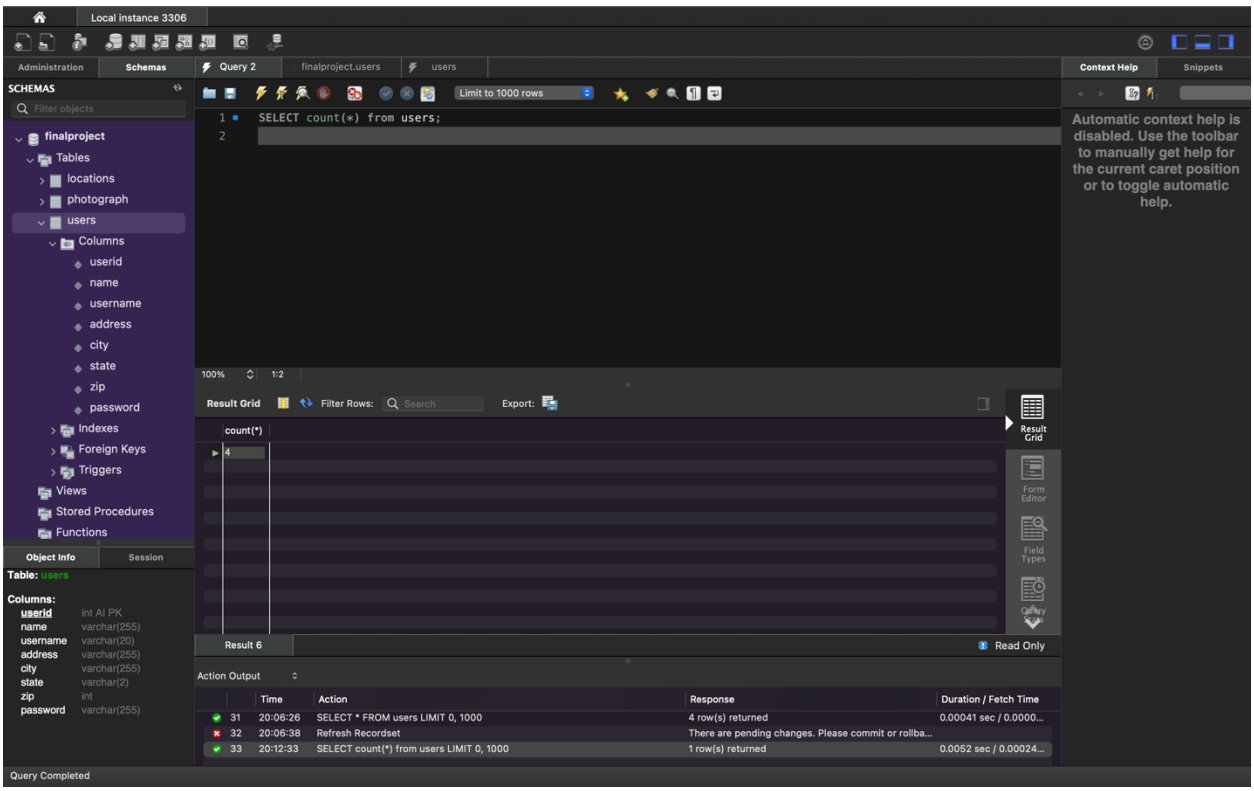


PROMPT 5:

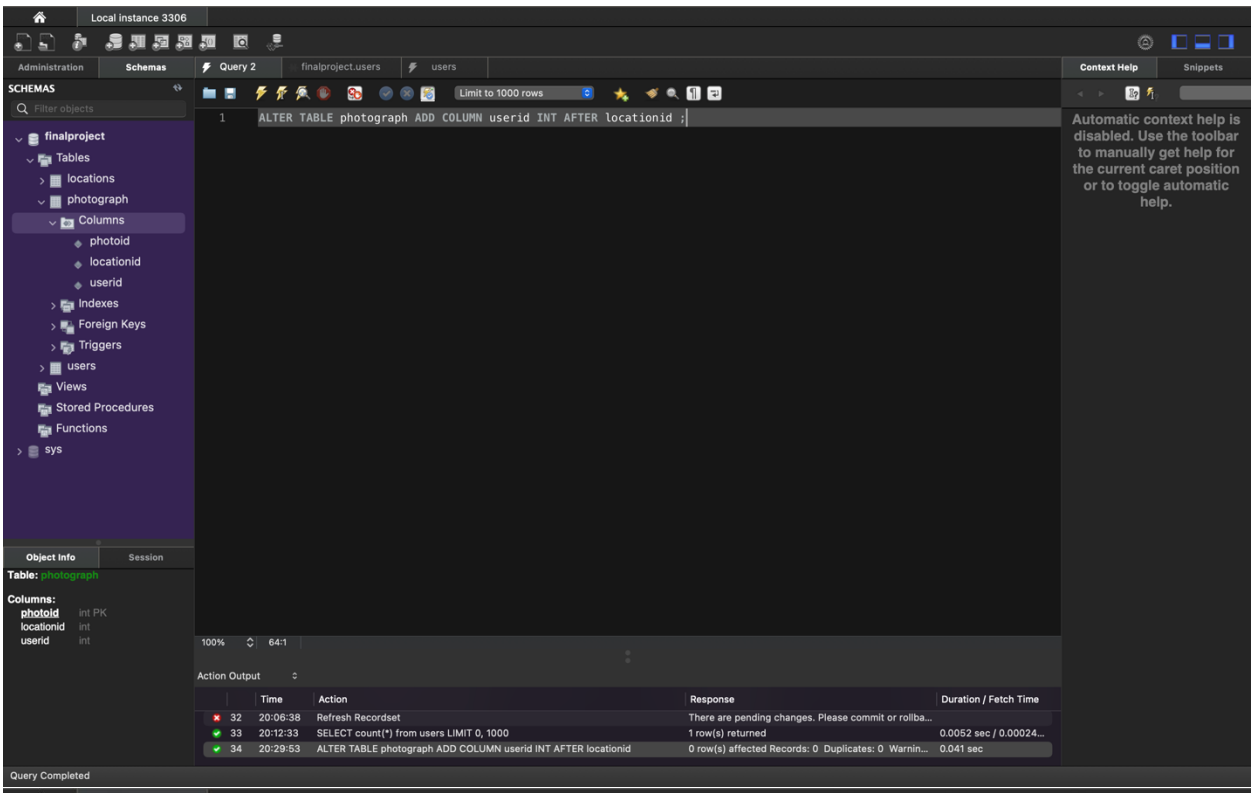
Added new users to the data base for auto increment to work had to decalre the first value as null.

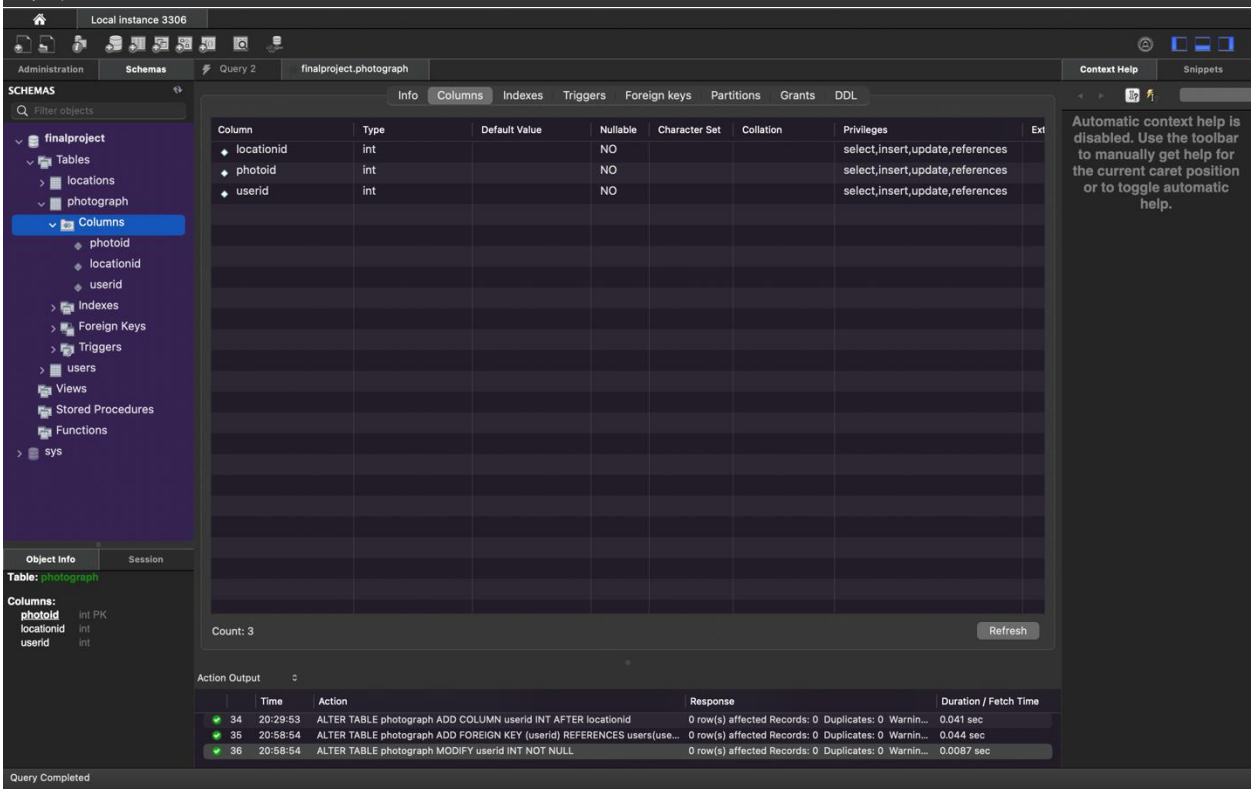


PROMPT 6:


Local instance 3306
Administration
Schemas
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 Info
Session
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)
Query 2
finalproject.users
users
Limit to 1000 rows
1 SELECT count(*) from users;
2
100%
1:2
Result Grid
Filter Rows:
Search
Export:
count(*)
4
Result 6
Read 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
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.
Result Grid
Form Editor
Field Types
Query

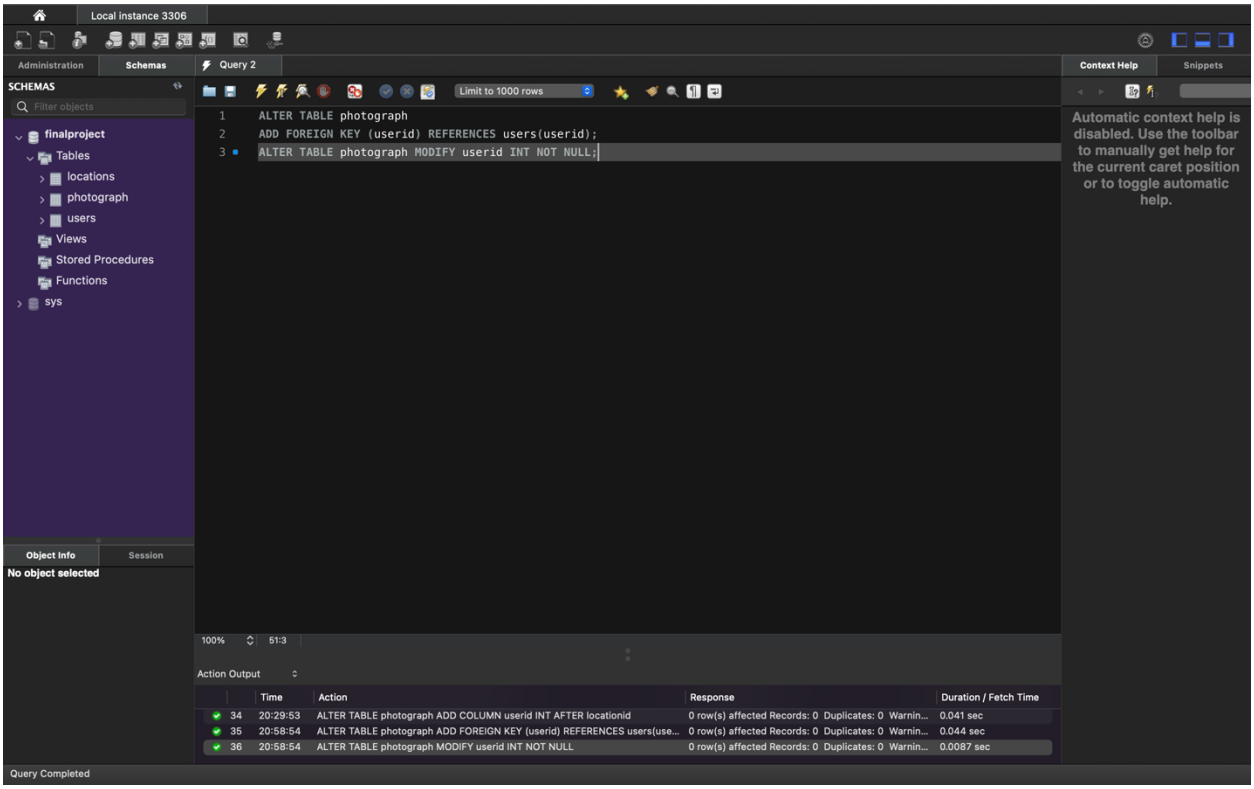
PROMPT 7:


Local instance 3306
Administration
Schemas
Query 2
finalproject.users
users
Context Help
Snippets
SCHEMAS
Filter objects
finalproject
Tables
locations
photograph
Columns
photoid
locationid
userid
Indexes
Foreign Keys
Triggers
users
Views
Stored Procedures
Functions
sys
Limit to 1000 rows
1 ALTER TABLE photograph ADD COLUMN userid INT AFTER locationid ;
Automatic context help is disabled. Use the toolbar to manually get help for the current caret position or to toggle automatic help.
Object Info
Session
Table: photograph
Columns:
photoid int PK
locationid int
userid int
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

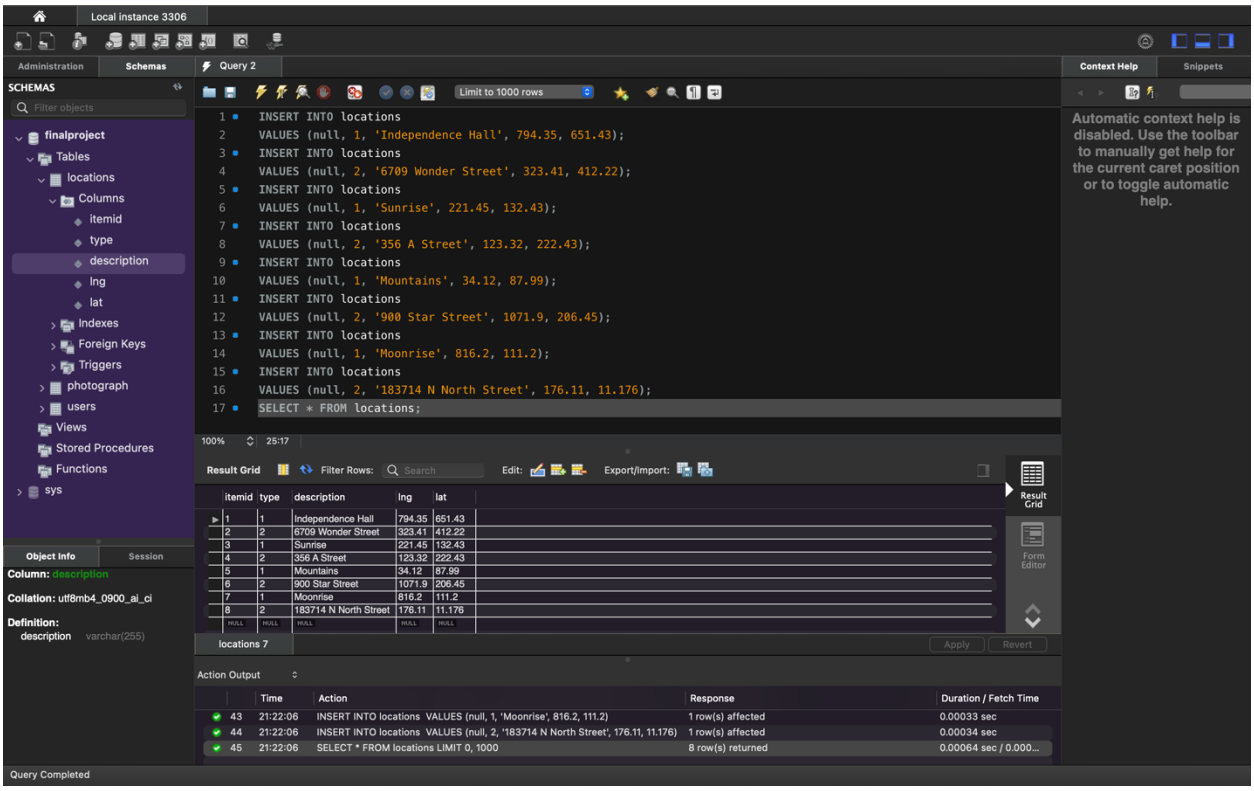

Local instance 3306
Administration
Schemas
Query 2
finalproject.photograph
Context Help
Snippets
SCHEMAS
Filter objects
finalproject
Tables
locations
photograph
Columns
photoid
locationid
userid
Indexes
Foreign Keys
Triggers
users
Views
Stored Procedures
Functions
sys
Info
Columns
Indexes
Triggers
Foreign keys
Partitions
Grants
DDL
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: 3
Refresh
Automatic context help is disabled. Use the toolbar to manually get help for the current caret position or to toggle automatic help.
Object Info
Session
Table: photograph
Columns:
photoid int PK
locationid int
userid int
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

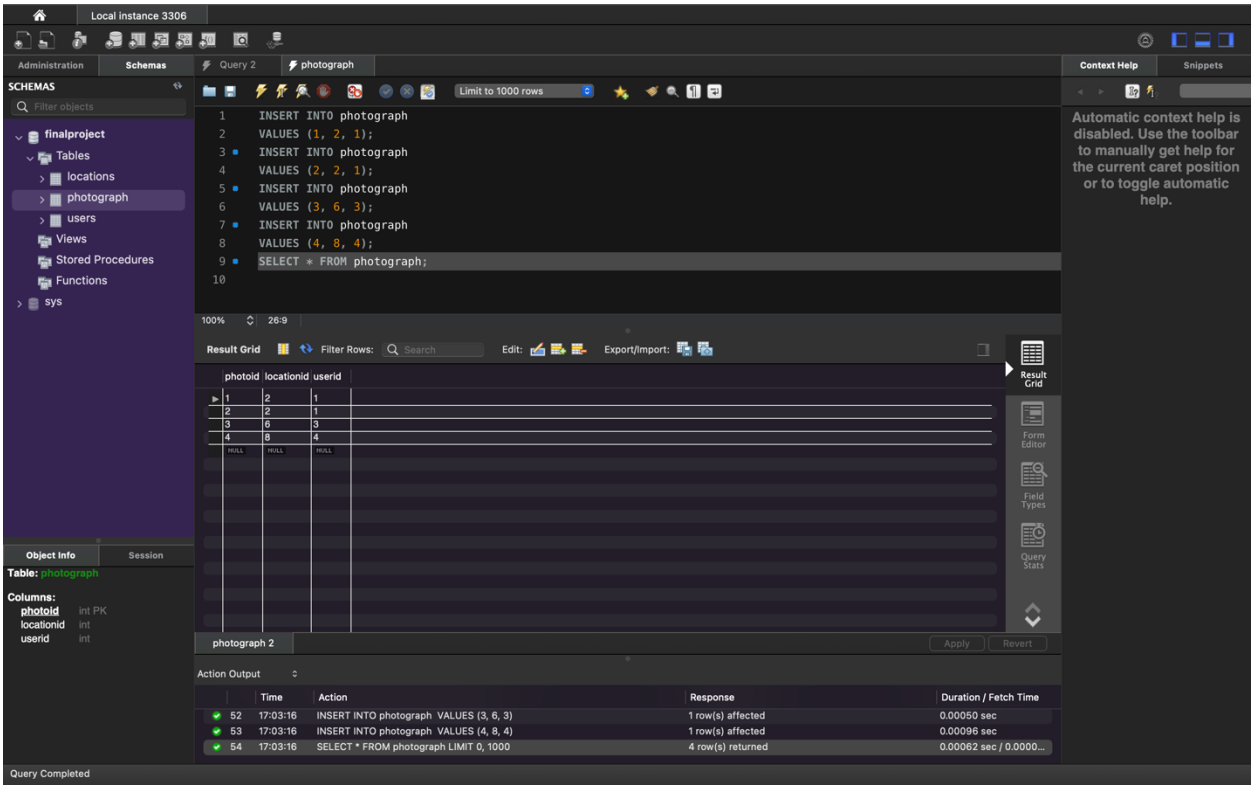
PROMPT:8

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.

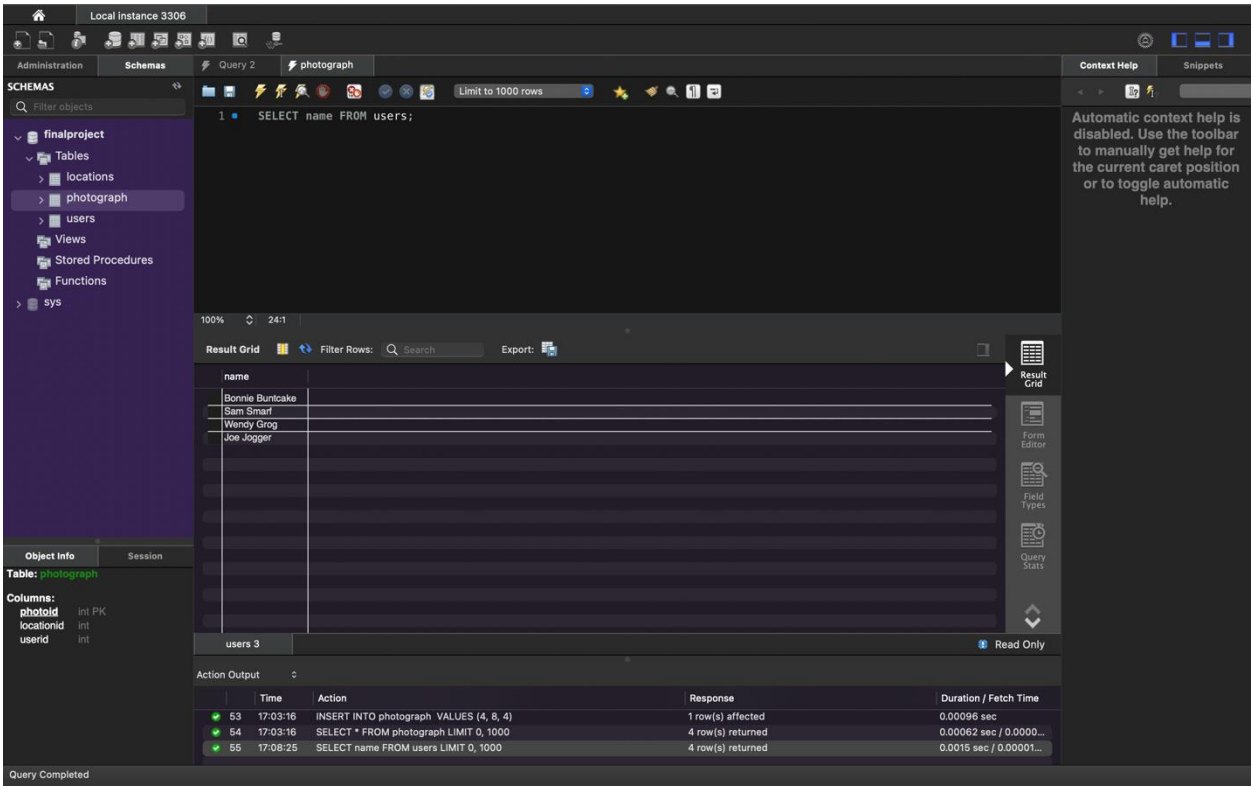


PROMPT 9:


Local instance 3306
Administration
Schemas
SCHEMAS
Filter objects
finalproject
Tables
locations
Columns
itemid
type
description
lng
lat
Indexes
Foreign Keys
Triggers
photograph
users
Views
Stored Procedures
Functions
sys
Object Info
Session
Column: description
Collation: utf8mb4_0900_ai_ci
Definition:
description varchar(255)
Query 2
Limit to 1000 rows
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:
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
locations 7
Apply
Revert
Result Grid
Form Editor
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
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.

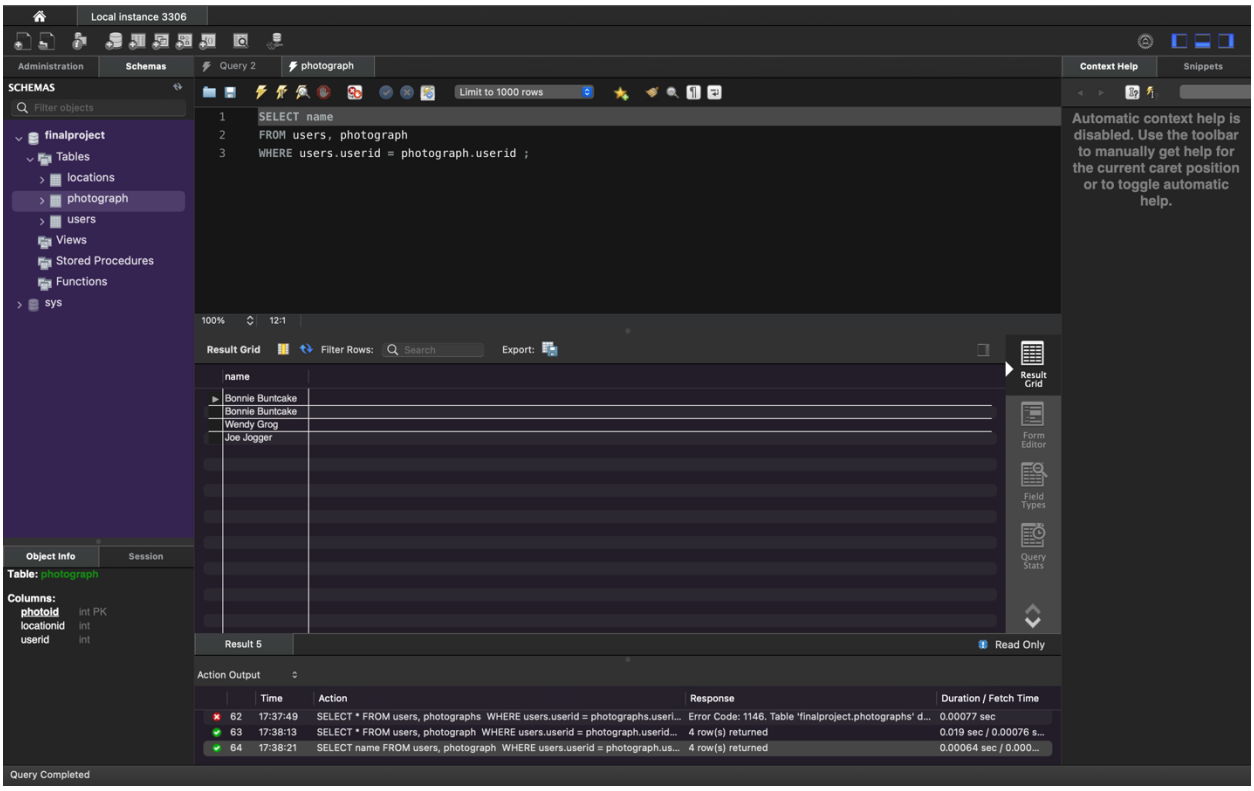

Local instance 3306
Administration
Schemas
SCHEMAS
Filter objects
finalproject
Tables
locations
photograph
users
Views
Stored Procedures
Functions
sys
Query 2
photograph
Limit to 1000 rows
1 INSERT INTO photograph
2 VALUES (1, 2, 1);
3 INSERT INTO photograph
4 VALUES (2, 2, 1);
5 INSERT INTO photograph
6 VALUES (3, 6, 3);
7 INSERT INTO photograph
8 VALUES (4, 8, 4);
9 SELECT * FROM photograph;
10
100% 26:9
Result Grid
Filter Rows:
Search
Edit:
Export/Import:
photoid locationid userid
1 2 1
2 2 1
3 6 3
4 8 4
NULL NULL NULL
Result Grid
Form Editor
Field Types
Query Stats
photograph 2
Apply
Revert
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 Help
Snippets
Automatic context help is disabled. Use the toolbar to manually get help for the current caret position or to toggle automatic help.
Object Info
Session
Table: photograph
Columns:
photoid int PK
locationid int
userid int

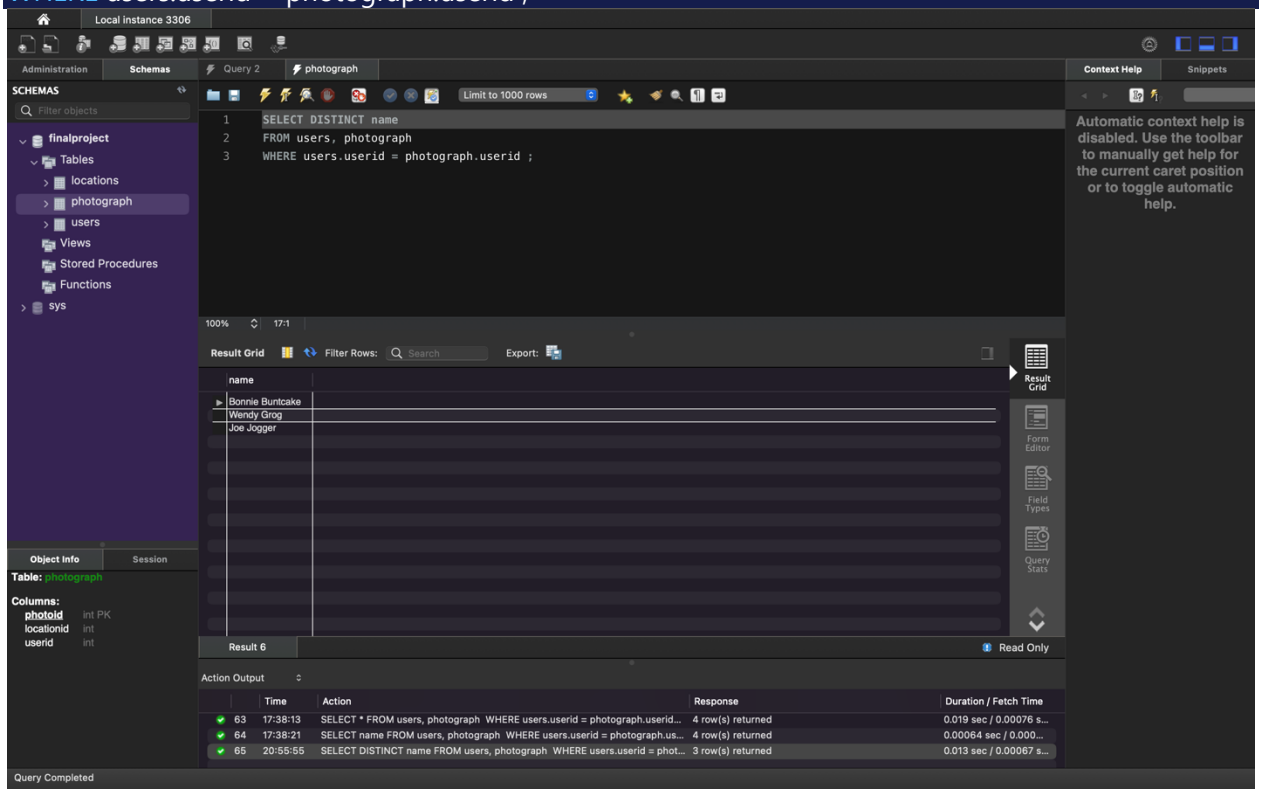
PROMPT #10


Local instance 3306
Administration
Schemas
SCHEMAS
Filter objects
finalproject
Tables
locations
photograph
users
Views
Stored Procedures
Functions
sys
Query 2
photograph
Limit to 1000 rows
1 SELECT name FROM users;
100%
24:1
Result Grid
Filter Rows:
Search
Export:
name
Bonnie Buntcake
Sam Smart
Wendy Grog
Joe Jogger
users 3
Read Only
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.
Object Info
Session
Table: photograph
Columns:
photoid int PK
locationid int
userid int
Action Output
Time
Action
Response
Duration / Fetch Time
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...
55 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 ;
```



PROMPT #12

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