

# University of Central Florida

## CGS 2545 Database Concepts

### Assignment 9

#### Airline Database Project

**Due, Friday, November 10, 2023 for maximum 100%**

**Saturday, November 11, 2023 for maximum 90%**

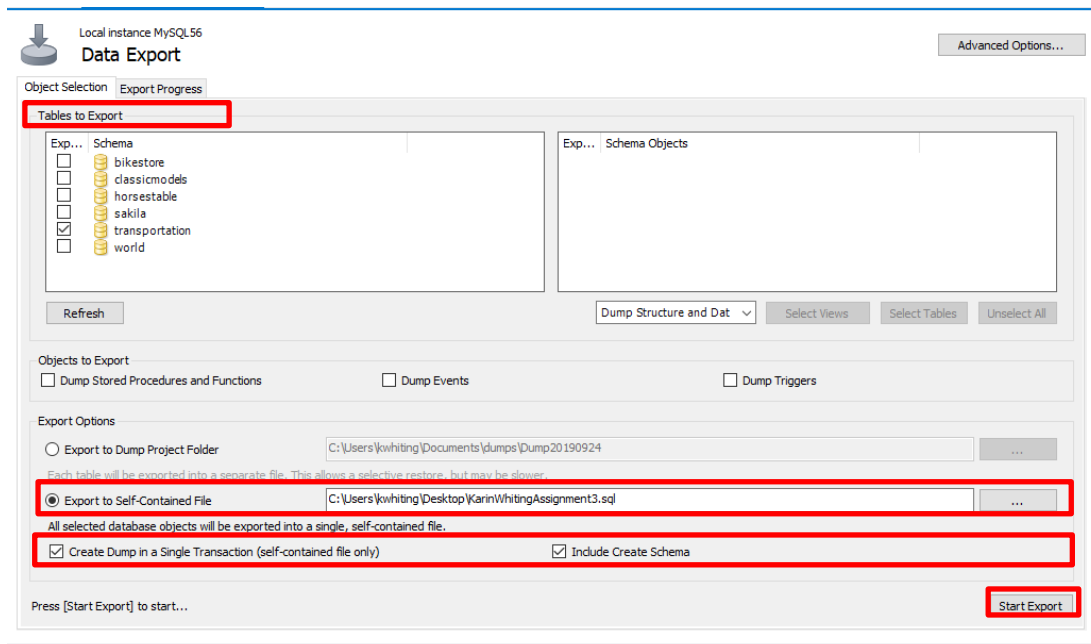
**Sunday, November 12, 2023 for maximum 80%**

**Monday, November 13, 2023 for maximum 70%**

#### Deliverables

To complete this assignment, submit the following **three** files to Webcourses:

1. An SQL file (i.e. save the file with file extension **.sql**) containing the SQL written to perform the tasks. Example: Assignment2Code.sql
2. An ER Diagram generated by MySQL Workbench. The file name should be the following format: **FirstnameLastnameAssignment#ERDiagram.mwb**. Example: KarinMarkleAssignment2ERDiagram.mwb
3. An exported SQL file using MySQL Workbench Data Export option. The file name should be the following format: **FirstnameLastnameAssignment#.sql**. Example: KarinMarkleAssignment2.sql
  - a. On the Data Export UI do the following
    - i. Select the database to export
    - ii. Select Export to Self-Contained File
    - iii. Click on the ellipsis to select the directory to save the file to
    - iv. Click the checkbox for Create Dump in a Single Transaction
    - v. Click the checkbox for Include Create Schema
    - vi. Click the Start Export button



### Assignment Scope

1. Use database **airline**.
2. Create user.
3. Grant user permissions.
4. Change user.
5. Verify user permissions.
6. Generate an ER diagram.

### References

1. 10\_SQL Select Database.pptx
2. 61\_AdvancedSQL Manage Users.pptx

### To access the DBMS

1. Launch the MySQL Command Line Client executable or MySQL Workbench
2. Login in using the password set during installation “cgs2545” or your chosen password.

### Tasks

Query Description
1. Change to use the database <b>airline</b>
2. Verify current user
3. Create new user <ol style="list-style-type: none"> <li>a. Username: <b>&lt;your name&gt;</b></li> <li>b. IP Address: <b>localhost</b></li> <li>c. Password: <b>cgs2545\$%</b></li> </ol>
4. Verify the new user by selecting columns <b>host, user, select_priv, insert_priv, update_priv, delete_priv, create_priv, drop_priv</b> from table <b>mysql.user</b>
5. Grant user <b>&lt;your name&gt;</b> the following permissions on all tables in database <b>airline</b> <ol style="list-style-type: none"> <li>a. <b>SELECT</b></li> <li>b. <b>INSERT</b></li> <li>c. <b>UPDATE</b></li> </ol>
6. Verify user <b>&lt;your name&gt;</b> permissions
7. Change user from <b>root</b> to <b>&lt;your name&gt;</b>
8. Change to use the database <b>airline</b>
9. Attempt a <b>delete</b> query from any table, user should be denied
10. Change user from <b>&lt;your name&gt;</b> to <b>root</b>
11. Change to use the database <b>airline</b>
12. Create new user <ol style="list-style-type: none"> <li>a. Username: <b>agent</b></li> <li>b. IP Address: <b>localhost</b></li> <li>c. Password: <b>cgs2545\$%</b></li> </ol>
13. Verify the new user by selecting columns <b>host, user, select_priv, insert_priv, update_priv, delete_priv, create_priv, drop_priv</b> from table <b>mysql.user</b>
14. Grant user <b>agent</b> the following permissions on the following views in database <b>airline</b> <ol style="list-style-type: none"> <li>a. Permissions               <ol style="list-style-type: none"> <li>i. <b>SELECT</b></li> </ol> </li> </ol>

<b>ii. SHOW VIEW</b> b. Views <b>i. airlinemanifestview</b> <b>ii. employeeflightview</b> <b>iii. passengerflightview</b> <b>iv. timesheetview</b>
15. Verify user <b>agent</b> permissions
16. Change user from <b>root</b> to <b>agent</b>
17. Change to use the database <b>airline</b>
18. Execute query “ <b>show tables;</b> ”
19. Attempt a <b>select</b> query from any known table (e.g., timesheet, aircraft, airport, etc.), user should be denied
20. Generate an ER Diagram using MySQL Workbench, save as a .mwb file
21. Export database <b>airline</b> using MySQL Workbench, save as a .sql file
22. Provide written source code in a .sql file

Test Cases	
<b>Test Case 1</b>	Verify <b>root</b> user logged in, should look similar to Figure 1
<b>Test Case 2</b>	Verify <your name> user created, should look similar to Figure 2
<b>Test Case 3</b>	Verify <your name> user permissions, should look similar to Figure 3
<b>Test Case 4</b>	Verify <your name> user logged in, should look similar to Figure 4
<b>Test Case 5</b>	Verify user <your name> denied <b>delete</b> permissions, should look similar to Figure 5
<b>Test Case 6</b>	Verify <b>agent</b> user created, should look similar to Figure 6
<b>Test Case 7</b>	Verify <b>agent</b> user permissions, should look similar to Figure 7
<b>Test Case 8</b>	Verify <b>agent</b> user logged in, should look similar to Figure 8
<b>Test Case 9</b>	Verify user <b>agent</b> “ <b>show tables;</b> ”, should look similar to Figure 9
<b>Test Case 10</b>	Verify user <b>agent</b> “ <b>select * from timesheet;</b> ”, should look similar to Figure 10
<b>Test Case 11</b>	ER Diagram should look like Figure 11

```

+-----+
| user() |
+-----+
| root@localhost |
+-----+
1 row in set (0.00 sec)

```

**Figure 1 Verify user *root* logged in**

host	user	select_priv	insert_priv	update_priv	delete_priv	create_priv	drop_priv
localhost	karin	N	N	N	N	N	N
localhost	mysql.infoschema	Y	N	N	N	N	N
localhost	mysql.session	N	N	N	N	N	N
localhost	mysql.sys	N	N	N	N	N	N
localhost	root	Y	Y	Y	Y	Y	Y

5 rows in set (0.00 sec)

**Figure 2 Verify user <your name> created**

```

+-----+
| Grants for karin@localhost |
+-----+
| GRANT USAGE ON *.* TO `karin`@`localhost` |
| GRANT SELECT, INSERT, UPDATE ON `cruise`.* TO `karin`@`localhost` |
+-----+
2 rows in set (0.00 sec)

```

**Figure 3 Verify user <your name> permissions**

```

+-----+
| user() |
+-----+
| karin@localhost |
+-----+
1 row in set (0.00 sec)

```

**Figure 4 Verify user <your name> logged in**

```

mysql> DELETE FROM timesheet;
ERROR 1142 (42000): DELETE command denied to user 'karin'@'localhost' for table 'timesheet'

```

**Figure 5 Verify user <your name> denied DELETE permissions**

host	user	select_priv	insert_priv	update_priv	delete_priv	create_priv	drop_priv
localhost	agent	N	N	N	N	N	N
localhost	karin	N	N	N	N	N	N
localhost	mysql.infoschema	Y	N	N	N	N	N
localhost	mysql.session	N	N	N	N	N	N
localhost	mysql.sys	N	N	N	N	N	N
localhost	root	Y	Y	Y	Y	Y	Y

6 rows in set (0.00 sec)

**Figure 6 Verify user agent created**

```

+-----+
| Grants for agent@localhost |
+-----+
| GRANT USAGE ON *.* TO `agent`@`localhost` |
| GRANT SELECT, SHOW VIEW ON `airline`.`airlinemanifestview` TO `agent`@`localhost` |
| GRANT SELECT, SHOW VIEW ON `airline`.`employeeflightview` TO `agent`@`localhost` |
| GRANT SELECT, SHOW VIEW ON `airline`.`passengerflightview` TO `agent`@`localhost` |
| GRANT SELECT, SHOW VIEW ON `airline`.`timesheetview` TO `agent`@`localhost` |
+-----+
5 rows in set (0.00 sec)

```

**Figure 7 Verify user *agent* permissions**

```

+-----+
| user() |
+-----+
| agent@localhost |
+-----+
1 row in set (0.00 sec)

```

**Figure 8 Verify user *agent* logged in**

```

mysql> show tables;
+-----+
| Tables_in_airline |
+-----+
| airlinemanifestview |
| employeeflightview |
| passengerflightview |
| timesheetview |
+-----+
4 rows in set (0.06 sec)

```

**Figure 9 “show tables;” result set**

```

mysql> select * from timesheet;
ERROR 1142 (42000): SELECT command denied to user 'agent'@'localhost' for table 'timesheet'
mysql>

```

**Figure 10 Verify user *agent* denied SELECT permissions on table**

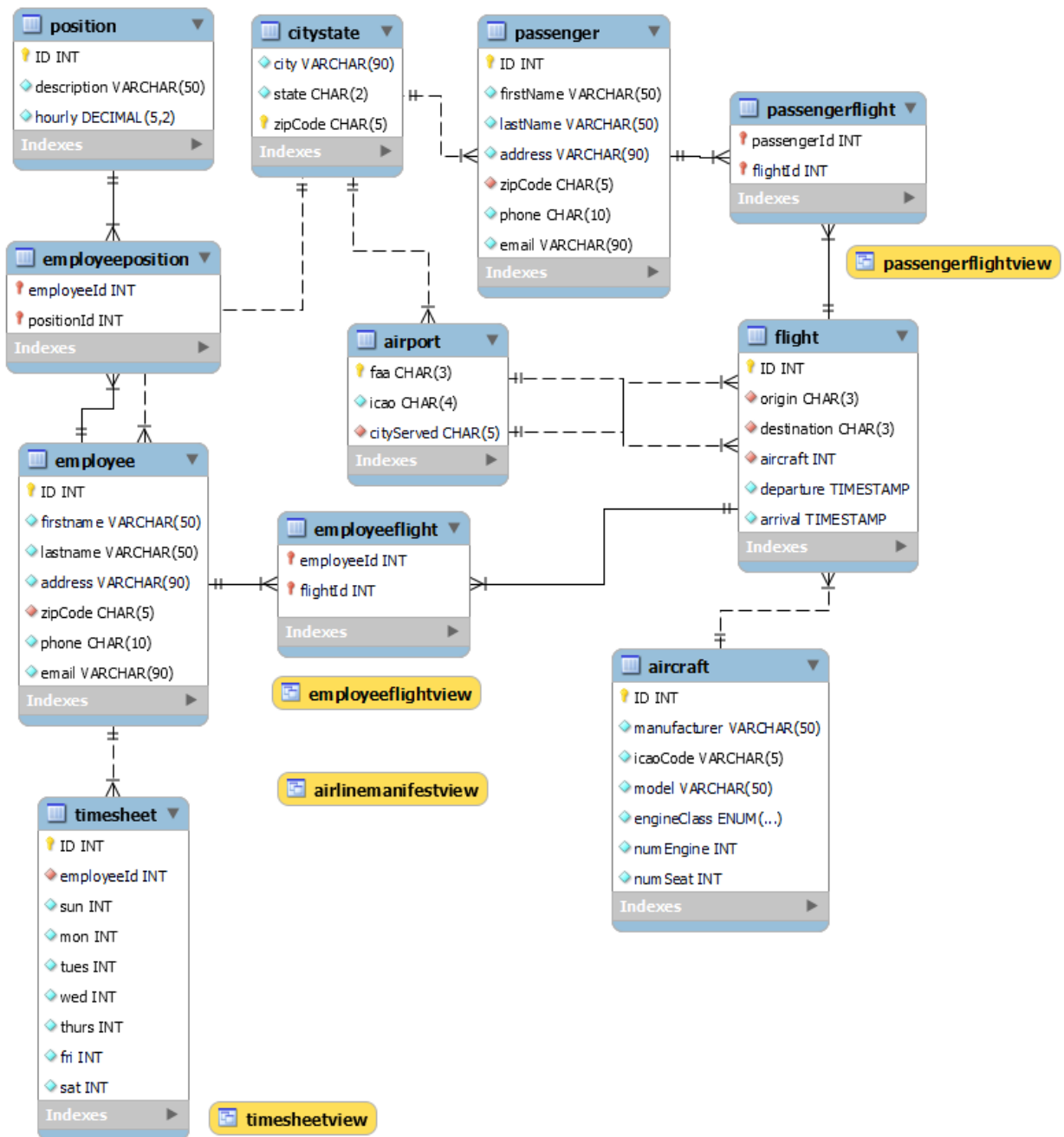


Figure 11 ER Diagram