

DBMS LAB 8

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SECTION: H

	Time	Action	Response	Duration / Fetch Time
✓ 1	14:08:31	SELECT @@transaction_isolation LIMIT 0, 1000	1 row(s) returned	0.00062 sec / 0.0000...
✓ 2	14:08:45	SELECT @@global.transaction_isolation LIMIT 0, 1000	1 row(s) returned	0.00027 sec / 0.0000...
✓ 3	14:10:10	CREATE DATABASE airlines_db	1 row(s) affected	0.0083 sec
✓ 4	14:10:10	USE airlines_db	0 row(s) affected	0.00027 sec
✓ 5	14:10:10	CREATE TABLE Flight (flight_number VARCHAR(10) PRIMARY KEY, departure_time DATETIME NOT NULL, arrival_time DATETIME NOT NULL, duration INT, destination VARCHAR(50) NOT NULL)	0 row(s) affected	0.015 sec
✓ 6	14:10:10	CREATE TABLE Passenger (passenger_id VARCHAR(10) PRIMARY KEY, name VARCHAR(50) NOT NULL, seat_preference VARCHAR(10), birth_date DATE, gender CHAR(1))	0 row(s) affected	0.0043 sec
✓ 7	14:10:10	INSERT INTO Flight VALUES ('SKY101', '2025-07-12 06:00:00', '2025-07-12 10:30:00', 'Delhi', 'Singapore')	3 row(s) affected Records: 3 Duplicates: 0 Warnings: 0	0.0035 sec
✓ 8	14:10:10	INSERT INTO Passenger VALUES ('P001', 'Arav Sharma', 'Male', '1990-08-15', '9876543210', 'Window', 'Aisle')	3 row(s) affected Records: 3 Duplicates: 0 Warnings: 0	0.00083 sec

Task 2: Read Uncommitted

Transaction A:

```
SET SESSION TRANSACTION ISOLATION LEVEL READ UNCOMMITTED;
START TRANSACTION;
UPDATE Passenger
SET seat_preference = 'Aisle' WHERE passenger_id = 'P001';
```

✓ 9	14:14:29	SET SESSION TRANSACTION ISOLATION LEVEL READ UNCOMMITTED	0 row(s) affected	0.00039 sec
✓ 10	14:14:29	START TRANSACTION	0 row(s) affected	0.00022 sec
✓ 11	14:14:29	UPDATE Passenger SET seat_preference = 'Aisle' WHERE passenger_id = 'P001'	1 row(s) affected Rows matched: 1 Changed: 1 Warnings: 0	0.00062 sec

Transaction B: (From another session) :

```
SET SESSION TRANSACTION ISOLATION LEVEL READ UNCOMMITTED; START TRANSACTION;
```

```
SELECT name, seat_preference FROM Passenger
WHERE passenger_id = 'P001';
```

✓ 12	14:18:40	SET SESSION TRANSACTION ISOLATION LEVEL READ UNCOMMITTED	0 row(s) affected	0.00024 sec
✓ 13	14:18:40	START TRANSACTION	0 row(s) affected	0.00073 sec
✓ 14	14:18:40	SELECT name, seat_preference FROM Passenger WHERE passenger_id = 'P001' LIMIT 0, 1000	1 row(s) returned	0.00051 sec / 0.0000...
		name seat_preference		Result Grid
		Arav Sharma Aisle		Form Editor

```
SET SESSION TRANSACTION ISOLATION LEVEL READ COMMITTED; START TRANSACTION;
```

```
SELECT seat_preference FROM Passenger
WHERE passenger_id = 'P001';
```

✓ 15	14:20:21	SET SESSION TRANSACTION ISOLATION LEVEL READ COMMITTED	0 row(s) affected	0.00028 sec
✓ 16	14:20:21	START TRANSACTION	0 row(s) affected	0.00018 sec
✓ 17	14:20:21	SELECT seat_preference FROM Passenger WHERE passenger_id = 'P001' LIMIT 0, 1000	1 row(s) returned	0.00045 sec / 0.000...

Result Grid						
			Filter Rows:	Search:	Export:	
	seat_preference	Aisle				Result Grid

Task 3: Read Committed

Transaction A: (Session - 1)

```
SET SESSION TRANSACTION ISOLATION LEVEL READ COMMITTED; START TRANSACTION;
```

UPDATE Passenger

```
SET seat_preference = 'Window' WHERE passenger_id = 'P001';
```

```
COMMIT;
```

18	14:21:32	SET SESSION TRANSACTION ISOLATION LEVEL READ COMMITTED	0 row(s) affected	0.00021 sec
19	14:21:32	START TRANSACTION	0 row(s) affected	0.00012 sec
20	14:21:32	UPDATE Passenger SET seat_preference = 'Window' WHERE passenger_id = 'P001'	1 row(s) affected Rows matched: 1 Changed: 1 Warnings: 0	0.00043 sec
21	14:21:32	COMMIT	0 row(s) affected	0.00051 sec

Transaction B: (Session - 2)

```
SELECT seat_preference FROM Passenger  
WHERE passenger_id = 'P001';
```

22	14:22:07	SELECT seat_preference FROM Passenger WHERE passenger_id = 'P001' LIMIT 0, 1000	1 row(s) returned	0.00045 sec / 0.000...
		Window		

Task 4: Repeatable Read

Transaction - A: (Session - 1)

```
SET SESSION TRANSACTION ISOLATION LEVEL REPEATABLE READ; START TRANSACTION;
```

```
SELECT passenger_id, name, seat_preference FROM Passenger  
WHERE class_preference = 'Economy';
```

38	14:32:09	SET SESSION TRANSACTION ISOLATION LEVEL REPEATABLE READ	0 row(s) affected	0.00048 sec
39	14:32:09	START TRANSACTION	0 row(s) affected	0.00020 sec
40	14:32:09	SELECT passenger_id, name, seat_preference FROM Passenger WHERE class_preference = 'Economy' L...	1 row(s) returned	0.00047 sec / 0.000...
		passenger_id	name	seat_preference
		P001	Aarav Sharma	Window
		HULL	HULL	HULL

Transaction - B: (Session - 2)

```
SET SESSION TRANSACTION ISOLATION LEVEL REPEATABLE READ; START TRANSACTION;
```

```

UPDATE Passenger
SET seat_preference = 'Aisle' WHERE passenger_id = 'P001';

COMMIT;

```

41	14:33:52	SET SESSION TRANSACTION ISOLATION LEVEL REPEATABLE READ	0 row(s) affected	0.00026 sec
42	14:33:52	START TRANSACTION	0 row(s) affected	0.00011 sec
43	14:33:52	UPDATE Passenger SET seat_preference = 'Aisle' WHERE passenger_id = 'P001'	1 row(s) affected Rows matched: 1 Changed: 1 Warnings: 0	0.00045 sec
44	14:33:52	COMMIT	0 row(s) affected	0.00073 sec

Transaction - A: (Session-1)

passenger_id	name	seat_preference
P001	Aarav Sharma	Window
NULL	NULL	NULL

Task 5: Serializable

Transaction - A (Session - 1):

```
SET SESSION TRANSACTION ISOLATION LEVEL SERIALIZABLE; START TRANSACTION;
```

```

SELECT COUNT(*)
FROM Flight
WHERE DATE(departure_time) = '2025-07-14' FOR UPDATE ;

```

1	20:11:52	use airlines_db	0 row(s) affected	0.00060 sec
2	20:11:52	SET SESSION TRANSACTION ISOLATION LEVEL SERIALIZABLE	0 row(s) affected	0.00030 sec
3	20:11:52	START TRANSACTION	0 row(s) affected	0.00017 sec
4	20:11:52	SELECT COUNT(*) FROM Flight WHERE DATE(departure_time) = '2025-07-14' LIMIT 0, 1...	1 row(s) returned	0.00061 sec / 0.0000...
COUNT(*)				Result Grid
	2			Form

Transaction - B (Session - 2):

```

21 20:24:50 INSERT INTO Flight VALUES ('SKY505', '2025-07-14 21:00:00',...
Error Code: 1033. Lost connection to MySQL server during query
30.000 sec

```

Transaction - A then proceeds to commit, after which successful insertion of Transaction - B takes place.

5	20:26:49	commit	0 row(s) affected	0.00043 sec
22	20:27:01	use airlines_db	0 row(s) affected	0.00013 sec
23	20:27:01	SET SESSION TRANSACTION ISOLATION LEVEL SERIALIZABLE	0 row(s) affected	0.00014 sec
24	20:27:01	START TRANSACTION	0 row(s) affected	0.00012 sec
25	20:27:01	INSERT INTO Flight VALUES ('SKY505', '2025-07-14 21:00:00',...	1 row(s) affected	0.00062 sec

observe the time taken for the insertion (0.00060 sec)