SQL 11: TRANSACTIONS -2

27/05/24		
	AGENDA	
	11-101421)	
	Isolation Levels	Paoblems
	Read Uncommitted	
(2)	Road Committed	Non-Robertable Read
(5)	Repeatable flood	Dirty Road Non-Ropestable Read Phantom Road
(4)	serializable	Dead bok.
	-	7 3 3 7 1
	DB locks	
	Shared (S) - Multiple	Transcations can read a row.
(2)	Exclusive (x) - Transach	ons cau "updati" or "delete"
	9 80	
		
	<u> 11</u>	(2
	Beston	lezin
	Out 1	
X clusive	T1 Beston; Our: Updale where id=1.	Pezin Legin x update where id=1;
		Γ
	Commit;	, commit;
	READ COMMITTED	
	KLATD COMMITTED	
\bigcirc	Transcriber will read	Court committed date
	Transactions will read Drivy Roads will not	MODEL
0	DIO PARAMETER NOT	rafferi

Ques	Table: students	
	Sid Swame PSP email_sent RU-) K->PR->S	
	1 A 60 False True	
	2 & Faire True.	
	3 C 70 False True	
	4 D 45 False True	
	5 E 90 False.	
	Co 1 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	
	Send enoul to all students with PSP < 80%.	
\bigcirc	List (Students) = SELECT + from STODENTS CHERE 158(80)	
	•	
$^{\circ}$	Send Emails (HCD)	
<u>_</u>	update "email-seur" field to "True".	
	Update Shedents	
	SET enail-sent = True 1-True	
	WHERE PSP < 80;	
	WILE 131 (80)	
	Non-Repeatable Road.	
	DECCARAGE BEAD	
	KEPEATAQUE READ	
	Performance poor -) because it takes a snapshot	
	at the beginning of brancackon and	
	ceses that as a selective dumon of the	
	at the beginn for of boursaction and uses that as a reference during the boursaction.	

Phautom -> (glost)	
BREAK TILL - 8:23 AM.	
PHANTOM READ	
Read borneturing that does not	enta.
Isolation Level: - RR.	770
O Begin; (T2 D Begin
2) Read the last "xx2" (D Insert 1 row;
	3) Commit;
(3) Read the last row.	
SERIACIZABLE	
Transactions executed in a serially, even though their sparallel.	particular order.

CD I Ct	. .	1/2/	
SEVEC	· · ·		
Dead loc	<u>1</u>		
	,		
Tı		T2.	
select *	film-id is (42)	select * fil	maid is (23)
2	1	S 2	
2	2	S 2 S 3	
	24 - 2	1	0
update	Id=L	cupdat	ビニン ・
C 1d		Slas	.2
T		(1)	.)
		X	
X			
Tegnos	oβ.		
	0 11-		
Sua	lizable.	Seub	lizble
7	1	7	2
		4	
		عالم	seut(" ");

Performance goes down V

	Semmany	21/3/1/2023 70 20 20 1
	Read	Transaction Level Data
	RU	No need to maintain any version of data. Maintain a version of all committed data.
	RC	Majorain a version of all committed data.
	• •	- till the current start in bounsaction.
	RR	Maintain a Wistory (Snaphot Hel the start
		Maintain a Wistory (Snaphot Hel the start 8f transaction.
		_
	S	Arguire a shared lock for read also.
		'
Queries run i	n class -	
SOL 11 TR/	ANSACTIONS 2	
T 1	ANOAOTIONO Z	
USE SAKILA;		
		ATION LEVEL READ UNCOMMITTED;
		ATION LEVEL READ COMMITTED; ATION LEVEL REPEATABLE READ;
		ATION LEVEL SERIALIZABLE;
	BLES LIKE '%ISOLATIO	,
LOCKS		
), LOCK_TYPE, LOCK_MODE, LOCK_STATUS, LOCK_DATA
	RMANCE_SCHEMA.D. FRANSACTIONS	ATA_LOCKS;
	DM information_schemation	a innodh try:
OLLLOT THE	JW IIIOITTIALION_SCHOTTI	a.iiiioub_tix,
SET AUTOCO	MMIT=0;	
BEGIN; SELECT * FRO	OM FILM WHERE FILM	ID-1·
	Z.V	
UPDATE FILM		
SET TITLE = "		
WHERE FILM	_וט = I;	
COMMIT;		
Error Code:	2013. Lost connection	to MySQL server during query

READ COMMITTED T1
SET AUTOCOMMIT=0;
BEGIN;
SELECT * FROM FILM WHERE FILM_ID=1;
UPDATE FILM
SET TITLE = "ABCD" WHERE FILM_ID = 1;
WITERETIEM TO - 1,
COMMIT;
T1
NON REPEATABLE READ
SET AUTOCOMMIT=0;
BEGIN;
SELECT * FROM FILM WHERE FILM_ID=1;
COMMIT;
T1
REPEATABLE READ
SET AUTOCOMMIT=0;
BEGIN;
SELECT * FROM FILM WHERE FILM_ID=1;
COMMIT;
T1
PHANTOM READ
SET AUTOCOMMIT=0;
BEGIN;
SELECT * FROM FILM
ORDER BY FILM_ID DESC LIMIT 1;
SELECT COUNT(*) FROM FILM;
UPDATE FILM
SET TITLE = "ABCD"
WHERE FILM_ID = 1020;
COMMIT;
LOCKS
SELECT ENGINE_TRANSACTION_ID, LOCK_TYPE, LOCK_MODE, LOCK_STATUS, LOCK_DATA
FROM PERFORMANCE_SCHEMA.DATA_LOCKS;
RUNNING TRANSACTIONS
SELECT * FROM information_schema.innodb_trx;
SET SESSION TRANSACTION ISOLATION LEVEL SERIALIZABLE;
SHOW VARIABLES LIKE '%ISOLATION%';

SERIALIZABLE , DEADLOCK
DEADLOCK
T1
SET AUTOCOMMIT=0;
BEGIN;
SELECT * FROM FILM WHERE FILM_ID IN (1,2);
UPDATE FILM
SET TITLE = "OMG"
WHERE FILM_ID = 2;
COMMIT;
SESSION 2 T2
TDANIGACTION O
TRANSACTION-2 T 2
USE SAKILA;
SET SESSION TRANSACTION ISOLATION LEVEL READ UNCOMMITTED;
SET SESSION TRANSACTION ISOLATION LEVEL READ UNCOMMITTED, SET SESSION TRANSACTION ISOLATION LEVEL SERIALIZABLE;
SHOW VARIABLES LIKE '%ISOLATION%';
LOCKS
SELECT ENGINE_TRANSACTION_ID, LOCK_TYPE, LOCK_MODE, LOCK_STATUS, LOCK_DATA
FROM PERFORMANCE_SCHEMA.DATA_LOCKS;
RUNNING TRANSACTIONS
SELECT * FROM information_schema.innodb_trx;
SET AUTOCOMMIT=0;
BEGIN;
SELECT * FROM FILM WHERE FILM_ID=1;
LIDDATE EILA
UPDATE FILM
SET TITLE = "PK"
WHERE FILM_ID = 1;
Error Code: 2013. Lost connection to MySQL server during query
COMMIT;
READ COMMITTED
T2
SET AUTOCOMMIT=0;
BEGIN;
SELECT * FROM FILM WHERE FILM_ID=1;
UPDATE FILM
SET TITLE = "MOM"
WHERE FILM_ID = 1;
COMMIT;

UPDATE FILM
SET TITLE = "MAA"
WHERE FILM_ID = 1;
COMMIT;
SET AUTOCOMMIT=0;
BEGIN;
SELECT * FROM FILM WHERE FILM_ID=1;
UPDATE FILM
SET TITLE = "RRR"
WHERE FILM_ID = 1;
COMMIT;
T2
SET AUTOCOMMIT=0;
BEGIN;
- ,
INSERT INTO film
VALUES (default, 'IT', 'GREAT FILM', 2008, 1,
NULL, 3, 4.99, 152, 19.99, 'PG-13', 'Trailers', default);
COMMIT;
OCIVIII 1,
SELECT * FROM FILM
ORDER BY FILM_ID DESC LIMIT 1;
OFISER BY FIELD SEGO EMITTY,
SELECT COUNT(*) FROM FILM;
T2
LOCKS
SELECT ENGINE_TRANSACTION_ID, LOCK_TYPE, LOCK_MODE, LOCK_STATUS, LOCK_DATA
FROM PERFORMANCE_SCHEMA.DATA_LOCKS;
RUNNING TRANSACTIONS
SELECT * FROM information_schema.innodb_trx;
SET SESSION TRANSACTION ISOLATION LEVEL SERIALIZABLE;
SHOW VARIABLES LIKE '%ISOLATION%';
DEADLOCK
T2
SET AUTOCOMMIT=0;
BEGIN;
·
SELECT * FROM FILM WHERE FILM_ID IN (2,3);
UPDATE FILM
SET TITLE = "PAA"
WHERE FILM_ID = 2;
COMMIT;
,
Error Code: 1213. Deadlock found when trying to get lock; try restarting transaction
2.10. 2005. 1210. 2006. Tourid Which if Jing to got look, if I total and administration

