

Lab 4 Project Answers  
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4c)

To protect the data we could encrypt the information so it's not stored in plain text.

4e)

- It's more secure to keep all the logic server-side.
- It's possible for different types of applications to interact with the database.
- All logic is at one place and it's easy to maintain without having to think about

what

framework and language the front-end uses.

- It's easier to scale in size.

9)

No, the reservation isn't visible in the other session because it's not committed to disc.

We can't modify the reservation since we can't see it at all.

To solve this issue we can manually COMMIT the changes directly after a procedure is done, this way

we will have the data on disc. If a procedure fails we can do a ROLLBACK which reverts all changes the procedure did.

10a)

If we call the create\_reservation procedure at the same time from two different sessions and we check the available seats

we will get an overbooking since the sessions aren't aware of each others actions.

We don't know that there are in fact no more seats left since the changes aren't yet committed to disc and the session can interact with the same table at the same time.

10c)

To avoid these types of problem we can LOCK all the tables that we need in a procedure before we call it and then

release them afterwards, this way we don't allow procedures to read from a table that currently is write locked. This means

that one of the sessions has to wait for the other before it can proceed but it won't be possible to create overbookings.