**Final Project 9**

**Course Project DB Admin**

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**New user roles/tasks/permissions:**

* **User 1** - A user that has all permissions granted to him. Meaning there would give two people complete control of the database. This is great for having someone with full control at all times. One could work in the morning and the other at night. The only thing I wouldn’t grant him would be the grant options. This would still leave me with a bit more power and would make me the sole control of giving out permissions.

**Code example**:

CREATE USER ‘Final1’ @ ‘localhost’ IDENTIFIED BY ‘password’;

GRANT ALL ON \*.\* TO ‘Final1 ’ @ ’localhost’;

* **User 2** - A user that has all permissions on a specific table. To allow someone to focus solely on one table and help lower the amount of work the two all permission users would have to do.

**Code Example:**

CREATE USER ‘Final2’ @ ‘localhost’ IDENTIFIED BY ‘password’;

GRANT ALL ON table.\* TO ‘Final1 ’ @ ’localhost’;

**User 3** - A user that only has specific permissions on a table. These permissions would be select, delete, update, and insert. This creates a work chain to make sure things get fixed/done at a lower level before they make it to the all permission users.

**Code Example:**

CREATE USER ‘Final3’ @ ‘localhost’ IDENTIFIED BY ‘password’;

GRANT SELECT, DELETE, UPDATE, INSERT ON Final table.\* TO ‘Final3’ @ ‘localhost’;

**Database Management:**

**Backup/Archiving** - For back up I would have multiple methods that would be done by specific users that have the roles/permissions granted to them. One would be to do a manual weekly export of the database. This database back up would be saved both on a hard drive and a cloud storage. Two would be exactly like method one but done monthly. The third would be to create an automated script that backed up the database for me to both a cloud storage and a hard drive.

**Hardware Failure** - Every database center should have backup generators in case of a power outage. The use of outlets that run on a generator in case of a power outage are a must for important database servers. This will allow for databases to have a certain amount of time of being shut down after a power outage. With luck the power might return before the generators run out of power. For Hard drive failure, cloud storages would make up for that. Complete server failure could be fixed with back up servers. Database failures with back up version of the database.

**Testing -** For testing I would create a test/mock server/database. Any updates/changes/tests would be done on this server/database to make sure no issues arise from these changes. If everything comes out the way it was expected to, then they would be applied to the main server/database.

**Security** - The main security precautions that I would take would be to have everything locked behind passwords. Every permission each user has would be carefully looked at and granted. Only trustable and knowledgeable users would have permissions with high impact on the database. Data masking would also be another security method used for everyone, from a user to high position individuals. Lastly, data scrambling would be used when someone who shouldn’t be able to see the data has to have access to it. A database administrator is a good example for this. He will have to have data to work on it, but the data doesn’t have to be exact, it can be scrambled. This allows him to accomplish his task without showing him exact data.