

Sql server

Connecting to SQLEXPRESS using SSMS

- Use “.” to connect to the local server faster
 - Eg:-.\SQLEXPRESS
1. Switching the default windows Authentication to sql server.
 2. Creating an **Admin login “superadmin”** with a username and password
 - Create a **superadmin** login
 - Connect to the server using **superadmin** account
 3. Using sqlcmd to connect to your server.
 - Sqlcmd -? For help
 - Connect to the server using the user superadmin
 - Disable and deny a permission to the default login so we could use only the superadmin login

Difference between a login and a user

- ❖ A login is a login account for the entire sql server instance (an instance can contain numerous databases).
- ❖ A user is defined at the database level and is associated with a login to provide interactive access or privileges.

Creating Users and Roles

4. Create a login **userlogin** with limited roles
 - ❖ Create a user by the name **USER** for the database and add a role readonly
 - ❖ Add a role using a stored procedure sp_addrolemember to readonly
 - ❖ **create login userlogin with password = 'admin'**
- Here are all the steps using the superadmin account use the following queries to create user for a database on a certain login

```
use My_university
go
--first create the user to the selected database associated with a certain login
create user newUser for login userlogin
go
--Add roles to the user
execsp_addrolemember'db_datareader','newUser'
execsp_addrolemember'db_datawriter','newUser'
go
--deny the user roles insert or reader
execsp_addrolemember'db_denydatareader','newUser'
execsp_addrolemember'db_denydatawriter','newUser'
go
--you can also use the ssms to create or deny roles to the user
```

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--you can drop the user associated with this database

dropuser newUser

--creating schema and assign a user to it

--A schema is distinct name space to facilitate the separation ,management and ownership of database objects

createschema hilcoe

createuser hilcoelogin forlogin userlogin withdefault_schema=hilcoe

dropschema hilcoe

dropuser hilcoelogin

--Backup and restore a database:-backup database [db name] to disk=[....]

Database Programming and administration final

Project Requirement

1. What is your sample data collection methods?

- What kind of data must be stored in the database?
- **Better if you create a data dictionary before creating your tables.**
- Show tables which represent data in un normalized form.(the original table before storing the data in RDBMS)

2. What is the name of your database? Logins? Database Users and roles? Schemas?

- Describe your Logins, database users, roles, and schemas?
- You will be asked to show each steps and if necessary to create one?

3. Describe your normalization process?

- After showing your un normalized table, show your tables &relationships.
- Better if you use ER diagram to show all tables and relationships. Also show your database diagram.
- Your project must have a minimum of 5 normalized tables.

4. Describe additional objects you use like indexes,procedures, triggers, functions...?

- Create procedures and triggers depending on the number of tables you have.
- Create and use indexes ----very important
- The minimum no of procedures for one table is 5.
- For example you can create a procedure for queries to insert, select, update, delete.

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5. Make sure your project should at least Insert, delete and update a data from your database.

- Very important thing to remember when creating your project.

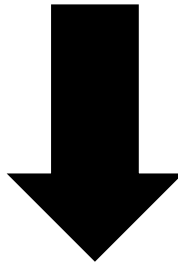
6. What security measures did you use to protect your data ?

Note:-Any student who is unable to answer any questions from the examiners, ~~won't be~~ won't be considered as a project contributor and would ~~be examined~~ be examined as such.

Normalization Process Example

Sales Records:

Cust Name	Item	Shipping Address	Newsletter	Supplier	Supplier Phone	Price
Alan Smith	Xbox One	35 Palm St, Miami	Xbox News	Microsoft	(800) BUY-XBOX	250
Roger Banks	PlayStation 4	47 Campus Rd, Boston	PlayStation News	Sony	(800) BUY-SONY	300
Evan Wilson	Xbox One, PS Vita	28 Rock Av, Denver	Xbox News, PlayStation News	Wholesale	Toll Free	450
Alan Smith	PlayStation 4	47 Campus Rd, Boston	PlayStation News	Sony	(800) BUY-SONY	300



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4th Normal Form - No multi-valued dependencies

Customer Table

Primary Key

Cust ID	Cust Name	Shipping Address
at_smith	Alan Smith	35 Palm St, Miami
roger25	Roger Banks	47 Campus Rd, Boston
wilson44	Evan Wilson	28 Rock Av, Denver
am_smith	Alan Smith	47 Campus Rd, Boston

Item Table

Primary Key

Foreign Key

Item	Supplier	Price
Xbox One	Microsoft	250
PlayStation 4	Sony	300
PS Vita	Sony	200

1
N

Subscription Table

Primary Key

Cust ID	Newsletter
at_smith	Xbox News
roger25	PlayStation News
wilson44	Xbox News
wilson44	PlayStation News
am_smith	PlayStation News

Sales Invoice Table

Primary Key

Primary Key

Cust ID	Item
at_smith	Xbox One
roger25	PlayStation 4
wilson44	Xbox One
wilson44	PS Vita
am_smith	PlayStation 4

1
N

Supplier Table

Primary Key

Supplier	Supplier Phone
Microsoft	(800) BUY-XBOX
Sony	(800) BUY-SONY

N
1