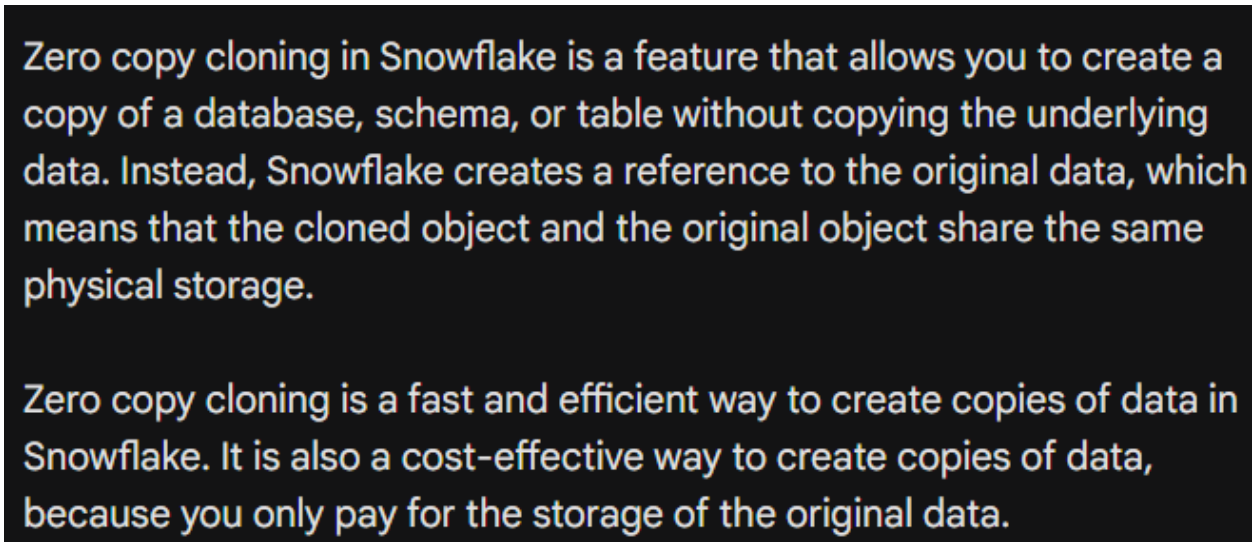
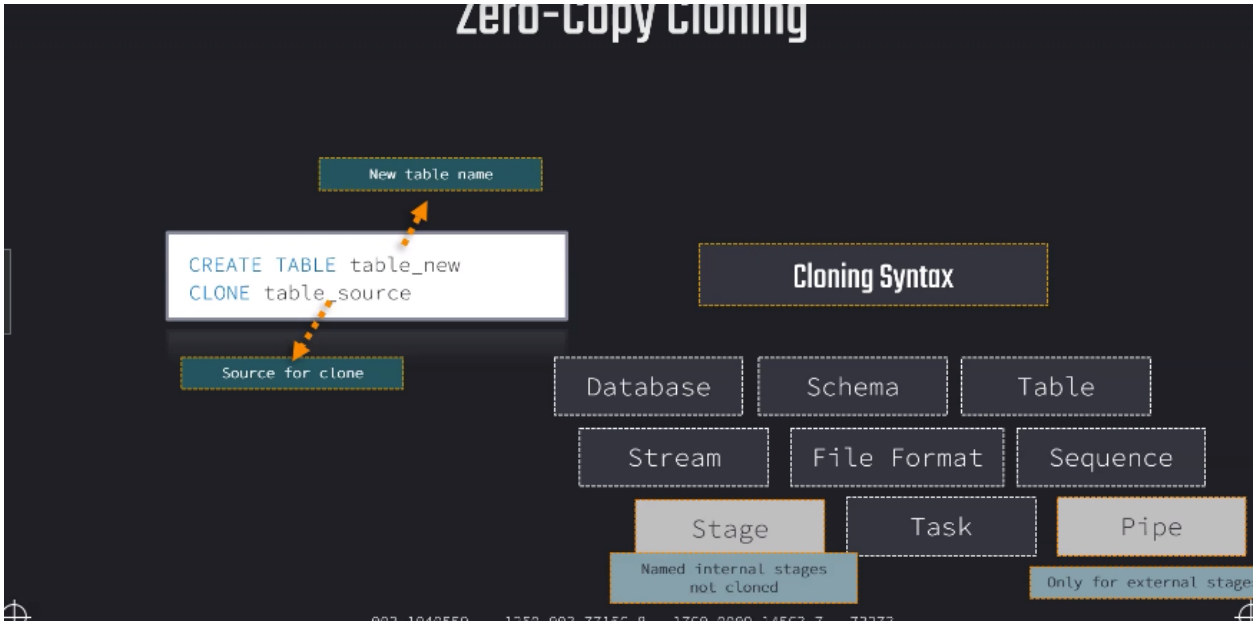
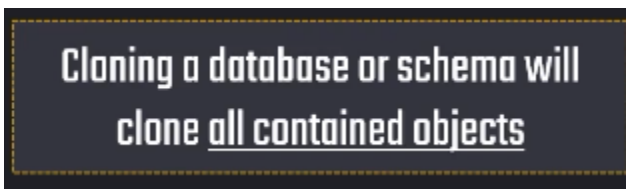
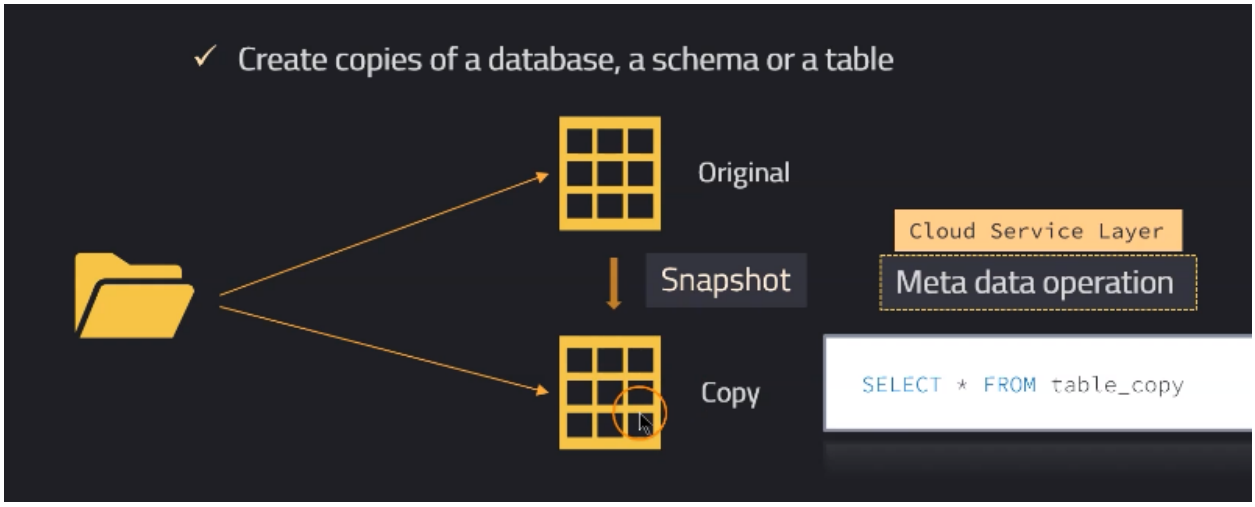
Zero-Copy Cloning

1. 

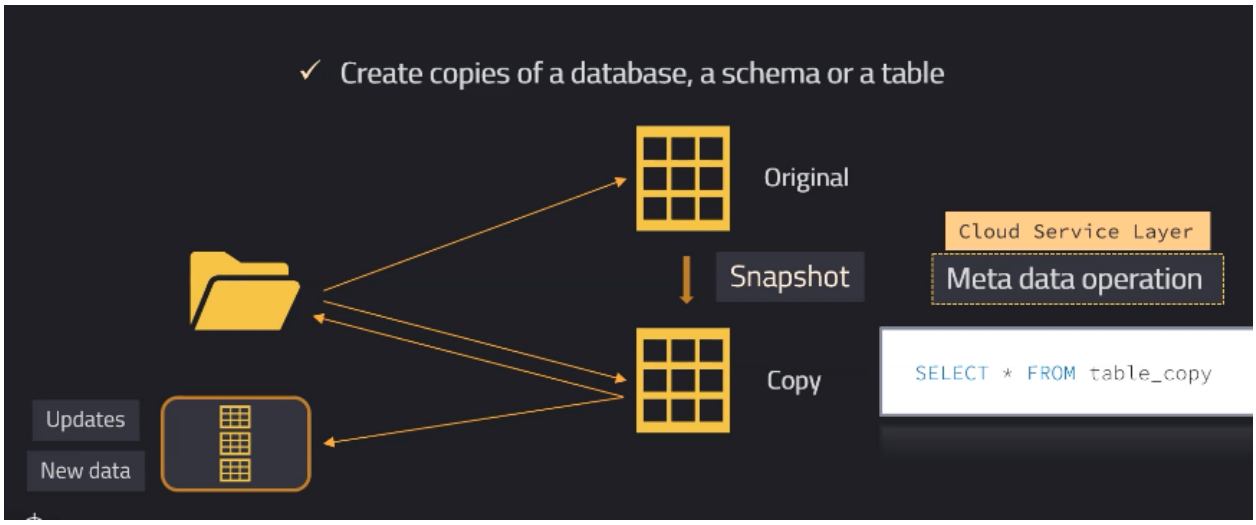
2. We can also clone this



3. But in Pipe cloning is only for external stage and in stages…no cloning for named internal stages
4. 

5. 

6. After we create a clone a table….we can query from that
7. **Task** check whether…if we change the data in original data..will this change in the cloned copy ? ..check while doing hands on(did hands on and found that..new data will not reflected in cloned table)
8. Now if add any new data to the cloned copy…then snowflake only store this additional data..thereby saving storage costs

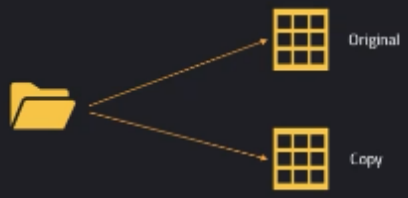


9. For all the other data which are not updated…we will just refer the original data

10.

Zero-Copy Cloning

- ✓ Create copies of a database, a schema or a table

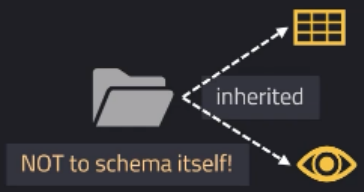


- ✓ Cloned object is independent from original table
- ✓ Easy to copy all meta data & improved storage management
- ✓ Creating backups for development purposes
- ✓ Typically combined with time travel

11.

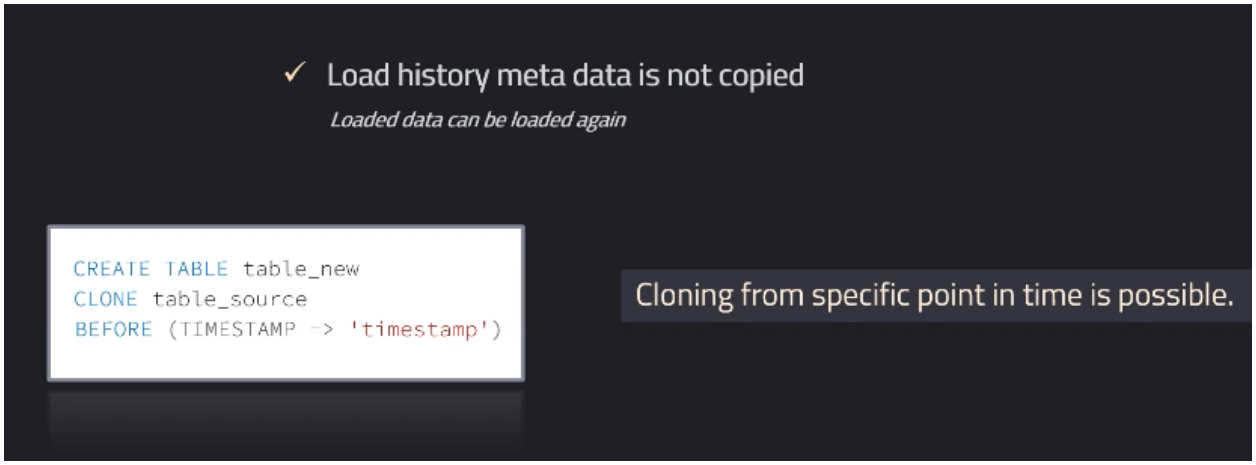
How about privileges?

Privileges will always only be inherited to child objects never to source object itself



12. For using zero copy on table..we need **select** privilege..for cloning pipe,stream,task we need **owner** privilege and for all the other objects we need **usage.**

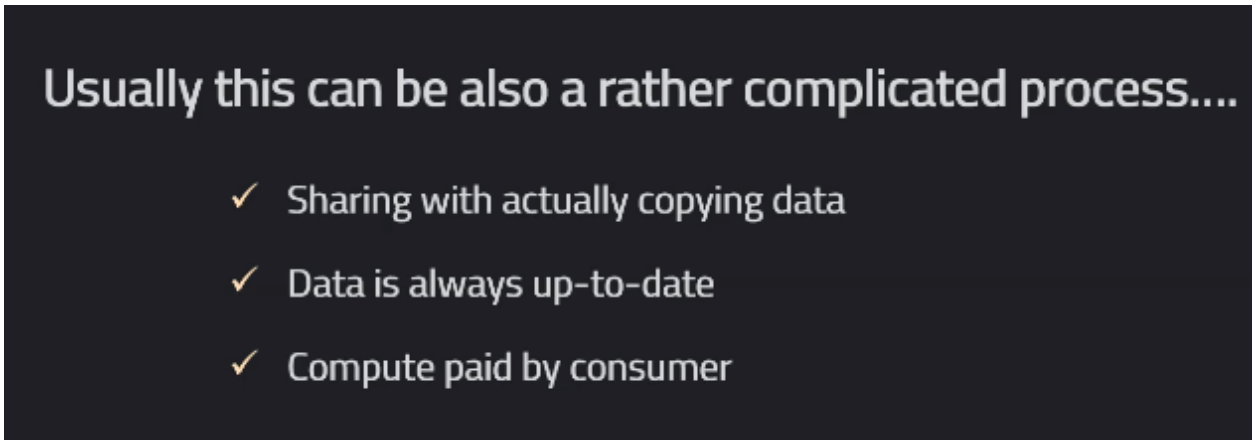
13. In the cloning ..load history meta data is not copied…which means..we cannot add same data into original table ..bcuz it has some meta data…but in cloned table…we can add the same data..as it does not contain metadata

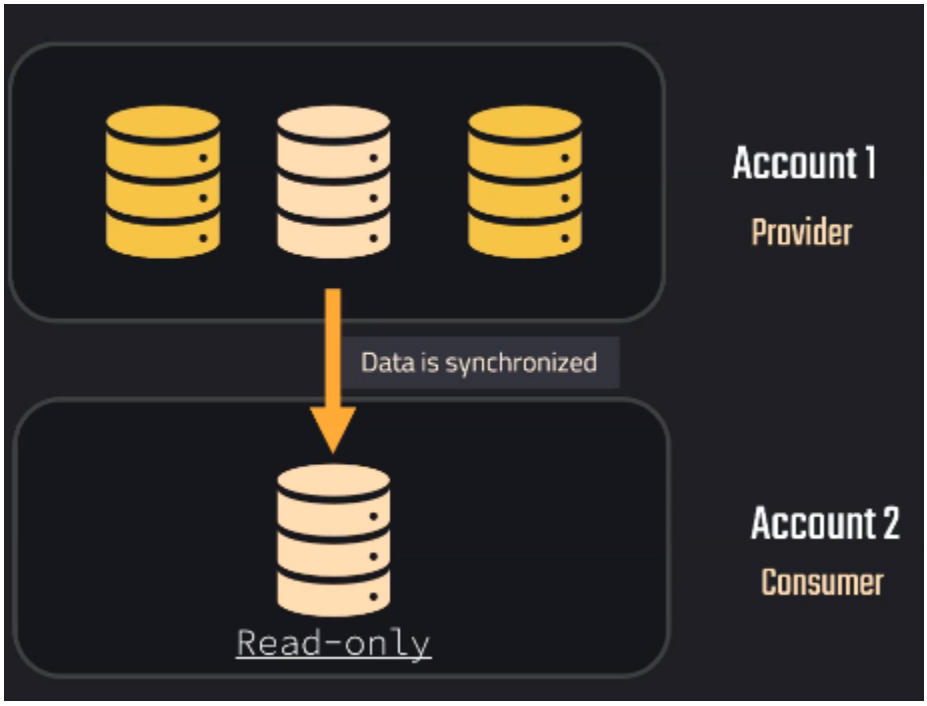
14. 

15. For hands on refer online/file

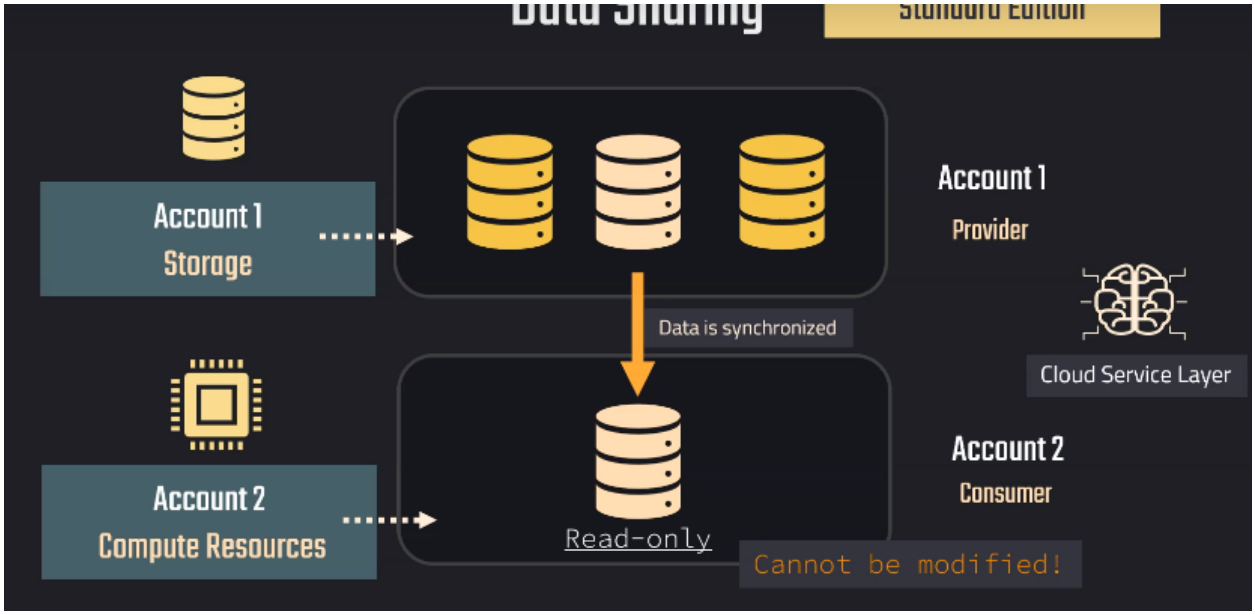
Data Sharing

1. Usually data sharing is very complicated process…but in snowflake as storage is decoupled from compute…we can share our data easily

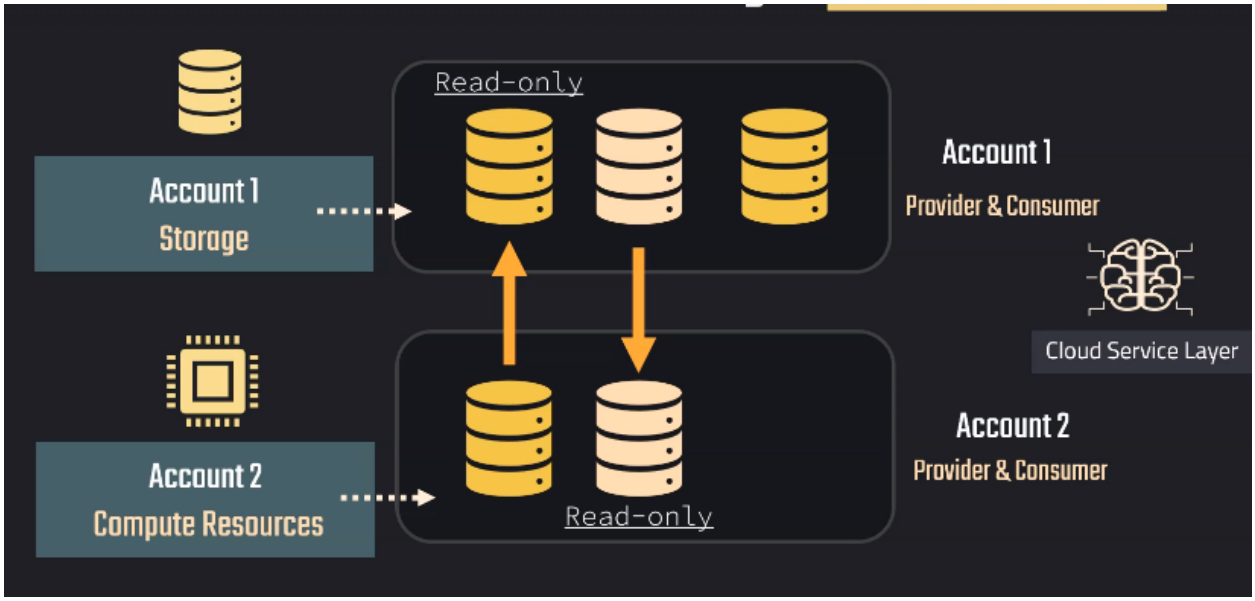


2. We just grant the user to the storage layer to the data to be shared
3. The user can use his own compute resources to query and will pay for the compute resources
4. So like this, the data in this share will always be up to date because it's actually the same data….We are just giving access to the user
5. This is available for all snowflake editions
6. 

7. Here consumer can only read the data..but cannot make any changes



8. The consumer ..uses his own compute resources ..to perform read only queries
9. It's also possible for an account to be both provider and consumer



10. 

11. 

12. 

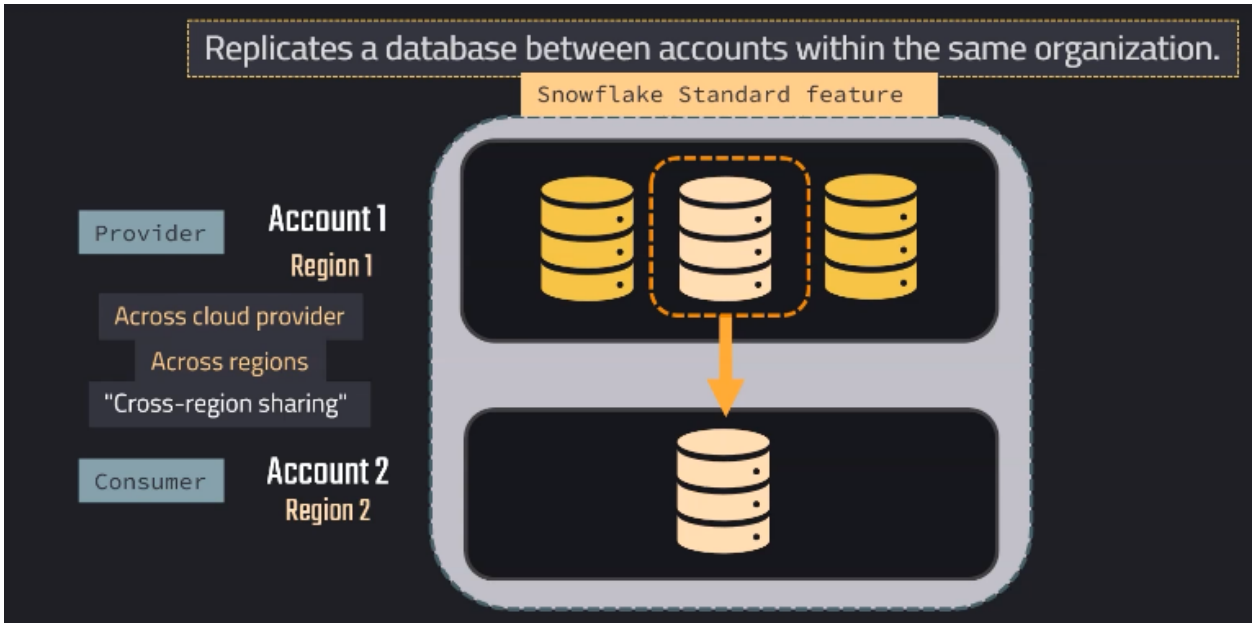
13. So as mentioned, the share itself is just the container.
14. And in this share we have one database, then we can grant usage on the schema and then also on all of the objects that we want to grant privileges to.
15. And then the last component is the account .So we can have zero one or multiple accounts. And of course, the privileges to these objects are also part of a share as a best practice.
16. 

17. The best practice to share the data ..is by secured views…and if we have data coming from multiple databases..then we create one view in a separate database and this will then be the database that we share.

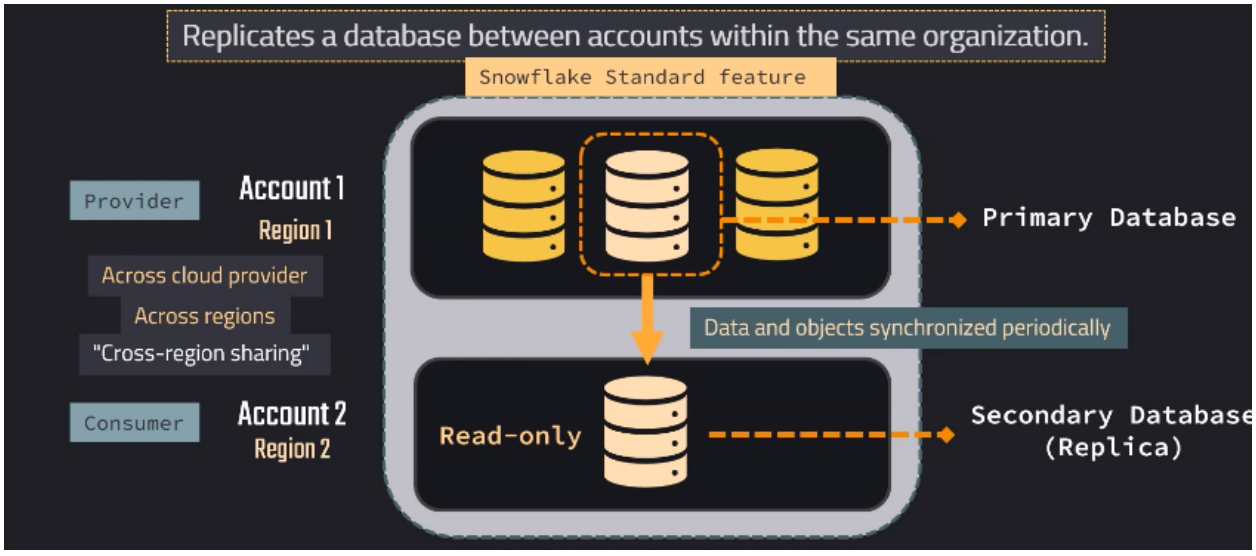
18. If we want to share data to NON snowflake users…then we have to use reader account
19. Practice hands on

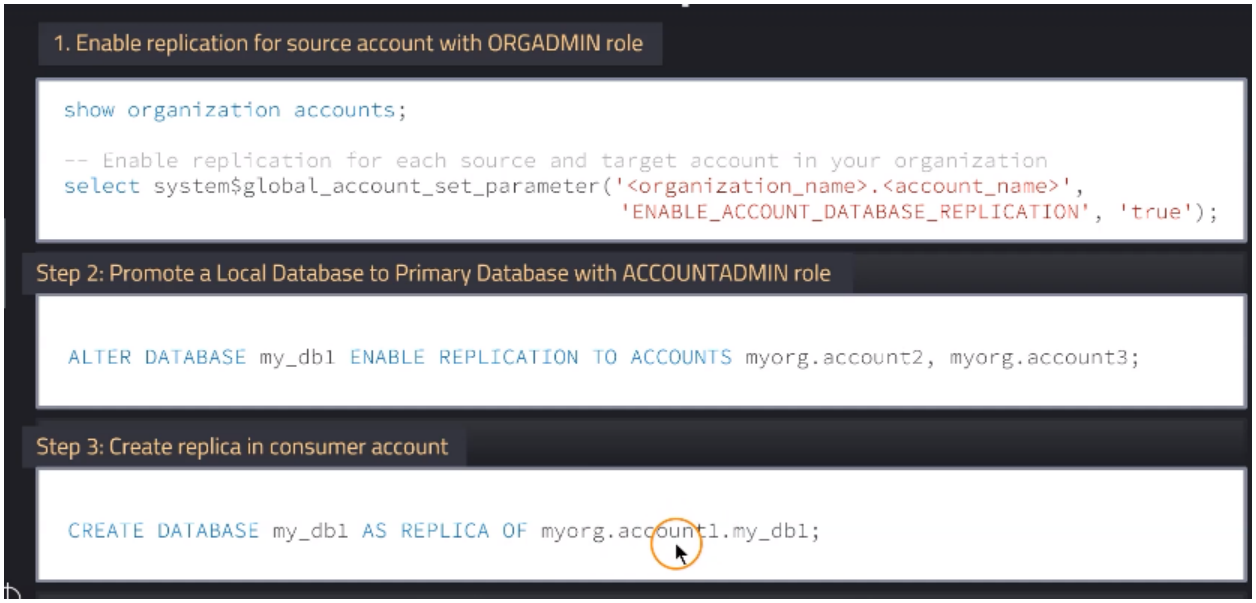
DataBase Replication

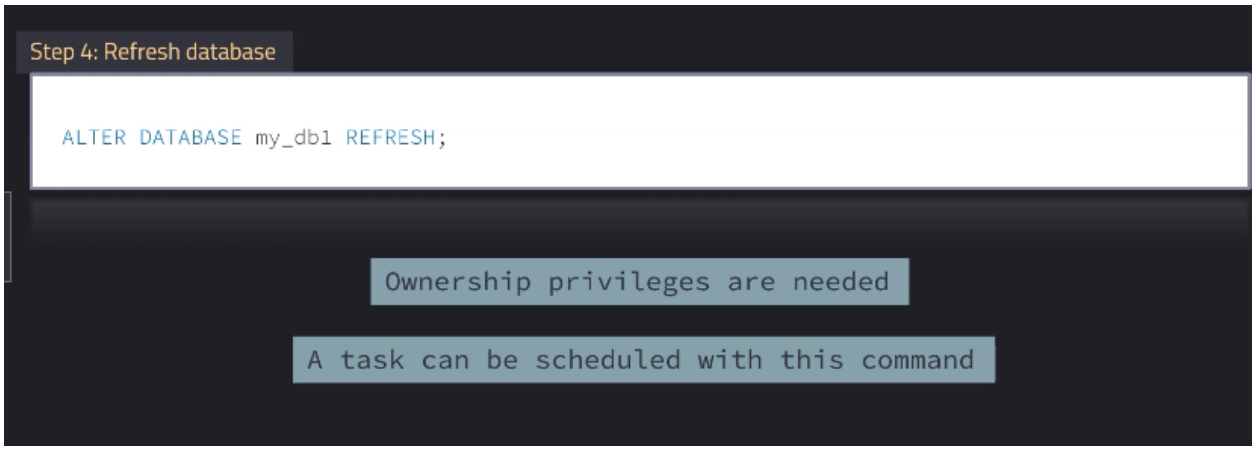
1. So far we have learned about data sharing, which was only possible for sharing data within the same region and within the same cloud provider.
2. And now it is also possible to share data across regions and also across cloud providers. This is possible via so-called database replication.



3. But the big difference is that now the data is actually physically extracted and copied into this other account. So there will be data transfer costs
4. So we have to periodically synchronize the data..to view updated data

5. 

6. 

7. 

8. And it's also lastly important to know that ownership privileges are needed to refresh this database.we can also set up a task with this command.