Sherkhan:

* Hello everyone I am Sherkhan and my companion Ayaulym

Ayaulym:

* Helloo

Sherkhan:

* Every developer who develops back-end software will need to design a database and for this purpose we have made this tutorial video in order to help you quickly and easily master PostgreSQL syntax.

Ayaulym:

* Contents of this tutorial:

- What is PostgreSQL

- What is Entity Relational Diagram

- Creating a table

- DDL commands

- DML commands

Sherkhan:

* PostgreSQL is an advanced, enterprise-class, and open-source relational database system. PostgreSQL supports both SQL (relational) and JSON (non-relational) querying. PostgreSQL is a highly stable database backed by more than 20 years of development by the open-source community. PostgreSQL is used as a primary database for many web applications as well as mobile and analytics applications.

Ayaulum:

* An Entity Relationship (ER) Diagram is a type of flowchart that illustrates how “entities” such as people, objects or concepts relate to each other within a system. ER Diagrams are most often used to design or debug relational databases in the fields of software engineering, business information systems, education and research.

Sherkhan:

* In this photo you can see the entity relational diagram of the e-government concept database. Here, tables are used as an entity, for example, a citizen and he has attributes, this is information about a citizen (his name, surname, gender, birthday, registration address). And another integral part is the relationship between entities. For example, a citizen has an identity card. Relationships between entities are divided into

4 types:

1) One to one

2) One to many

3) Many to one

4) Many to many

And since a citizen has only one identity card, here we use the one to one relationship

Relationships between entities are carried out using primary and foreign keys, for this, entity IDs are used, since they do not repeat

For example, a column in the citizen\_id table means that the citizen under this id owns this ID. And for this you can get more information about the citizen

Ayaulym:

* We write create a table and inside the brackets we write the name of the column and then its type.
* Data types can be different
* Basic data types: VARCHAR, INT, DATE, DECIMAL, BOOLEAN, TIME
* And then write constraints separated by a space, not null this means that when requesting this field should not be empty, as this can lead to errors
* And the primary key means that we will connect this column with other tables and then create a new column separated by commas

Sherkhan:

* We now turn to commands
* DDL or Data Definition Language actually consists of the SQL commands that can be used to define the database schema. It simply deals with descriptions of the database schema and is used to create and modify the structure of database objects in the database.

CREATE – is used to create the database or its objects (like table, index, function, views, store procedure and triggers).

DROP – is used to delete objects from the database.

ALTER-is used to alter the structure of the database.

* DQL statements are used for performing queries on the data within schema objects. The purpose of the DQL Command is to get some schema relation based on the query passed to it.

SELECT – is used to retrieve data from the database

* DML (Data Manipulation Language): The SQL commands that deals with the manipulation of data present in the database belong to DML or Data Manipulation Language and this includes most of the SQL statements.

INSERT – is used to insert data into a table.

UPDATE – is used to update existing data within a table.

DELETE – is used to delete records from a database table.

A:

* First of all, let's try to work with DDL.

Create command is used to create tables and to create a database

To create a database, write

create database database\_name

And we have already learned how to create a table

The following drop command,

To delete a table, write

drop table table\_name

And to delete the database

drop database database \_name

Using the alter command.

With this command, we can modify the columns, for example, we can change the data type of the column, change the name, delete the column, add a new column

ALTER TABLE table\_name

ADD COLUMN column\_name datatype

ALTER TABLE table\_name

MODIFY column\_name column\_type;

ALTER TABLE Student

DROP COLUMN COURSE;

Sherkhan:

The following command SELECT,

With its help, we can get data from the table.

SELECT column\_name FROM table\_name

If you need to display all the columns, then write

SELECT column\_name FROM table\_name

To display certain records, we can give the condition

SELECT column\_name FROM table\_name WHERE id = 5 or you can give other conditions, for more information I will leave a link to the documentation in the description