Managing Tables

Create table

A primary key is a column or a set of columns in a table whose values uniquely identify a row in the table. A relational database is designed to enforce the uniqueness of primary keys by allowing only one row with a given primary key value in a table.

```
CREATE TABLE [IF NOT EXISTS] table_name (
   column1 datatype(length) column_contraint,
   column2 datatype(length) column_contraint,
   column3 datatype(length) column_contraint,
   table_constraints
);
```

To copy a table completely, including both table structure and data;

- `CREATE TABLE new_table AS TABLE existing_table [WITH NO DATA];`

Sequence

A **sequence** is a special kind of database object that generates a sequence of integers. A sequence is often used as the primary key column in a table. The sequence can be created through the SERIAL pseudo-type as follows.

- ```
  CREATE SEQUENCE [ IF NOT EXISTS ] sequence_name
      [ AS { SMALLINT | INT | BIGINT } ]
      [ INCREMENT [ BY ] increment ]
      [ MINVALUE minvalue | NO MINVALUE ]
      [ MAXVALUE maxvalue | NO MAXVALUE ]
      [ START [ WITH ] start ]
      [ CACHE cache ]
      [ [ NO ] CYCLE ]
      [ OWNED BY { table_name.column_name | NONE } ]
  ```
- ```
  DROP SEQUENCE [ IF EXISTS ] sequence_name [, ...]
  [ CASCADE | RESTRICT ];
  ```

IDENTITY

PostgreSQL version 10 introduced a new constraint **GENERATED AS IDENTITY** that allows you to automatically assign a unique number to a column.

The **GENERATED AS IDENTITY** constraint is the SQL standard-conforming variant of the good old **SERIAL** column.

- `column_name type GENERATED { ALWAYS | BY DEFAULT } AS IDENTITY[( sequence_option )]`
- `OVERRIDING SYSTEM VALUE`

ALTER table

ALTER TABLE statement used to change the structure of an existing table

- `ALTER TABLE table_name action;`
- `ALTER TABLE table_name ADD COLUMN column_name datatype column_constraint;`
- `ALTER TABLE table_name DROP COLUMN column_name;`
- `ALTER TABLE table_name RENAME COLUMN column_name TO new_column_name;`
- `ALTER TABLE table_name ALTER COLUMN column_name [SET DEFAULT value | DROP DEFAULT];`
- `ALTER TABLE table_name ALTER COLUMN column_name [SET NOT NULL| DROP NOT NULL];`
- `ALTER TABLE table_name ADD CHECK expression;`
- `ALTER TABLE table_name ADD CONSTRAINT constraint_name constraint_definition;`
- `ALTER TABLE table_name [IF EXISTS] RENAME TO new_table_name;`
- `ALTER TABLE table_name ALTER COLUMN column_name TYPE new_data_type USING expression;`

TRUNCATE table

TRUNCATE TABLE statement used to delete all data from a table and very efficient comparing to DELETE statement.

- `TRUNCATE TABLE table_name [RESTART IDENTITY] [CASCADE];`

TEMPORARY TABLE statement

A **temporary table**, as its name implied, is a short-lived table that exists for the duration of a database session. PostgreSQL automatically drops the temporary tables at the end of a session or a transaction.

- `CREATE TEMPORARY TABLE temp_table_name( column_list);`

Interview Questions