**Phase 6: Security & Roles**

**1. Create a `readonly\_user` role:**

**\* Can run `SELECT` on `students`, `courses`, and `certificates`**

**\* Cannot `INSERT`, `UPDATE`, or `DELETE`**

**Run the following in Query Tool Workspace of pgadmin 4**

-- 1. Create readonly\_user role with login

CREATE ROLE readonly\_user LOGIN PASSWORD 'readonly123';

-- 2. Allow readonly\_user to connect to the EdTech database

GRANT CONNECT ON DATABASE "EdTech" TO readonly\_user;

-- 3. Grant usage on the public schema so the user can access objects inside it

GRANT USAGE ON SCHEMA public TO readonly\_user;

-- 4. Grant SELECT on the required tables with schema-qualified names

GRANT SELECT ON public.students, public.courses, public.certificates TO readonly\_user;

-- 5. Revoke all modifying privileges explicitly from readonly\_user on all tables in the public schema

REVOKE INSERT, UPDATE, DELETE ON ALL TABLES IN SCHEMA public FROM readonly\_user;

-- 6. Revoke default privileges so future tables won’t grant modifying permissions accidentally

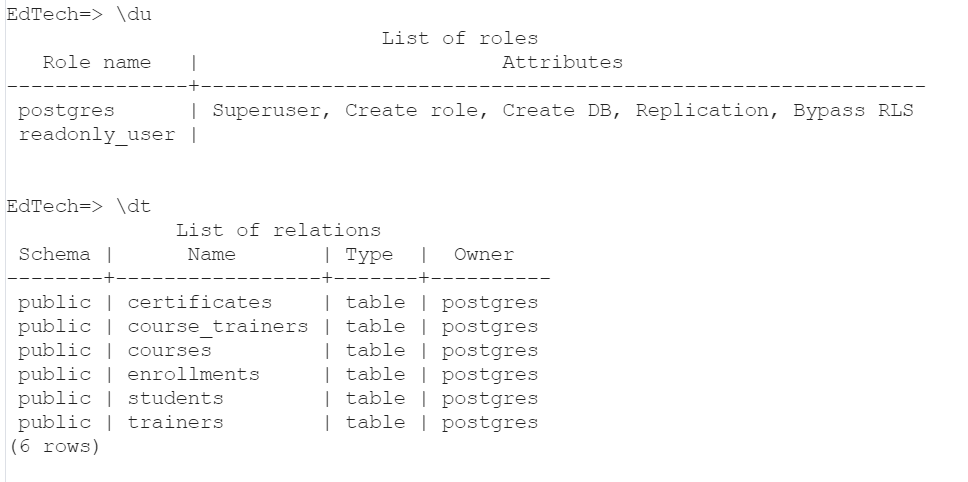
ALTER DEFAULT PRIVILEGES IN SCHEMA public REVOKE INSERT, UPDATE, DELETE ON TABLES FROM readonly\_user;

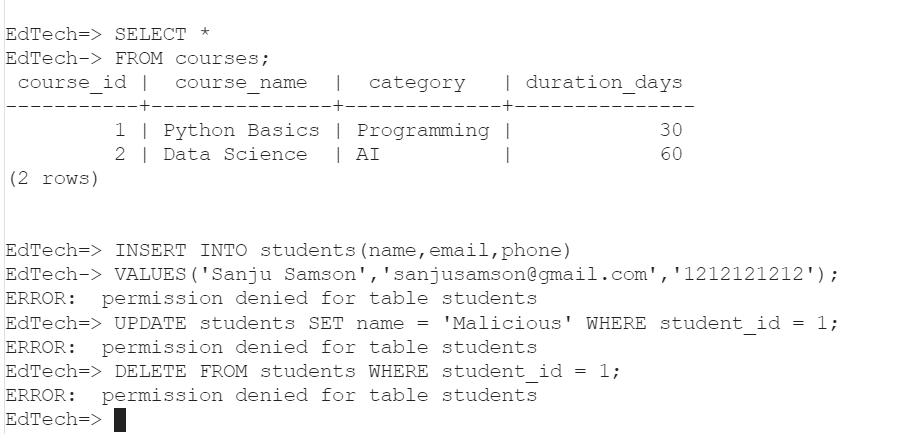
**Now open PSQL Tool Workspace**

**Provide username: readonly\_user**

**Password: readonly123**

**Database: Edtech**





**2. Create a `data\_entry\_user` role:**

**\* Can `INSERT` into `students`, `enrollments`**

**\* Cannot modify certificates directly**

-- 1. Create the role with login

CREATE ROLE data\_entry\_user LOGIN PASSWORD 'dataentry123';

-- 2. Allow connection to the EdTech database

GRANT CONNECT ON DATABASE "EdTech" TO data\_entry\_user;

-- 3. Allow usage of the public schema

GRANT USAGE ON SCHEMA public TO data\_entry\_user;

-- 4. Grant INSERT privileges on students and enrollments ONLY

GRANT INSERT ON public.students, public.enrollments TO data\_entry\_user;

-- 5. Grant SELECT on students, enrollments, courses, trainers (optional if needed to view data)

GRANT SELECT ON public.students, public.enrollments, public.courses, public.trainers TO data\_entry\_user;

-- 6. Revoke all modification rights on certificates and other tables

REVOKE ALL ON public.certificates FROM data\_entry\_user;

REVOKE INSERT, UPDATE, DELETE ON ALL TABLES IN SCHEMA public FROM data\_entry\_user;

-- 7. Revoke default privileges to prevent future accidental grants

ALTER DEFAULT PRIVILEGES IN SCHEMA public REVOKE ALL ON TABLES FROM data\_entry\_user;

GRANT USAGE ON SEQUENCE students\_student\_id\_seq TO data\_entry\_user;

GRANT USAGE ON SEQUENCE enrollments\_enrollment\_id\_seq TO data\_entry\_user;

**Now open PSQL Tool Workspace**

**Provide username: readonly\_user**

**Password: readonly123**

**Database: Edtech**

