

DDL – Data Definition Language

Print to PDF ►

Let us get an overview of DDL Statements which are typically used to create database objects such as tables.

- DDL Stands for Data Definition Language.
- We execute DDL statements less frequently as part of the application development process.
- Typically DDL Scripts are maintained separately than the code.
- Following are the common DDL tasks.
 - Creating Tables - Independent Objects
 - Creating Indexes for performance - Typically dependent on tables
 - Adding constraints to existing tables (**NOT NULL**, **CHECK**, **PRIMARY KEY**, **UNIQUE** etc)

```
CREATE TABLE users (  
  user_id SERIAL PRIMARY KEY,  
  user_first_name VARCHAR(30) NOT NULL,  
  user_last_name VARCHAR(30) NOT NULL,  
  user_email_id VARCHAR(50) NOT NULL,  
  user_email_validated BOOLEAN DEFAULT FALSE,  
  user_password VARCHAR(200),  
  user_role VARCHAR(1) NOT NULL DEFAULT 'U', --U and A  
  is_active BOOLEAN DEFAULT FALSE,  
  created_dt DATE DEFAULT CURRENT_DATE,  
  last_updated_ts TIMESTAMP DEFAULT CURRENT_TIMESTAMP  
);
```

- Following are less common DDL tasks which can be taken care using **ALTER** command.
 - Adding columns to existing tables.
 - Dropping columns from existing tables.
 - Changing data types of existing columns.
- We can also define comments both at column level as well as table level. However in **postgres**, we can only add comments after table is created.

```
%load_ext sql
```

```
%env
```

```
DATABASE_URL=postgresql://itversity_retail_user:retail_password@localhost:5432/itversity_retail_db
```

```
env:
```

```
DATABASE_URL=postgresql://itversity_retail_user:retail_password@localhost:5432/itversity_retail_db
```

```
%sql DROP TABLE IF EXISTS users
```

```
Done.
```

```
[]
```

```
%%sql
```

```
CREATE TABLE users (  
  user_id SERIAL PRIMARY KEY,  
  user_first_name VARCHAR(30) NOT NULL,  
  user_last_name VARCHAR(30) NOT NULL,  
  user_email_id VARCHAR(50) NOT NULL,  
  user_email_validated BOOLEAN DEFAULT FALSE,  
  user_password VARCHAR(200),  
  user_role VARCHAR(1) NOT NULL DEFAULT 'U', --U and A  
  is_active BOOLEAN DEFAULT FALSE,  
  created_dt DATE DEFAULT CURRENT_DATE,  
  last_updated_ts TIMESTAMP DEFAULT CURRENT_TIMESTAMP  
)
```

```
* postgresql://itversity_retail_user:***@localhost:5432/itversity_retail_db  
Done.
```

```
[]
```

```
%sql COMMENT ON TABLE users IS 'Stores all user details'
```

```
* postgresql://itversity_retail_user:***@localhost:5432/itversity_retail_db
Done.
```

```
[]
```

```
%sql COMMENT ON COLUMN users.user_id IS 'Surrogate Key'
```

```
* postgresql://itversity_retail_user:***@localhost:5432/itversity_retail_db
Done.
```

```
[]
```

```
%sql COMMENT ON COLUMN users.user_first_name IS 'User First Name'
```

```
* postgresql://itversity_retail_user:***@localhost:5432/itversity_retail_db
Done.
```

```
[]
```

```
%sql COMMENT ON COLUMN users.user_role IS 'U for user A for admin'
```

```
* postgresql://itversity_retail_user:***@localhost:5432/itversity_retail_db
Done.
```

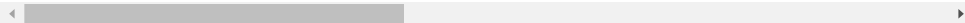
```
[]
```

```
%%sql
```

```
SELECT * FROM information_schema.tables
WHERE table_name = 'users'
```

```
* postgresql://itversity_retail_user:***@localhost:5432/itversity_retail_db
1 rows affected.
```

table_catalog	table_schema	table_name	table_type	self_referencing_column_name	reference
itversity_retail_db	public	users	BASE TABLE		None



```
%%sql
```

```
SELECT * FROM information_schema.columns
WHERE table_name = 'users'
ORDER BY ordinal_position
```

```
* postgresql://itversity_retail_user:***@localhost:5432/itversity_retail_db
10 rows affected.
```

table_catalog	table_schema	table_name	column_name	ordinal_position	
itversity_retail_db	public	users	user_id	1	nextval('use
itversity_retail_db	public	users	user_first_name	2	
itversity_retail_db	public	users	user_last_name	3	
itversity_retail_db	public	users	user_email_id	4	
itversity_retail_db	public	users	user_email_validated	5	
itversity_retail_db	public	users	user_password	6	
itversity_retail_db	public	users	user_role	7	
itversity_retail_db	public	users	is_active	8	
itversity_retail_db	public	users	created_dt	9	
itversity_retail_db	public	users	last_updated_ts	10	

