

## Tugas 2

**Nama (NIM)** : M. Gymnastiar Syahputra (123140135)

**Kelas** : Sistem Informasi Geografis

**Link Github** : [https://github.com/gymnastiarsyahputra/Tugas-SIG\\_123140135.git](https://github.com/gymnastiarsyahputra/Tugas-SIG_123140135.git)

### Deskripsi Tugas :

Lanjutkan database dari Praktikum 1. Tambahkan tabel untuk menyimpan data jalan (LineString) dan wilayah kelurahan (Polygon) di sekitar tempat tinggal Anda. Lakukan konversi format dan validasi data.

### Ketentuan Tugas:

- Buat tabel jalan dengan minimal 3 data LineString
- Buat tabel wilayah dengan minimal 2 data Polygon
- Screenshot hasil ST\_AsText(), ST\_AsGeoJSON(), dan ST\_IsValid()
- Tampilkan semua data di QGIS dengan layer berbeda

### Langkah-langkah :

1. Buat table “jalan”

```
CREATE TABLE jalan (
    id SERIAL PRIMARY KEY,
    nama_jalan VARCHAR(100),
    geom GEOMETRY(LineString, 4326)
);
```

2. Insert data jalan beserta koordinat (Longitude,Latitude) yang dicopy dari gmaps

The screenshot shows a PostgreSQL query editor with the following content:

```
Query Query History ↗
1 INSERT INTO jalan (nama_jalan, geom) VALUES
2 ('Jl. Lapas Raya', ST_GeomFromText('LINESTRING(105.31632993628838 -5.3534000020136985, 105.31539783555632 -5.353397681610878 , 105.31416919223877 -5.353554335392702)', 4326)),
3 ('Jl. Terusan Ryacudu', ST_GeomFromText('LINESTRING(105.30582003784482 -5.358677115927434, 105.31345938458294 -5.35697325191694, 105.31995797193535 -5.354980194505885)', 4326)),
4 ('Gg. Perwira', ST_GeomFromText('LINESTRING(105.31538091686944 -5.353450570188979, 105.31538734729381 -5.353964894006236, 105.31388477192665 -5.354178172127354)', 4326));
```

### 3. Buat Tabel “Wilayah”

```
CREATE TABLE wilayah (
    id SERIAL PRIMARY KEY,
    nama_wilayah VARCHAR(100),
    geom GEOMETRY(Polygon, 4326)
);
```

### 4. Insert data wilayah beserta koordinat (Longitude,Latitude) yang dicopy dari gmaps

```
Query Query History
1 INSERT INTO wilayah (nama_wilayah, geom) VALUES
2 ('Gg Perwira 1', ST_GeomFromText('POLYGON((105.31538616333883 -5.353444680004245, 105.3153376962439 -5.353957114049446,
3 ('Gg Perwira 2', ST_GeomFromText('POLYGON((105.31532019725512 -5.353969000914723, 105.31462652948148 -5.35407024323588,
```

### 5. Cek Validitas data

```
Query Query History
1 SELECT nama_wilayah, ST_IsValid(geom) as is_valid FROM wilayah;
```

Data Output Messages Notifications

	nama_wilayah	is_valid
1	Gg Perwira 1	true
2	Gg Perwira 2	true

### 6. Konversi ke GeoJSON

```
Query Query History
1 SELECT nama_jalan, ST_AsGeoJSON(geom) FROM jalan;
```

Data Output Messages Notifications

	nama_jalan	st_asgeojson
1	Jl. Lapas Raya	{"type": "LineString", "coordinates": [[105.316329936, -5.353408002], [105.315397636, -5.353397082], [105.314169192, -5.353554...]
2	Jl. Terusan Ryacudu	{"type": "LineString", "coordinates": [[105.305820838, -5.358677116], [105.313459385, -5.356973252], [105.319957972, -5.354980...]
3	Gg. Perwira	{"type": "LineString", "coordinates": [[105.315380917, -5.35345057], [105.315387347, -5.353964894], [105.313884772, -5.3541761...]

### 7. Tampilkan WKT

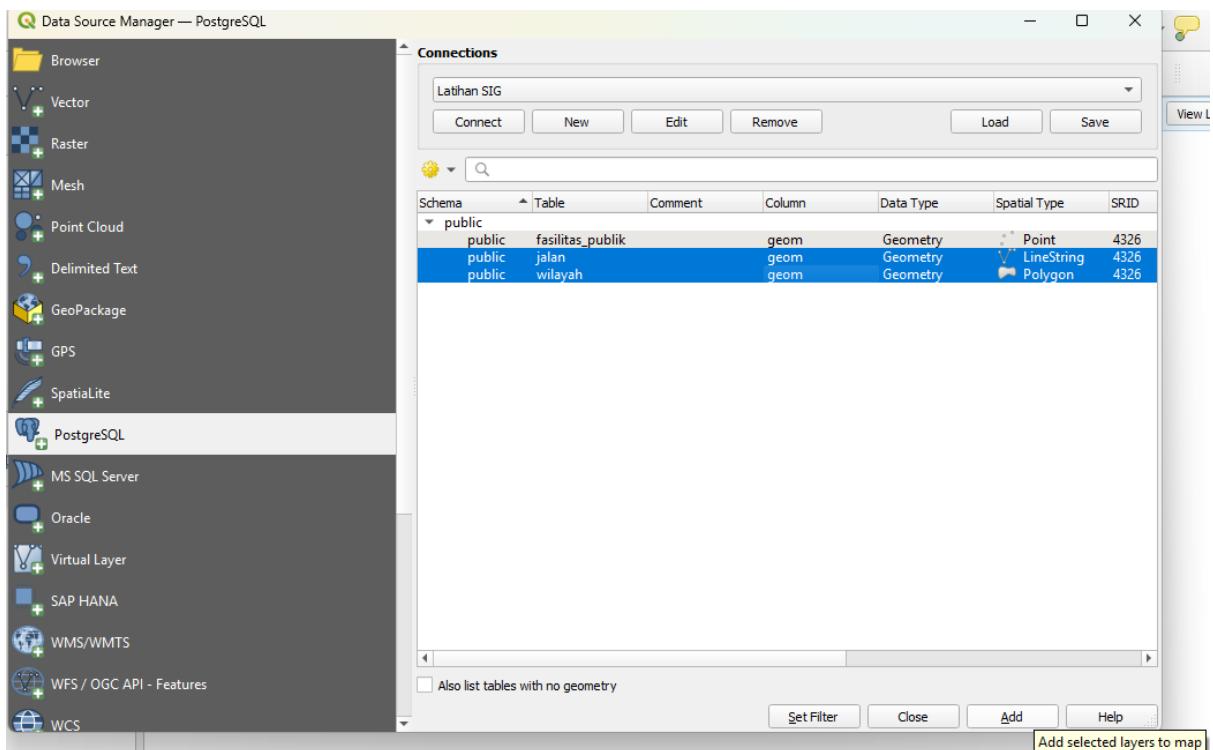
The screenshot shows the pgAdmin interface with a query window containing the following SQL code:

```
1  SELECT nama_wilayah, ST_AsText(geom) FROM wilayah;
```

The results table shows two rows of data:

	nama_wilayah	st_astext
1	Gg Perwira 1	POLYGON((105.31538616333883 -5.353444080084245,105.3153376962439 -5.353957114049446,105.31540146873833,105.31532019725512 -5.35396900914723,105.31463827687944 -5.354112217293293,105.31348224487087))
2	Gg Perwira 2	POLYGON((105.31532019725512 -5.35396900914723,105.31463827687944 -5.354112217293293,105.31348224487087,105.31538616333883 -5.353444080084245))

## 8. Add Layer jalan dan wilayah ke QGIS



## 9. Cek hasilnya :

