Prerequisites : Applied Data Mesh Workshop for Scalable Data Platforms

- Docker: https://docs.docker.com/desktop/setup/install/mac-install/
- PostgreSQL :
  - `brew install postgresql@17`
  - `brew services start postgresql@17`
  - Create tables: `resources/user_domain/postgresql-table-ddl-dml.sql`
  - Update postgres conf

1. `/opt/homebrew/var/postgresql@17/postgresql.conf`

```
wal_level = logical

max_replication_slots = 10

max_wal_senders = 10
```

2. `/opt/homebrew/var/postgresql@17/pg_hba.conf`

```
host    replication     all     0.0.0.0/0       trust
```

- Restart postgres:

```
brew services restart postgresql@17
```

- Optional permission:

```
- ALTER USER <user_name> REPLICATION;

- ALTER DATABASE postgres OWNER to
<user_name>;
```

- Create Publication

```
CREATE PUBLICATION user_domain_pub FOR TABLE
    public.user_profile,
    public.user_preferences,
    public.user_privacy,
    Public.user_compliance;
WITH (publish = 'insert, update, delete');
```

  - Verify

```
- SELECT * FROM pg_publication WHERE
pubname = 'user_domain_pub';

- SELECT * FROM pg_publication_tables pt
WHERE pt.pubname = 'user_domain_pub';
```

- Create replication slot :

```
- SELECT * FROM
pg_create_logical_replication_slot('user_s
lot', 'pgoutput');

- SELECT * FROM pg_publication_tables pt
WHERE pt.pubname = 'user_domain_pub';
```

- Address database:

    - https://batch.openaddresses.io/data#map=7.55/37.22/-121.635
    - https://batch.openaddresses.io/data/628/history#map=6.19/36.74/-120.965
- Kafka: `brew install kafka`
- App : `Kafka Stream Java App. java/org/jaysen/BusinessEventBuilder.java`
- Data warehouse: `Apache Iceberg: Spark-SQL`
- App Git Repo: https://github.com/jhsenjaliya/data-product-demo
- Other tools: `Postman, Kadeck, terminal`