

# ? Upgrading to a Major Update

*How to Upgrade a PostgreSQL database inside a Docker Container: A Step-by-Step Guide*

## Step 1: Backup the Database

Before upgrading, it's essential to back up your database to avoid data loss.

### 1. Update `compose.yaml` to Add Volumes:

In your `compose.yaml` file, add the necessary volumes for data and backups:

```
postgres:
  ...
  volumes:
    - data:/var/lib/postgresql/data
    - backup:/backup
  ...
```

### 2. Shutdown All Containers Except the Database:

Stop all your stack's containers except for the PostgreSQL container.

### 3. Dump the Database into the Backup Directory:

Run the following command to export all SQL tables into a dump file:

```
docker exec -it <DB_CONTAINER_NAME> pg_dumpall -U <POSTGRES_USER> > /backup/dump.sql
```

## Step 2: Clean Up the Existing Stack

### 1. Stop the Database Container:

Bring down the PostgreSQL container:

```
docker compose down <DB_CONTAINER_NAME>
```

### 2. Delete the Existing `data` Volume:

To prepare for the upgrade, remove the current data volume associated with PostgreSQL.

# Step 3: Upgrade PostgreSQL

## 1. Update the PostgreSQL Version:

In the `compose.yaml` file, change the PostgreSQL image to the new version.

## 2. Bring Up the Updated PostgreSQL Container:

Run the following command to start the new version:

```
docker compose up -d
```

# Step 4: Clear the New Data Volume

## 1. Stop All Stack Containers:

Ensure all containers are stopped to avoid any conflicts.

## 2. Delete Data Files in the Volume:

Navigate to the PostgreSQL volume and remove the data files located in

```
/var/lib/docker/<DB_CONTAINER_NAME>/_data.
```

# Step 5: Restore the Database

## 1. Start the Database Container:

Power on the PostgreSQL container.

## 2. Import the Data from Backup:

Use the following command to restore the dumped SQL data into the new PostgreSQL container:

```
docker exec -it <DB_CONTAINER_NAME> psql -U <POSTGRES_USER> -d <POSTGRES_DATABASE_NAME> < /backup/dump.sql
```

# Final Step: Bring the Stack Back Online

Once the database has been restored, you can start all your other containers again.

And that's it! 🎉 You've successfully upgraded PostgreSQL in your Docker environment.

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Happy me! ☐☐

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