

# PostgreSQL 14 to 16 Upgrade - Step-by-Step Guide

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# PostgreSQL 14 to 16 Upgrade Step-by-Step

This guide outlines the full procedure to upgrade PostgreSQL 14 to 16 on Ubuntu with a custom data directory.

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## Step 1: Install PostgreSQL 16

```bash

sudo apt install wget ca-certificates -y

wget --quiet -O - https://www.postgresql.org/media/keys/ACCC4CF8.asc | sudo apt-key add -

echo "deb http://apt.postgresql.org/pub/repos/apt \$(lsb\_release -cs)-pgdg main" | sudo tee /etc/apt/sources.list.d/pgdg.list

sudo apt update

sudo apt install postgresql-16 postgresql-client-16 -y

```

## Step 2: Backup PostgreSQL 14

```bash

pg\_dumpall > /tmp/pg14\_full\_backup.sql

```

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## Step 3: Stop PostgreSQL 14

```bash

sudo systemctl stop postgresql@14-main

```

## Step 4: Set Permissions

```bash

sudo chown -R postgres:postgres /postgresql

sudo chmod 700 /postgresql

```

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## Step 5: Initialize PostgreSQL 16

```
```bash
```

```
sudo -u postgres /usr/lib/postgresql/16/bin/initdb -D /postgresql/data16
```

```
```
```

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```
## Step 6: Perform the Upgrade
```

```
```bash
```

```
sudo -i -u postgres
```

```
/usr/lib/postgresql/16/bin/pg_upgrade \
```

```
--old-datadir=/postgresql/data \
```

```
--new-datadir=/postgresql/data16 \
```

```
--old-bindir=/usr/lib/postgresql/14/bin \
```

```
--new-bindir=/usr/lib/postgresql/16/bin \
```

```
> /postgresql/logs/pg_upgrade_final.log 2>&1
```

```
```
```

```
## Step 7: Start PostgreSQL 16
```

```
```bash
```

```
sudo systemctl start postgresql@16-main
```

```
sudo -u postgres psql -c "SELECT version();" 
```

```
```
```

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```
## Step 8: Cleanup PostgreSQL 14
```

```
```bash
```

```
sudo systemctl stop postgresql@14-main
```

```
sudo apt purge postgresql-14 postgresql-client-14 -y
```

```
sudo apt autoremove --purge -y
```

```
sudo rm -rf /postgresql/data
```

```
```
```

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```
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```

PostgreSQL 16 is now fully operational!