

Getting Started with PostgreSQL

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PostgreSQL on the Desktop - single user ("PostgreSQL Home Page" 2018)

Windows or Mac

- ▶ Go to EnterpriseDB download site
<https://www.enterprisedb.com/downloads/postgres-postgresql-downloads>.
- ▶ Select the latest version (10.3)
- ▶ Select your operating system (Windows or Mac)
- ▶ Installation: install everything but don't run StackBuilder yet

Linux: use the PGDG repositories

- ▶ RHEL / CentOS / Fedora:
<https://www.postgresql.org/download/linux/redhat/>
- ▶ Ubuntu: <https://www.postgresql.org/download/linux/ubuntu/>
(probably works for Linux Mint)
- ▶ Debian: <https://www.postgresql.org/download/linux/debian/>
- ▶ Installation: install PostgreSQL 10.3 and pgAdmin 4 for desktop

Connecting with pgAdmin

- ▶ Online manual: (*PgAdmin Manual (Online)* 2018)
- ▶ Reference: R. Obe and Hsu (2017b), chapter 4

Exploring the tree

Creating a database

Creating tables - DDL

Reading a CSV file into a table - COPY

Backing up a database

Restoring a database

Creating a query

PostgreSQL on a (Linux) Server

Two dialects of Linux

- ▶ Ubuntu 16.04.x LTS (most popular)
- ▶ RHEL 7 / CentOS 7

Docker container

- ▶ Debian stable - similar to Ubuntu
- ▶ Alpine - avoid this unless you want to do a lot of research

The PGDG repositories

Configuring

- ▶ Initializing the cluster
- ▶ Enabling and starting the service

Listening address and port

Authentication

Fine-grained permissions and roles

Tablespaces

PostGIS

Reading in GIS data (Obe and Hsu 2015, chap. 4)

- ▶ Shapefiles
- ▶ “GDB” databases
- ▶ OpenStreetMap data

Tagging points with a geometry column

Geocoding (Obe and Hsu 2015, chap. 8)

Spatial joins

pgRouting - what it can do

Turn-by-turn directions

- ▶ Reference: (R. Obe and Hsu 2017a)

References

References

Obe, Regina O., and Leo S. Hsu. 2015. *PostGIS in Action, Second Edition*. Manning Publications Co. <https://www.manning.com/books/postgis-in-action-second-edition>.

Obe, Regina, and Leo Hsu. 2017a. *PgRouting: A Practical Guide*. Locate Press LLC. <https://locatepress.com/pgrouting>.

———. 2017b. *PostgreSQL: Up and Running, 3rd Edition*. O'Reilly Media, Inc. <http://shop.oreilly.com/product/0636920052715.do>.

PgAdmin Manual (Online). 2018. <https://www.pgadmin.org/docs/pgadmin4/dev/>.

"PostgreSQL Home Page." 2018. <https://www.postgresql.org/>.