Lab - PostGIS

Installation Guide

- For Windows -

PostgreSQL Installation

- Find the corresponding OS version From

https://www.enterprisedb.com/downloads/postgres-postgresql-downloads

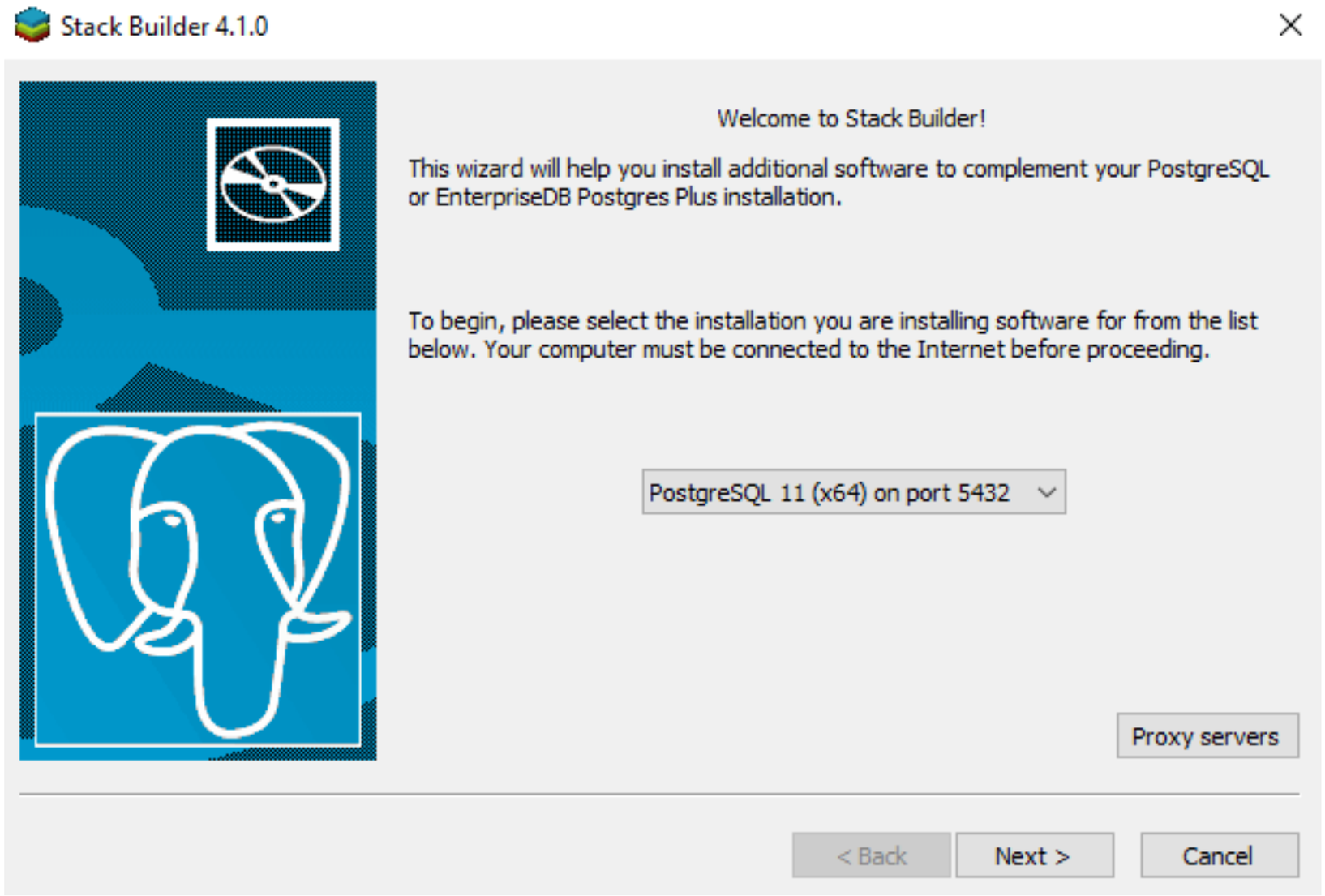
PostgreSQL Version	Linux x86-64	Linux x86-32	Mac OS X	Windows x86-64	Windows x86-32
11.0	N/A	N/A	Download	Download	N/A
10.5	Download	Download	Download	Download	Download
9.6.10	Download	Download	Download	Download	Download
9.5.14	Download	Download	Download	Download	Download
9.4.19	Download	Download	Download	Download	Download
9.3.24	Download	Download	Download	Download	Download

PostgreSQL Installation

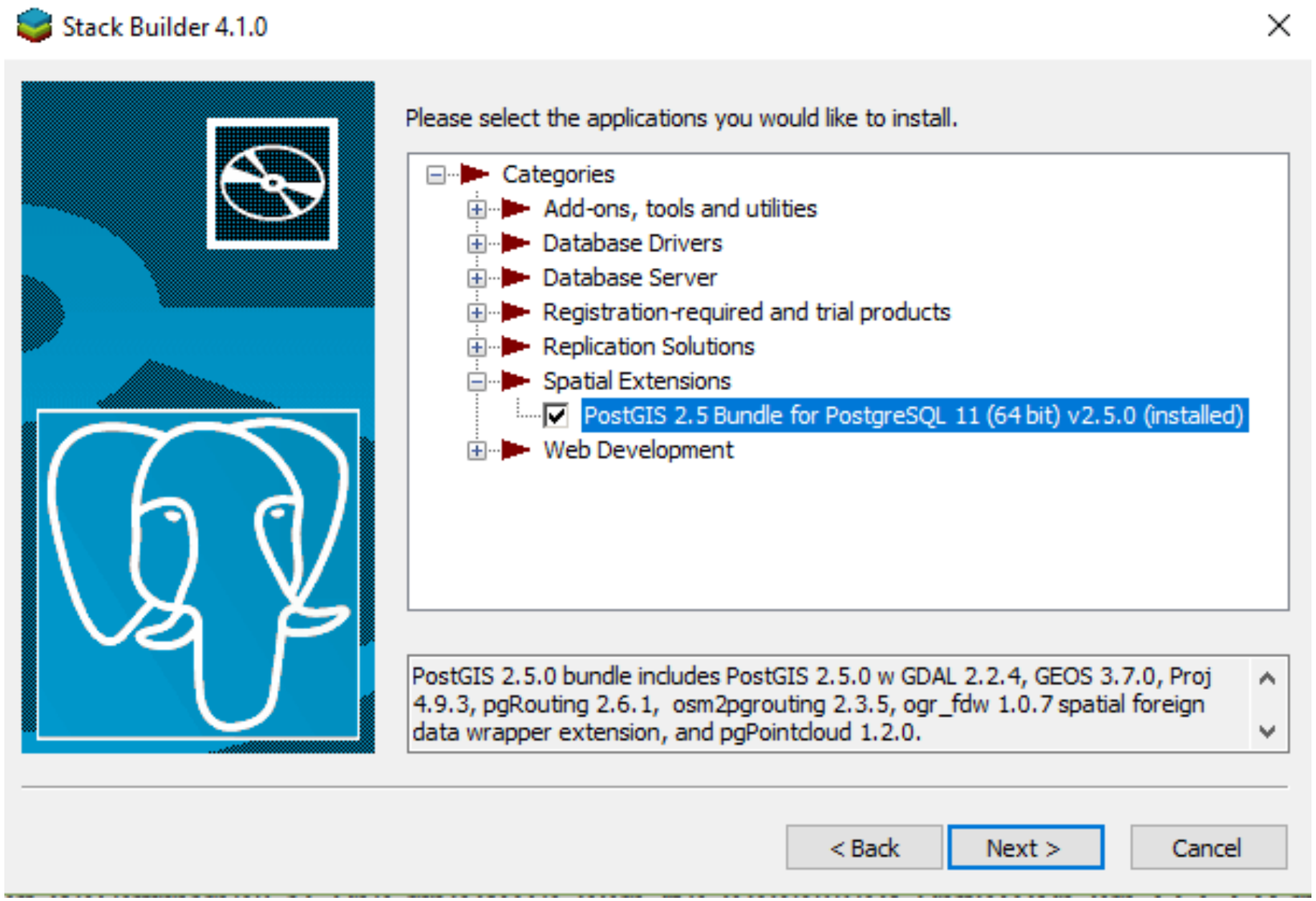
- Follow the installation guide

https://www.enterprisedb.com/docs/en/11.0/PG_Inst_Guide_v11/PostgreSQL_Installation_Guide.1.08.html

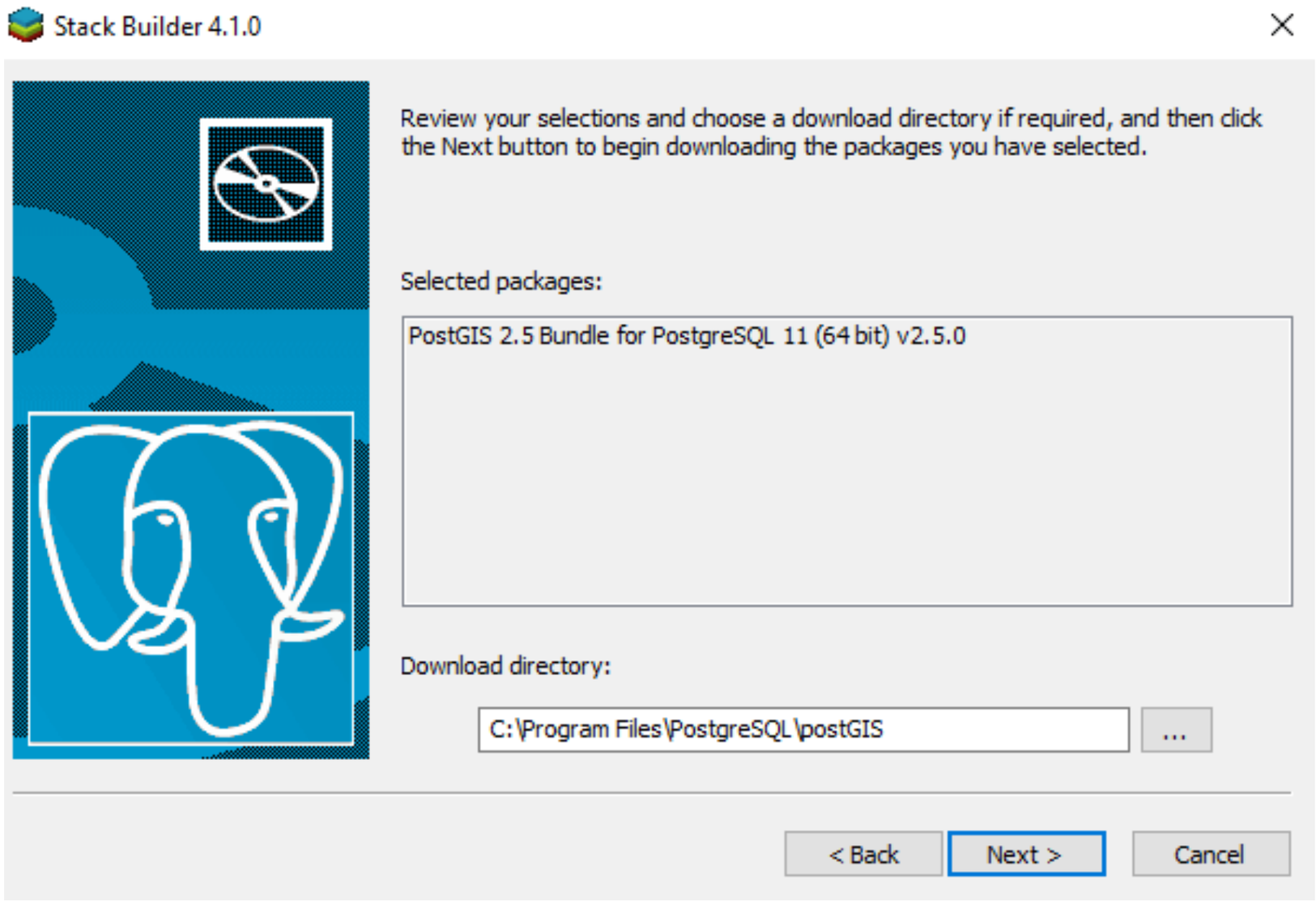
Stack Builder



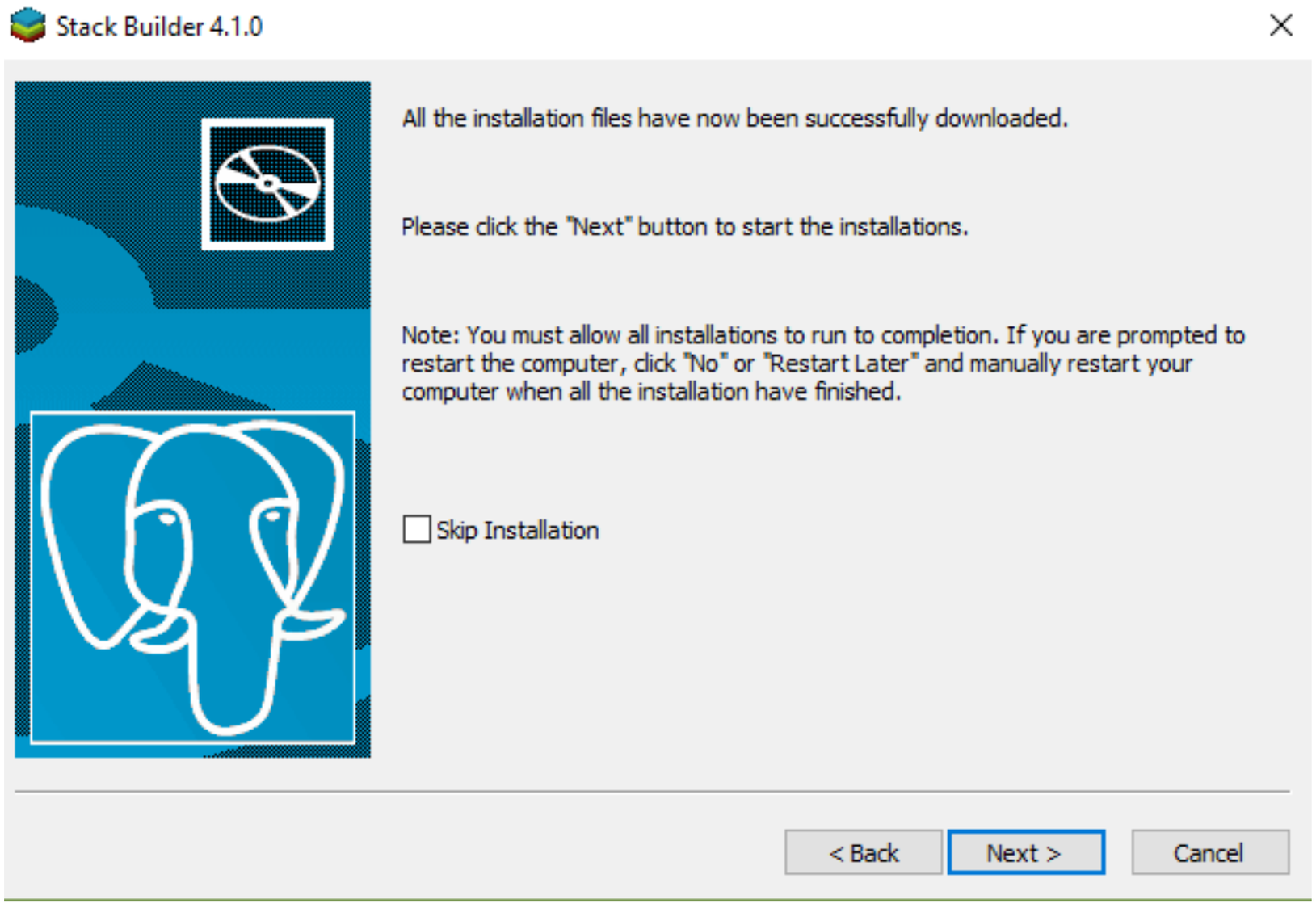
Stack Builder



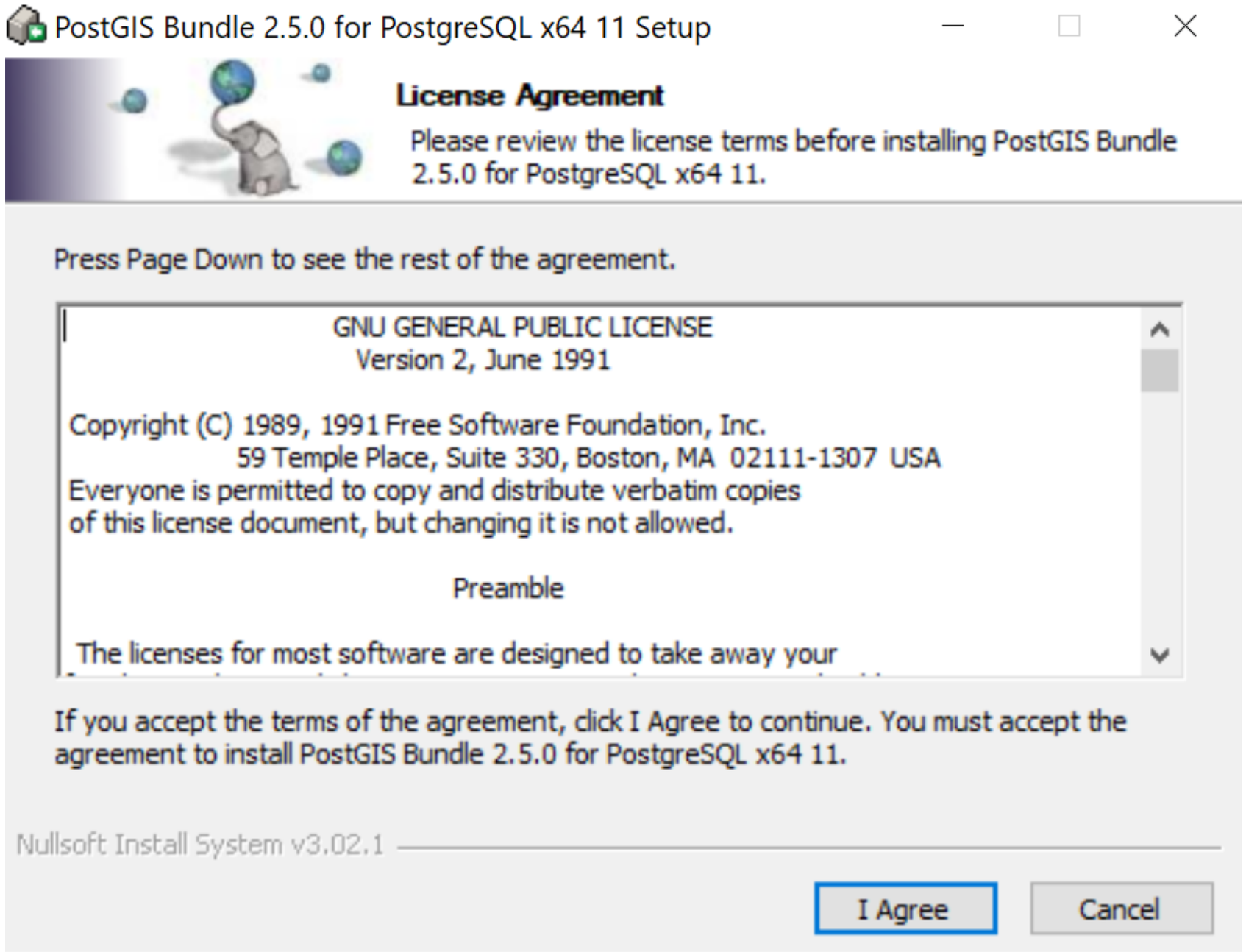
Stack Builder



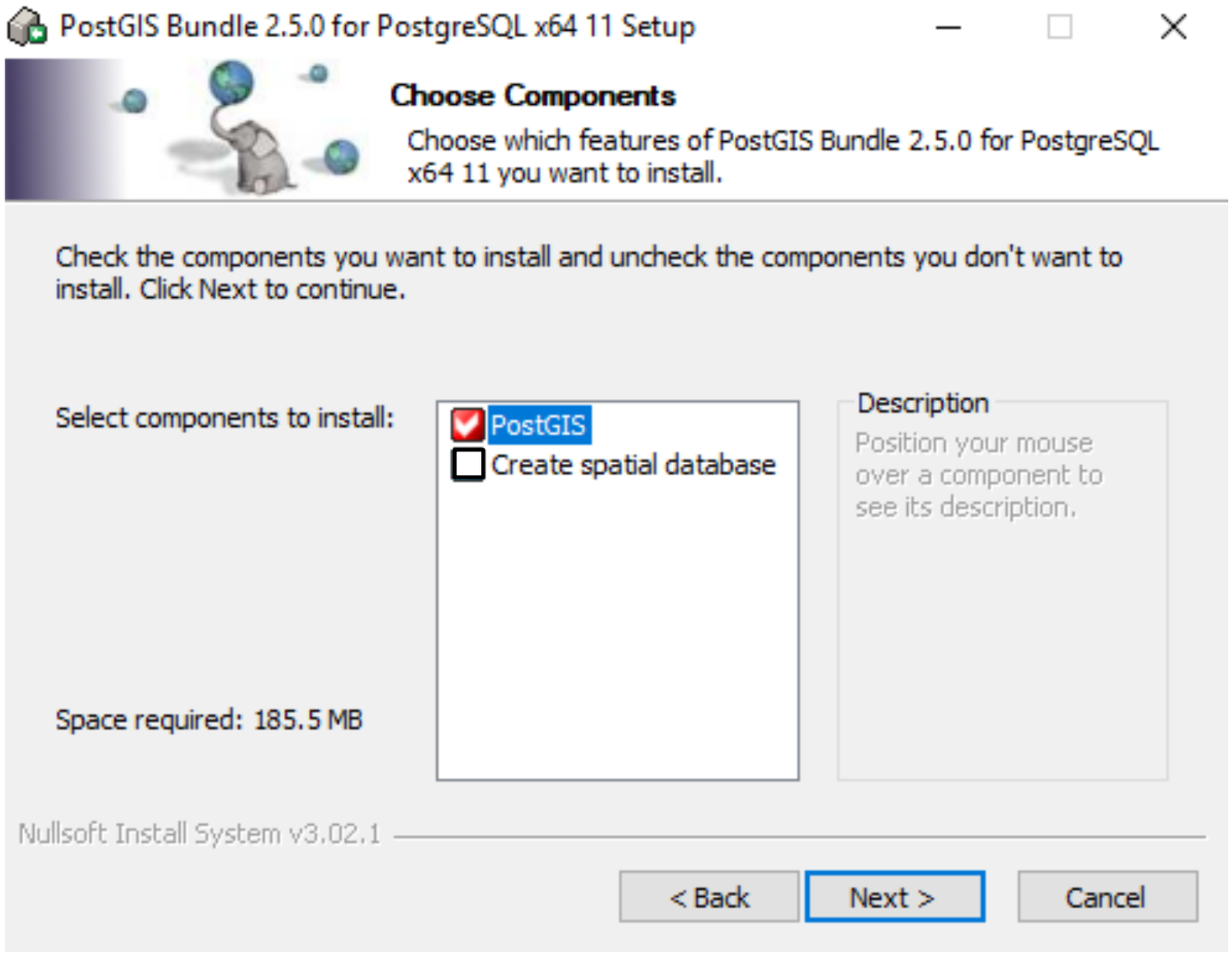
Stack Builder



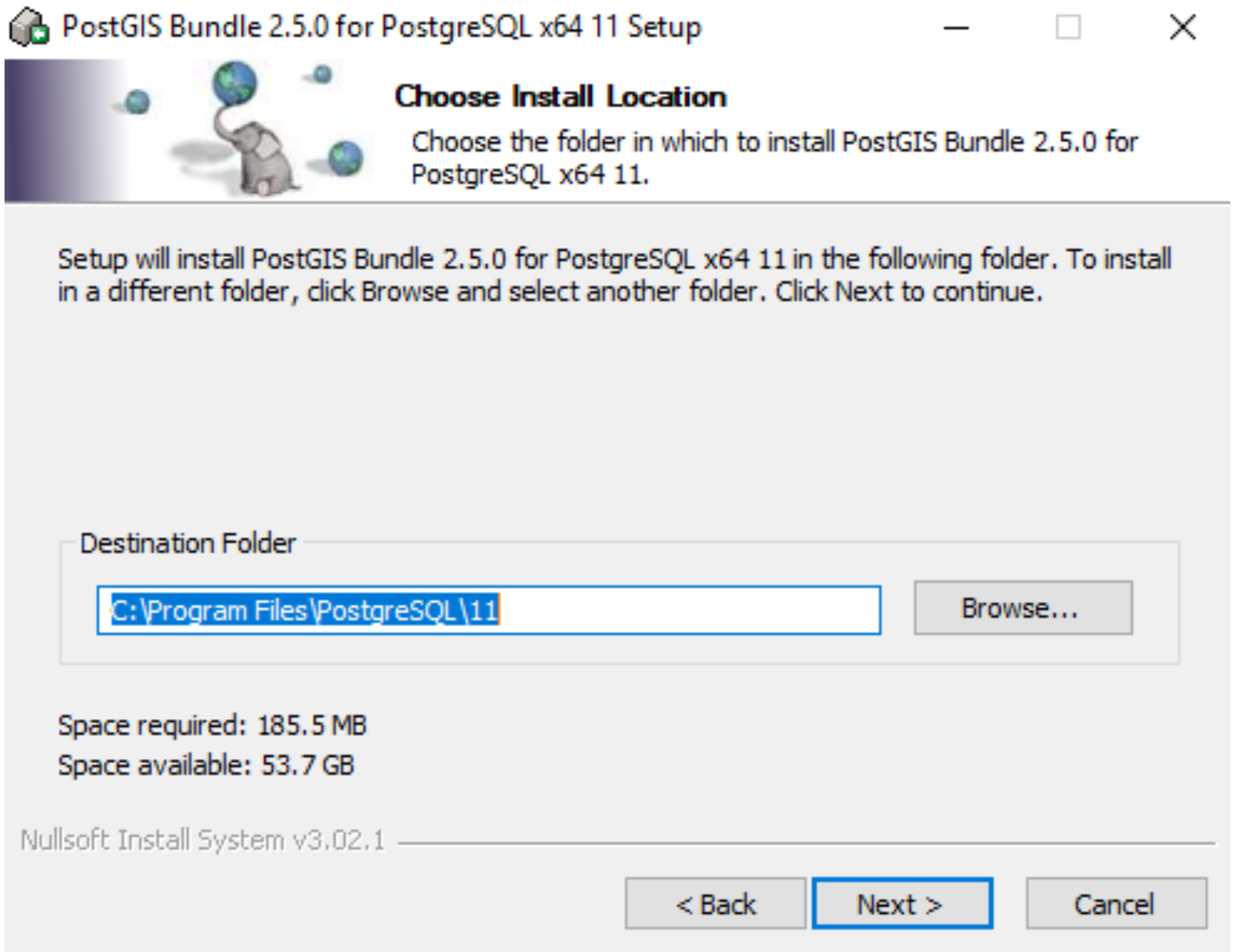
PostGIS Installer



PostGIS Installer



PostGIS Installer



After installing, open psql

SQL Shell (psql)

```
Server [localhost]:
Database [postgres]:  postgres
Port [5432]:
Username [postgres]:
Password for user postgres:
psql (11.0)
WARNING: Console code page (437) differs from Windows code page (1252)
         8-bit characters might not work correctly. See psql reference
         page "Notes for Windows users" for details.
Type "help" for help.

postgres=#

postgres=# \conninfo      <--- show connect information
You are connected to database “postgres” as user “postgres” on host “localhost” at port “5432”.

postgres=# CREATE DATABASE postgis_lab;      <--- create a new database
DATABASE CREATED

postgres=# \c postgis_lab       <--- connect to the new created database

postgis_lab=# \conninfo      <--- check connect information
You are connected to database “postgis_lab” as user “postgres” on host “localhost” at port “5432”.
```

Installation Guide

- For Mac OS -

Homebrew Installation

- Website: https://brew.sh/

Postgres & PostGIS Installation

- Remove old versions (Optional)

```
$ brew uninstall --force postgis postgresql
$ rm -rf /usr/local/var/postgres
```

- Install new ones

```
$ brew install postgres postgis
```

- Start server

```
$ pg_ctl -D /usr/local/var/postgres start
```

- Shutdown server

```
$ pg_ctl -D /usr/local/var/postgres -l logfile stop
```


Reference: https://medium.com/@Umesh_Kafle/postgresql-and-postgis-installation-in-mac-os-87fa98a6814d

Post installation

- Create database storage

  `$ initdb /usr/local/var/postgres`

  - If terminal shows an error

```
initdb: directory "/usr/local/var/postgres" exists but is not empty
If you want to create a new database system, either remove or empty
the directory "/usr/local/var/postgres" or run initdb
with an argument other than "/usr/local/var/postgres".
```

  - Remove old database files `$ rm -r /usr/local/var/postgres`
  - Re-run the initdb command `$ initdb /usr/local/var/postgres`

- Create a new database

  `$ createdb postgis_lab`

- Operate the created database with psql

  `$ psql postgis_lab`

  → `postgis_lab=#`

Reference: https://medium.com/@Umesh_Kafle/postgresql-and-postgis-installation-in-mac-os-87fa98a6814d

PSQL

SQL shell for PostgreSQL

PSQL

- Useful commands in psql (`postgis_lab=#`)
  - Check for all command `\?`
  - List table, view `\d`
  - Connect to another database `\c {DBNAME}`
  - Change the current working directory `\cd [DIR]`
  - Quit `\q` or `CTRL+D`

Enable GIS Function in Postgres

- Load PostGIS spatial extension

```
# CREATE EXTENSION postgis;
```

- Confirm whether PostGIS installed successfully

```
# SELECT postgis_full_version();
```

SQL Shell (psql)

```
postgres_lab=#
postgres_lab=# SELECT postgis_full_version();


                        postgis_full_version
-------------------------------------------------------------------------------
-------------------------------------------------------------------------------
-------------------------------------------------------------------
 POSTGIS="2.5.0 r16836" [EXTENSION] PGSQL="110" GEOS="3.7.0-CAPI-1.11.0 3.7.0" SFC
GAL="1.3.2" PROJ="Rel. 4.9.3, 15 August 2016" GDAL="GDAL 2.2.4, released 2018/03/1
9" LIBXML="2.7.8" LIBJSON="0.12" LIBPROTOBUF="1.2.1" TOPOLOGY RASTER
(1 row)
```