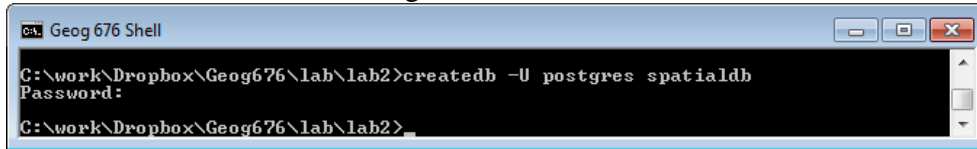


In the previous section, we created a spatial database “*spatialdb*” based on the template “*postgis_21_sample*”. However, if we have not successfully installed “*postgis_21_sample*” while we installed the PostGIS, then we can creating a new spatial database with PostGIS is a 3 step process.

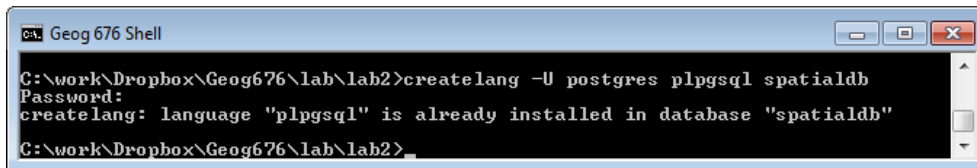
- **First** you need to create a database using *createdb* command, as shown below



```
Geog 676 Shell
C:\work\Dropbox\Geog676\lab\lab2>createdb -U postgres spatialdb
Password:
C:\work\Dropbox\Geog676\lab\lab2>
```

- **Second step** involves binding a procedural language to the newly created database. This binding adds the ability to use functions written in ‘*plpgsql*’ to the new database. You can use the following command:

```
createlang -U postgres plpgsql spatialdb
```

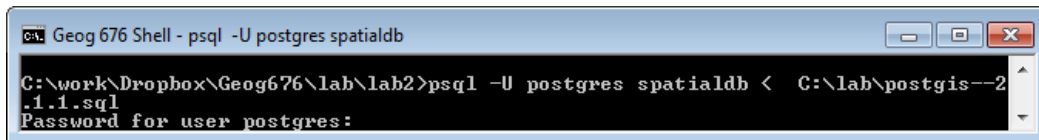


```
Geog 676 Shell
C:\work\Dropbox\Geog676\lab\lab2>createlang -U postgres plpgsql spatialdb
Password:
createlang: language "plpgsql" is already installed in database "spatialdb"
C:\work\Dropbox\Geog676\lab\lab2>
```

createlang installs a procedural language into a PostgreSQL database. ‘*plpgsql*’ is the standard procedural language (PL) that comes with PostgreSQL database. There are several standard PLs that comes with PostgreSQL, they are, PL/pgSQL, PL/Tcl, PL/python. One can create their own functions and can install (bind) them into any database.

- **The third step** is to start a PostgreSQL interactive terminal. Before doing that, we want to run a standard script that comes with PostGIS called ‘*postgis--2.1.1.sql*’. This script adds several utility functions that operate on ‘geometry’ data type, and two default tables to keep track of geometry columns and spatial reference systems. The default file path for “*postgis--2.1.1.sql*” is under “C:\Program Files\PostgreSQL\9.3\share\extension” folder. However, the shell command does not recognize file path with space (e.g., C\Program Files\), therefore you need to copy and put that file at somewhere else, e.g., c:\lab. Here is the sample run on our *spatialdb* database:

```
psql -U postgres spatialdb < C:\lab\data\postgis--2.1.1.sql
```



```
Geog 676 Shell - psql -U postgres spatialdb
C:\work\Dropbox\Geog676\lab\lab2>psql -U postgres spatialdb < C:\lab\postgis--2
.1.1.sql
Password for user postgres:
```

You will observe lot of *CREATE*, *INSERT*, *DROP* messages and finally a *COMMIT* message. If there are errors and you miss them to notice on the screen, then you can look into your log file, under C:\Program Files\PostgreSQL\9.3\data\pg_log.

Congratulations, you have just created a spatial database successfully using PostGIS.