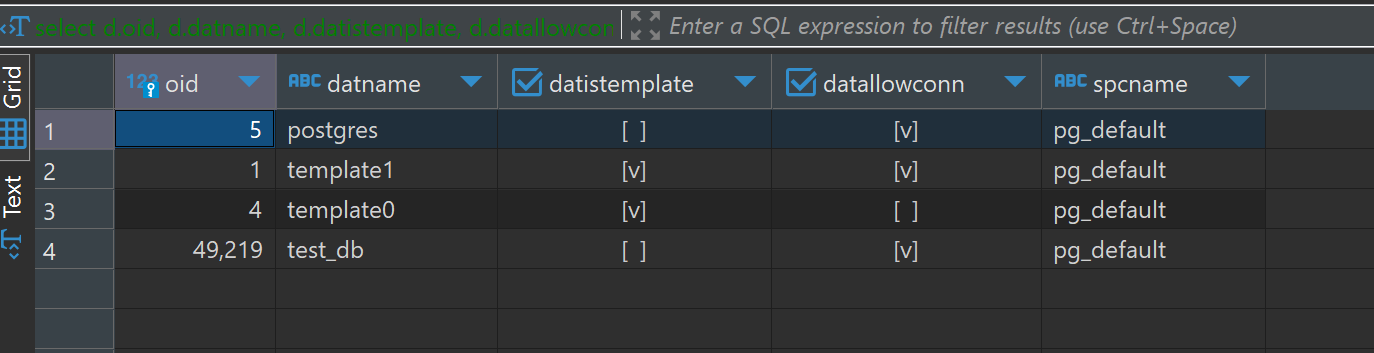
1.Connect to the postgres Database and create new one named “test\_db”.

2. Run query, investigate result:

select d.oid, d.datname, d.datistemplate, d.datallowconn, t.spcname from pg\_database d join pg\_tablespace t on t.oid = d.dattablespace



postgres is the default administrative connection database.

template1 is the default template database that is used to create new databases.

template0 is a pristine template that can be used if template1 becomes corrupted or modified.

test\_db is a user-created database just now.

Oid is unique identifier.

Datname is name of the database.

datistemplateindicates whether the database is a template and template databases are used as the basis for creating new databases.

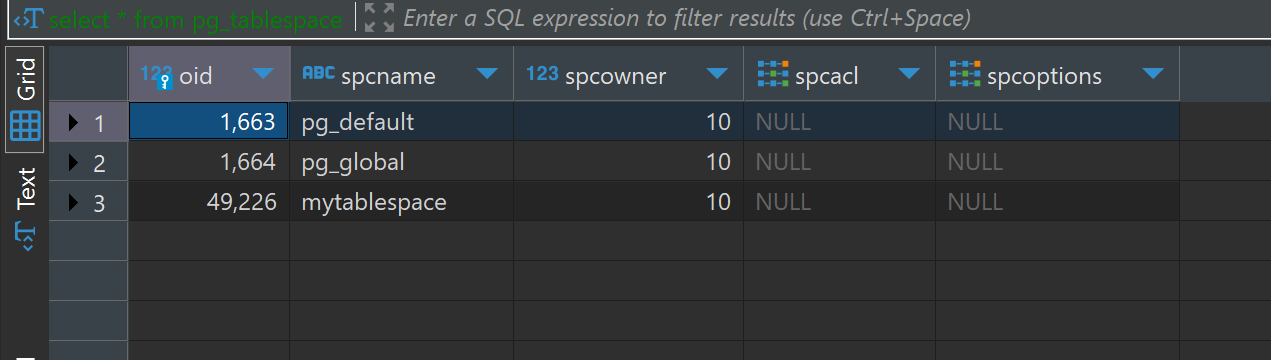
datallowconn indicates whether connections to the database are allowed

spcnameIndicates the tablespace associated with the database. pg\_default is the default tablespace.

2.

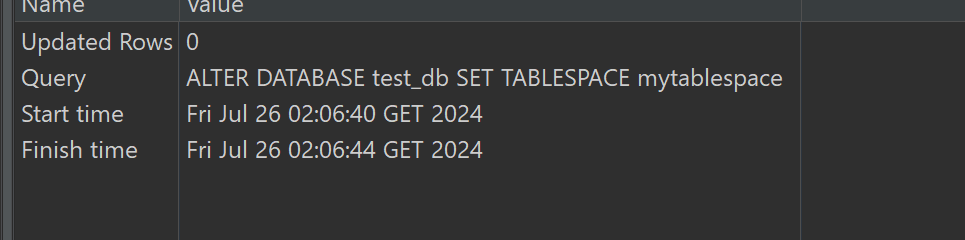
**select** \*

**from** ***pg\_tablespace***



It tells names of spcnames.

ALTER DATABASE test\_db SET TABLESPACE mytablespace

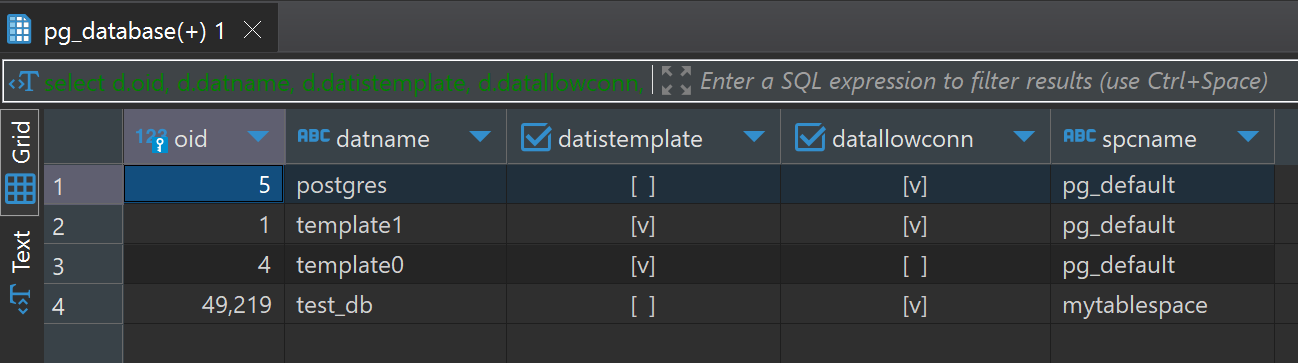


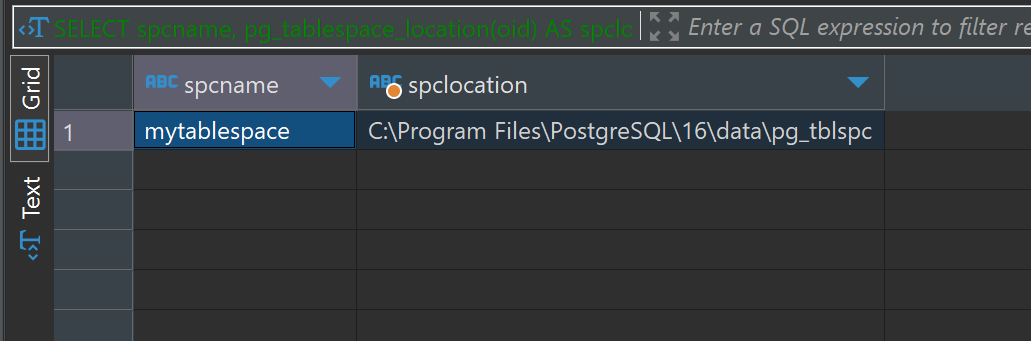
I altered tablespace

After running: **select** d.**oid**, *d*.***datname***, *d*.***datistemplate***, *d*.***datallowconn***, *t*.***spcname***

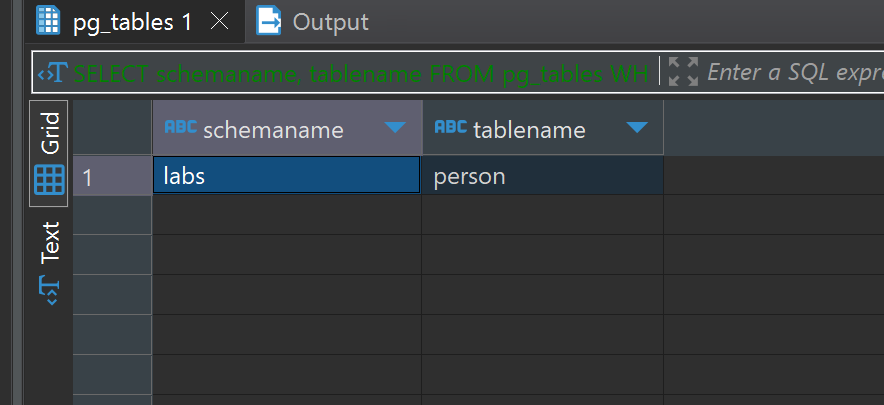
**from** ***pg\_database*** *d*

**join** ***pg\_tablespace*** *t* **on** t.**oid** = *d*.***dattablespace***

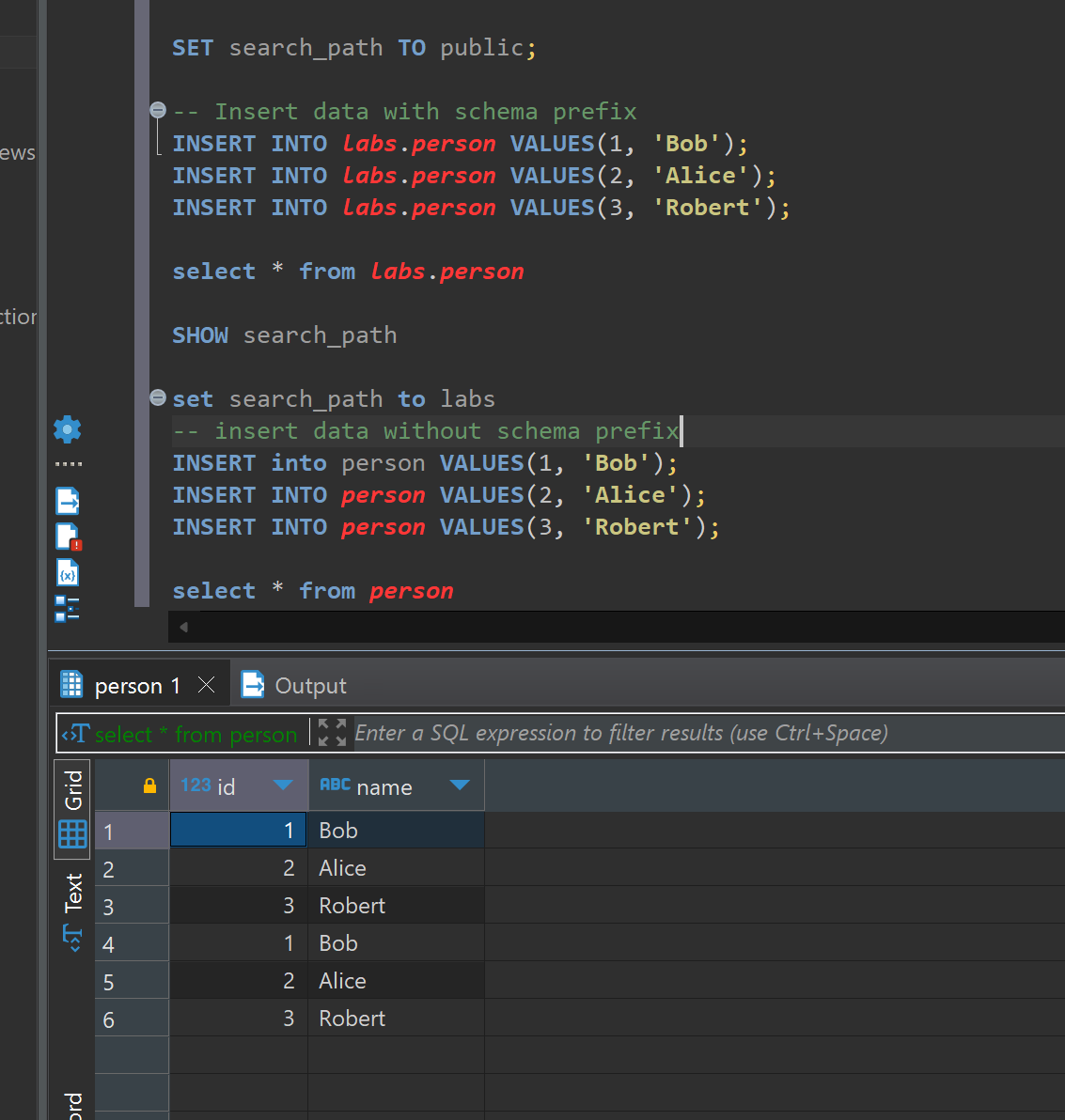


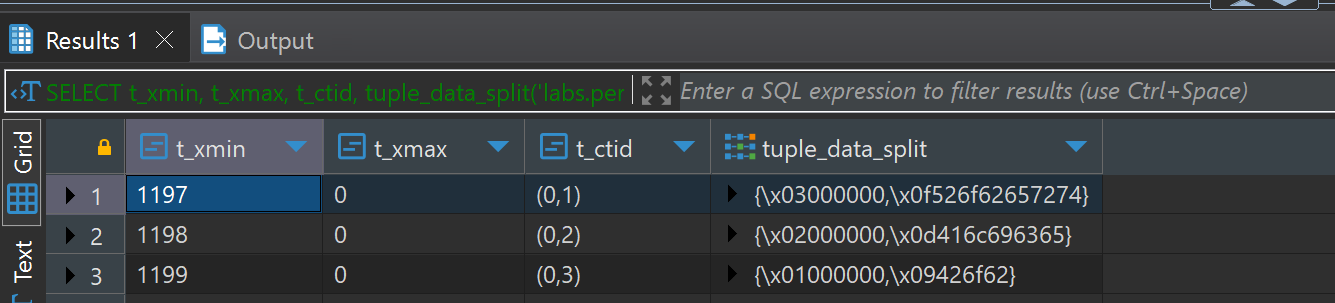
Location: 

2.3 TASK 3 CREATE NEW SCHEMA



3. 0





After this:

**INSERT** **INTO** ***person*** **VALUES**(4, **'John'**);

**UPDATE** ***person*** **set** **name** = **'Alex'** **where** ***id*** = 2;

**DELETE** **FROM** ***person*** **WHERE** ***id*** = 3;

**INSERT** **INTO** ***person*** **VALUES**(999, **'Test'**);

**DELETE** **FROM** ***person*** **WHERE** ***id*** = 999;

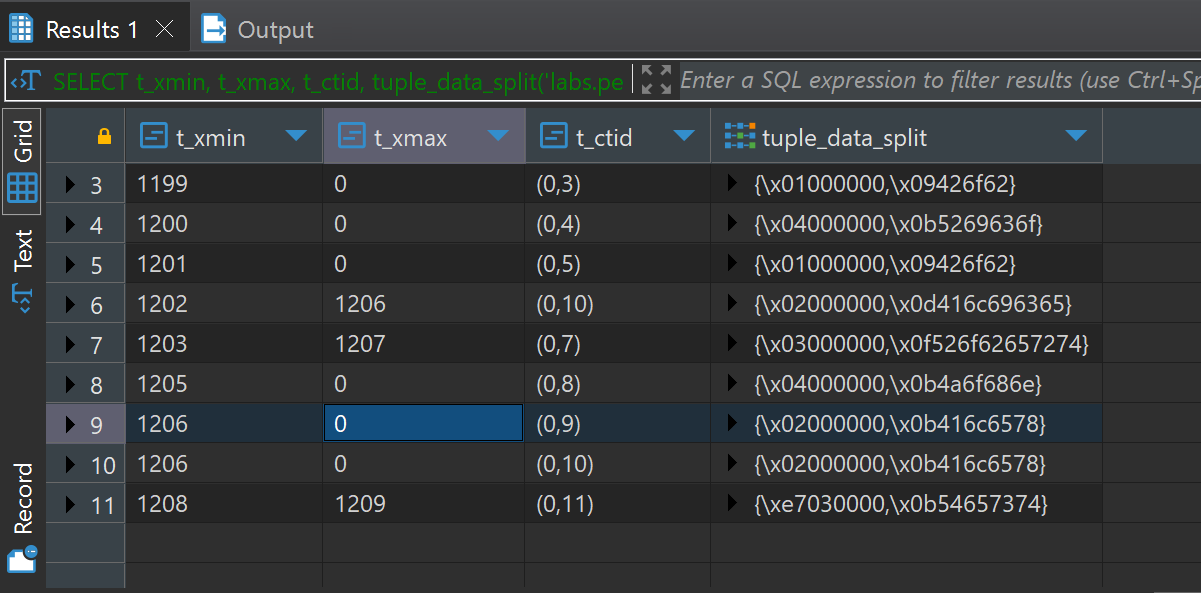
**SELECT** ***t\_xmin***, ***t\_xmax***, ***t\_ctid***,

tuple\_data\_split(**'labs.person'**::**regclass**, ***t\_data***, ***t\_infomask***,

***t\_infomask2***, ***t\_bits***)

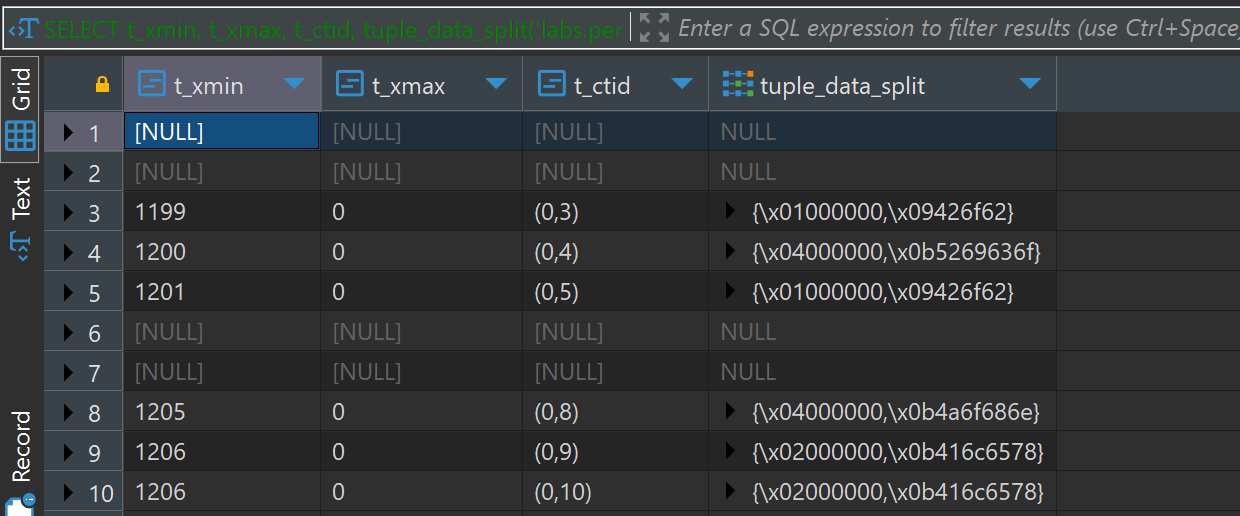
**FROM** heap\_page\_items(get\_raw\_page(**'labs.person'**, 0));

I accidentally inserted twice I think.

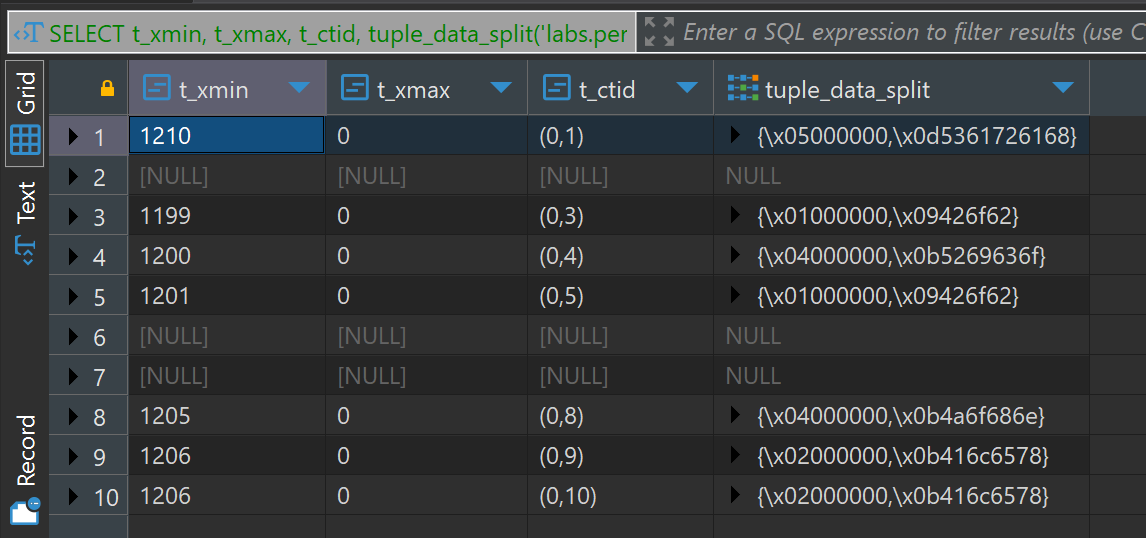


A t\_xmax of zero means the tuple is currently not marked for deletion or update

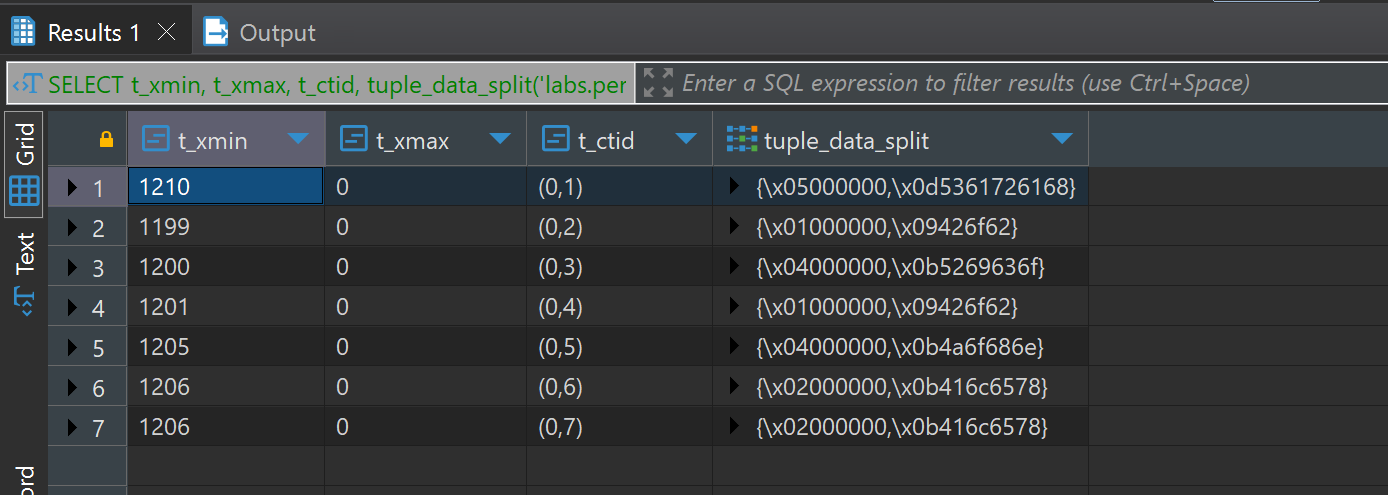
3.2

Aftger vacuum 

Inserting ‘sarah’ made t\_xmin to 1200



After vacuum full the result is:



Vacuum full deleted nulls.