


PROJET DE FIN DU MODULE


Administration base de donnees (sql server)


2020/2021


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 **Phase 1** : installation et configuration de AD .

- **Les etapes à faire :**

- Dans VirtualBox

1. installer Windows Server, et :
 - a. Configurer le service Active Directory : créer un domaine et un nom de connexion Windows Server
 - b. Installer SQL Server
 - c. Rendre le nom de connexion Windows Server un nom de connexion SQL Server
 - d. Se connecter à SQL Server avec Authentification Windows
 - e. Créer une Base de Donnée dans SQL Server (installée dans Windows Server) :
BD1

- Dans VirtualBox:

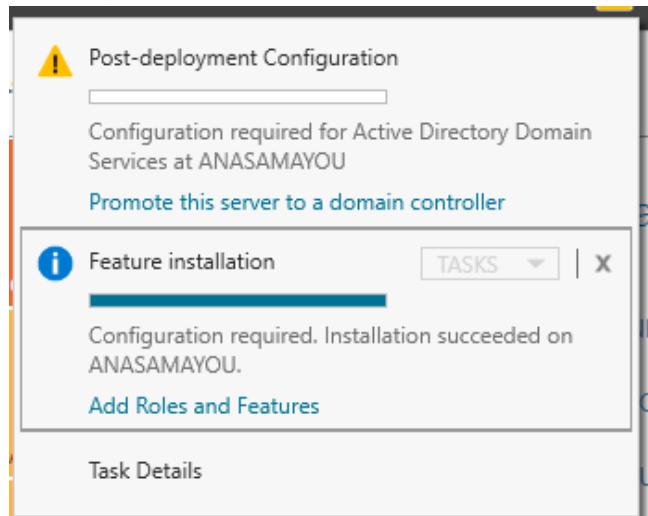
1. Installer PostgreSQL dans Linux (CentOS ou Ubuntu)
 - a. Créer un nom de connexion
 - b. Créer une base de données : BD2

- Dans Windows 10

1. Tourner SQL Server avec l'authentification mixte. La base de données est : BD3
2. Tourner le système Oracle. La base de données est :
BD4

Les captures d'écran :

-configuration de AD :



Review your selections:

Configure this server as the first Active Directory domain controller in a new forest.

The new domain name is "anas.local". This is also the name of the new forest.

The NetBIOS name of the domain: ANAS

Forest Functional Level: Windows Server 2016

Domain Functional Level: Windows Server 2016

Additional Options:

Global catalog: Yes

DNS Server: Yes

Create DNS Delegation: No

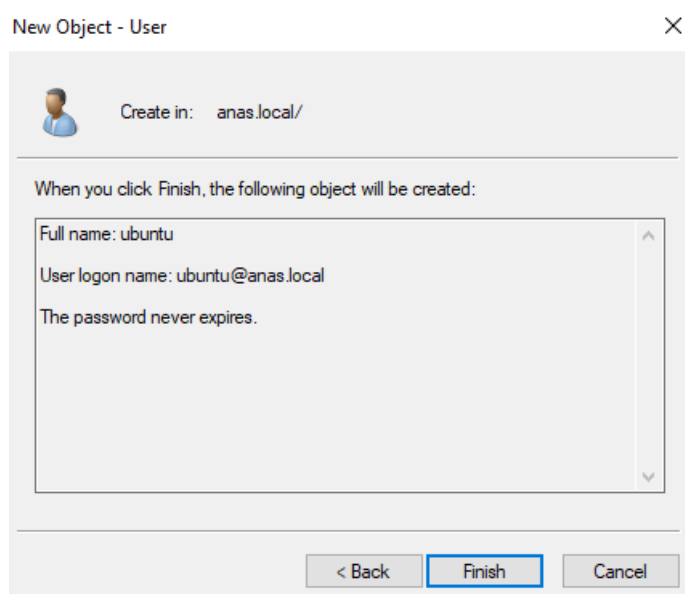
-- > configuration de domaine name server :

Computer name	ANASAMAYOU
Domain	anas.local

Windows Defender Firewall	Public: On
Remote management	Enabled
Remote Desktop	Disabled
NIC Teaming	Disabled
Ethernet	169.254.9.176, IPv6 enabled

Operating system version	Microsoft Windows Server 2019 Datacenter Evaluation
Hardware information	innotek GmbH VirtualBox

-->creation user (ubuntu) :



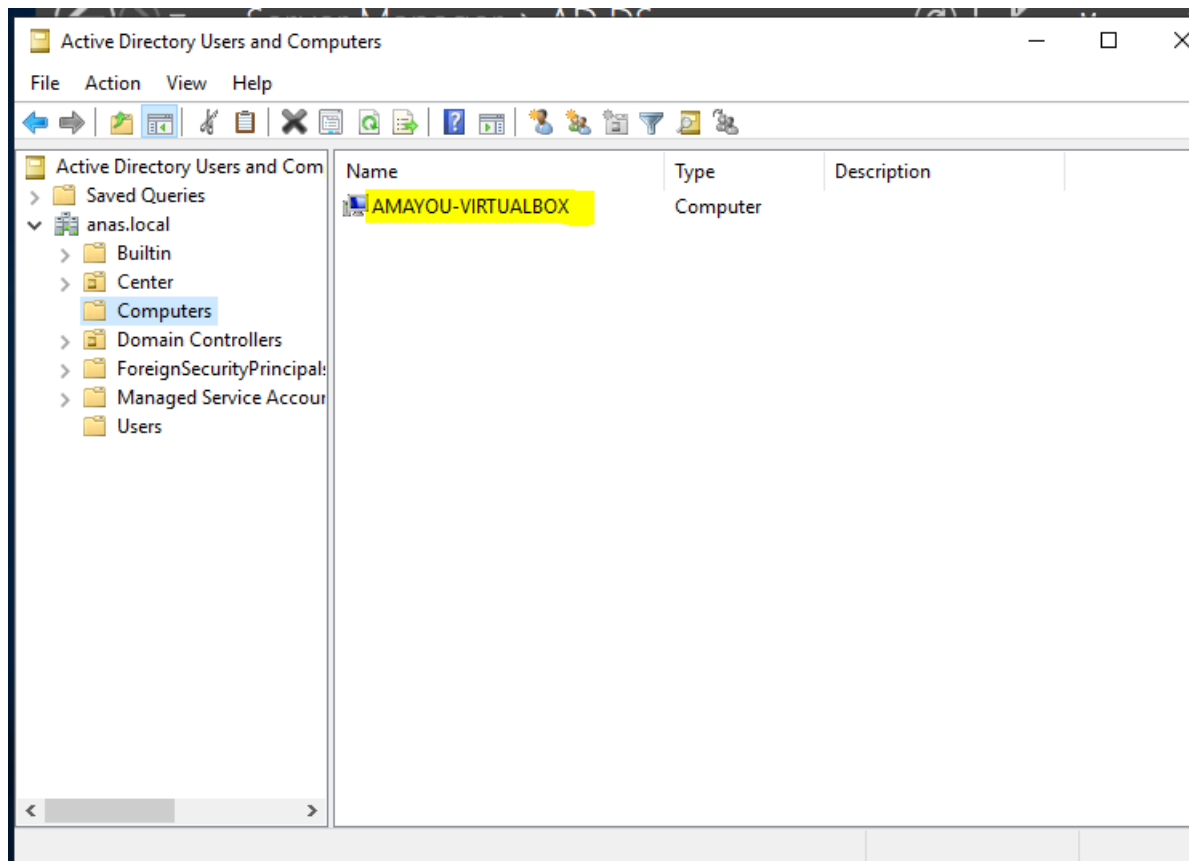
→connexion de ubuntu vers win.server :

```
anas@anas: ~  
Setting up python3-ldb (2:2.0.10-0ubuntu0.20.04.2) ...  
Setting up libevent-core-2.1-7:amd64 (2.1.11-stable-1) ...  
Setting up libcollection4:amd64 (0.6.1-2) ...  
Setting up libipa-hbac0 (2.2.3-3ubuntu0.2) ...  
Setting up libkdb5-9:amd64 (1.17-6ubuntu4.1) ...  
Setting up python3-crypto (2.6.1-13ubuntu2) ...  
Setting up packagekit (1.1.13-2ubuntu1.1) ...  
Setting up libref-array1:amd64 (0.6.1-2) ...  
Setting up libkadm5srv-mit11:amd64 (1.17-6ubuntu4.1) ...  
Setting up libnfsidmap2:amd64 (0.25-5.1ubuntu1) ...  
Setting up libsss-nss-idmap0 (2.2.3-3ubuntu0.2) ...  
Setting up libsassl2-modules-gssapi-mit:amd64 (2.1.27+dfsg-2) ...  
Setting up libpam-sss:amd64 (2.2.3-3ubuntu0.2) ...  
Setting up libevent-pthreads-2.1-7:amd64 (2.1.11-stable-1) ...  
Setting up libnss-sss:amd64 (2.2.3-3ubuntu0.2) ...  
First installation detected...  
Checking NSS setup...  
Adding an entry for automount.  
Setting up packagekit-tools (1.1.13-2ubuntu1.1) ...  
Setting up libkadm5clnt-mit11:amd64 (1.17-6ubuntu4.1) ...  
Setting up realmd (0.16.3-3) ...  
realmd.service is a disabled or a static unit, not starting it.  
Setting up sntp (1:4.2.8p12+dfsg-3ubuntu4) ...  
Setting up libini-config5:amd64 (0.6.1-2) ...  
Setting up adcli (0.9.0-1ubuntu0.20.04.1) ...  
Setting up samba-ls:amd64 (2:4.11.6+dfsg-0ubuntu1.6) ...  
Setting up systemd (245.4-4ubuntu3.4) ...  
Installing new version of config file /etc/dhcp/dhclient-enter-hooks.d/resolved ...  
Installing new version of config file /etc/systemd/resolved.conf ...  
Setting up sssd-common (2.2.3-3ubuntu0.2) ...
```

→ Test login by administrator account :

```
amayou@amayou-VirtualBox:~$ klist  
Credentials cache: FILE:/tmp/krb5cc_1000  
Principal: administrator@ANAS.LOCAL  
  
Issued Expires Principal  
Jan 30 19:50:39 2021 Jan 31 05:50:39 2021 krbtgt/ANAS.LOCAL@ANAS.LOCAL  
amayou@amayou-VirtualBox:~$
```

→connected ubuntu client to win.server : AMAYOU-VBOX



→ Installation et configuration de postgresql :

```
amayou@amayou-VirtualBox:~$ sudo -u postgres createuser --interactive
[sudo] password for amayou:
Enter name of role to add: linuxhint
Shall the new role be a superuser? (y/n) y
amayou@amayou-VirtualBox:~$
```

```
amayou@amayou-VirtualBox: ~
amayou@amayou-VirtualBox:~$ sudo -u postgres psql
psql (12.5 (Ubuntu 12.5-0ubuntu0.20.04.1))
Type "help" for help.

postgres=#
```

```
amayou@amayou-VirtualBox: ~  
amayou@amayou-VirtualBox:~$ sudo apt install postgresql postgresql-contrib  
Reading package lists... Done  
Building dependency tree  
Reading state information... Done  
The following packages were automatically installed and are no longer required:  
  libgssrpc4 libkadm5clnt-mit11 libkadm5srv-mit11 libkdb5-9  
Use 'sudo apt autoremove' to remove them.  
The following additional packages will be installed:  
  libpq5 postgresql-12 postgresql-client-12 postgresql-client-common  
  postgresql-common sysstat  
Suggested packages:  
  postgresql-doc postgresql-doc-12 libjson-perl isag  
The following NEW packages will be installed:  
  libpq5 postgresql-12 postgresql-client-12  
  postgresql-client-common postgresql-common postgresql-contrib sysstat  
0 upgraded, 8 newly installed, 0 to remove and 222 not upgraded.  
Need to get 15.3 MB of archives.  
After this operation, 47.7 MB of additional disk space will be used.  
Do you want to continue? [Y/n] y  
Get:1 http://sl.archive.ubuntu.com/ubuntu focal-updates/main amd64 libpq5 amd64 12.5-0ubuntu0.20.04.1 [115 kB]  
Get:2 http://sl.archive.ubuntu.com/ubuntu focal-updates/main amd64 postgresql-client-common all 214ubuntu0.1 [28.2 kB]  
Get:3 http://sl.archive.ubuntu.com/ubuntu focal-updates/main amd64 postgresql-client-12 amd64 12.5-0ubuntu0.20.04.1 [1,044 kB]  
Get:4 http://sl.archive.ubuntu.com/ubuntu focal-updates/main amd64 postgresql-common all 214ubuntu0.1 [169 kB]  
Get:5 http://sl.archive.ubuntu.com/ubuntu focal-updates/main amd64 postgresql-12 amd64 12.5-0ubuntu0.20.04.1 [13.4 MB]  
Get:6 http://sl.archive.ubuntu.com/ubuntu focal-updates/main amd64 postgresql all 12+214ubuntu0.1 [3,924 B]  
Get:7 http://sl.archive.ubuntu.com/ubuntu focal-updates/main amd64 postgresql-contrib all 12+214ubuntu0.1 [3,932 B]  
Get:8 http://sl.archive.ubuntu.com/ubuntu focal/main amd64 sysstat amd64 12.2.0-2 [453 kB]  
Fetched 15.3 MB in 20s (761 kB/s)  
Preconfiguring packages ...  
Selecting previously unselected package libpq5:amd64.  
(Reading database ... 187965 files and directories currently installed.)  
Preparing to unpack .../0-libpq5_12.5-0ubuntu0.20.04.1_amd64.deb ...  
Unpacking libpq5:amd64 (12.5-0ubuntu0.20.04.1) ...  
Selecting previously unselected package postgresql-client-common.  
Preparing to unpack .../1-postgresql-client-common_214ubuntu0.1_all.deb ...
```

```
amayou@amayou-VirtualBox: ~  
amayou@amayou-VirtualBox:~$ sudo -u postgres createdb BD2  
amayou@amayou-VirtualBox:~$  
amayou@amayou-VirtualBox:~$  
amayou@amayou-VirtualBox:~$  
amayou@amayou-VirtualBox:~$  
amayou@amayou-VirtualBox:~$ sudo -u postgres createuser --interactive  
Enter name of role to add: anas  
Shall the new role be a superuser? (y/n) y  
amayou@amayou-VirtualBox:~$
```

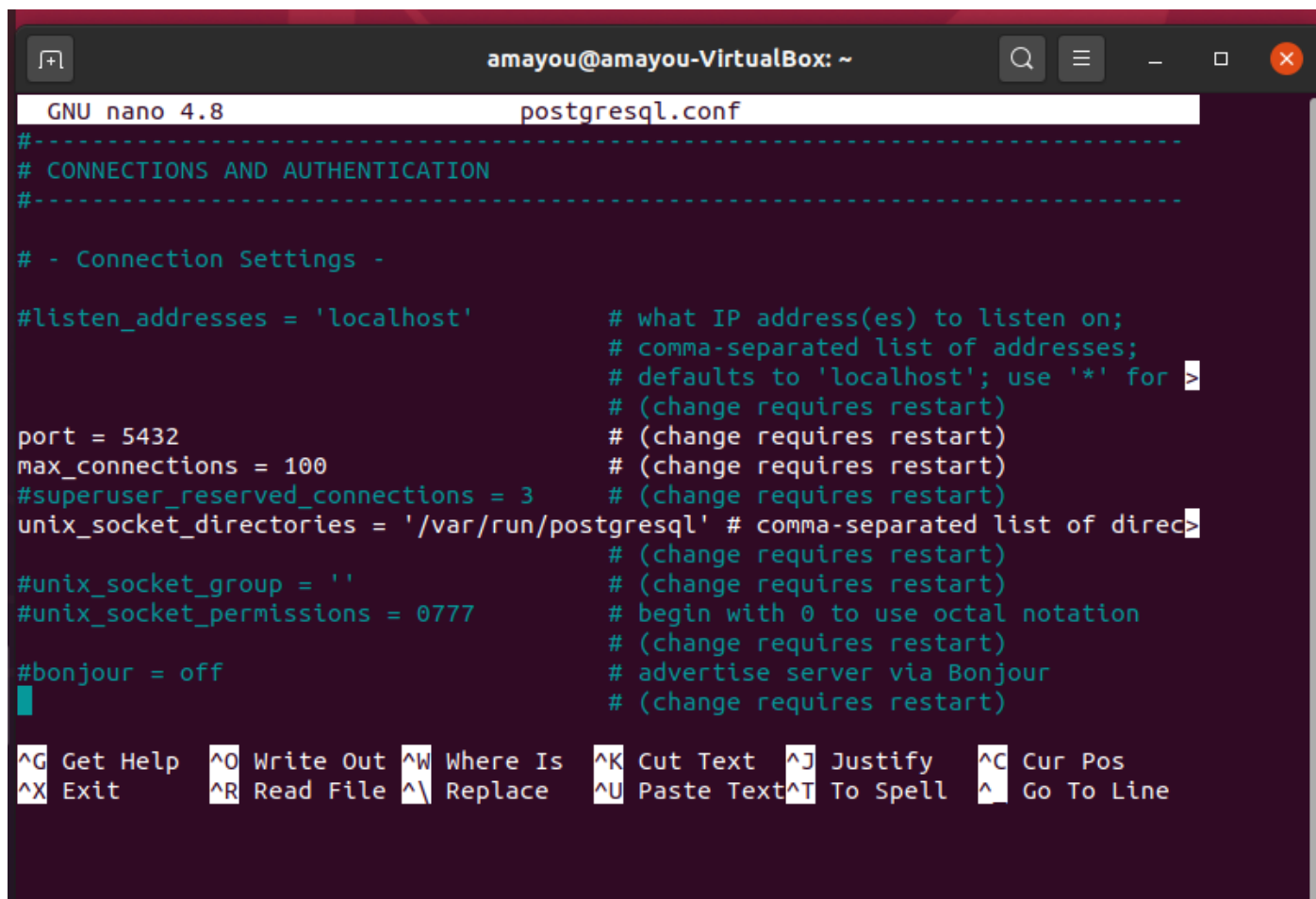
→ afficher tous les BD du postgresql :

```
amayou@amayou-VirtualBox:~$ sudo su - postgres
[sudo] password for amayou:
postgres@amayou-VirtualBox:~$ psql
psql (12.5 (Ubuntu 12.5-0ubuntu0.20.04.1))
Type "help" for help.

postgres=# \l

               List of databases
  Name      | Owner   | Encoding | Collate | Ctype   | Access privileges
-----+-----+-----+-----+-----+-----
BD2         | postgres | UTF8      | en_US.UTF-8 | en_US.UTF-8 | 
postgres    | postgres | UTF8      | en_US.UTF-8 | en_US.UTF-8 | 
template0   | postgres | UTF8      | en_US.UTF-8 | en_US.UTF-8 | =c/postgres
             |          |           |             |             | postgres=CTc/postgres
template1   | postgres | UTF8      | en_US.UTF-8 | en_US.UTF-8 | =c/postgres
             |          |           |             |             | postgres=CTc/postgres
(4 rows)
```

→ postgresql : fichier de configuration : remote access



The screenshot shows a terminal window titled 'amayou@amayou-VirtualBox: ~' with the nano 4.8 editor open to the 'postgresql.conf' file. The editor displays the 'CONNECTIONS AND AUTHENTICATION' section, which includes settings for listening addresses, port, connections, and socket directories. The current cursor position is at the end of the 'unix_socket_directories' line. The bottom status bar shows various nano editor shortcuts.

```
GNU nano 4.8 postgresql.conf
#-----
# CONNECTIONS AND AUTHENTICATION
#-----

# - Connection Settings -

#listen_addresses = 'localhost'          # what IP address(es) to listen on;
#                                         # comma-separated list of addresses;
#                                         # defaults to 'localhost'; use '*' for
#                                         # (change requires restart)
port = 5432                              # (change requires restart)
max_connections = 100                    # (change requires restart)
#superuser_reserved_connections = 3      # (change requires restart)
unix_socket_directories = '/var/run/postgresql' # comma-separated list of direc
#                                         # (change requires restart)
#unix_socket_group = ''                  # (change requires restart)
#unix_socket_permissions = 0777         # begin with 0 to use octal notation
#                                         # (change requires restart)
#bonjour = off                           # advertise server via Bonjour
#                                         # (change requires restart)

^G Get Help  ^O Write Out ^W Where Is  ^K Cut Text  ^J Justify   ^C Cur Pos
^X Exit      ^R Read File ^\ Replace   ^U Paste Text ^T To Spell  ^_ Go To Line
```



```
amayou@amayou-VirtualBox: ~
GNU nano 4.8 postgresql.conf

#-----
# CONNECTIONS AND AUTHENTICATION
#-----

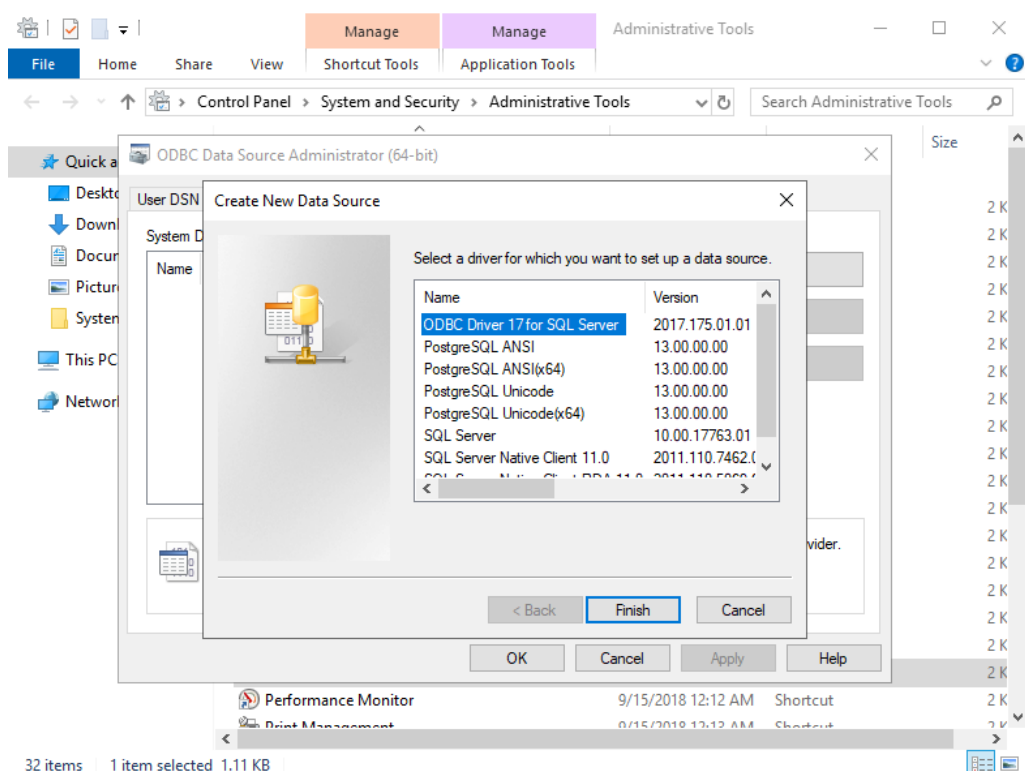
# - Connection Settings -

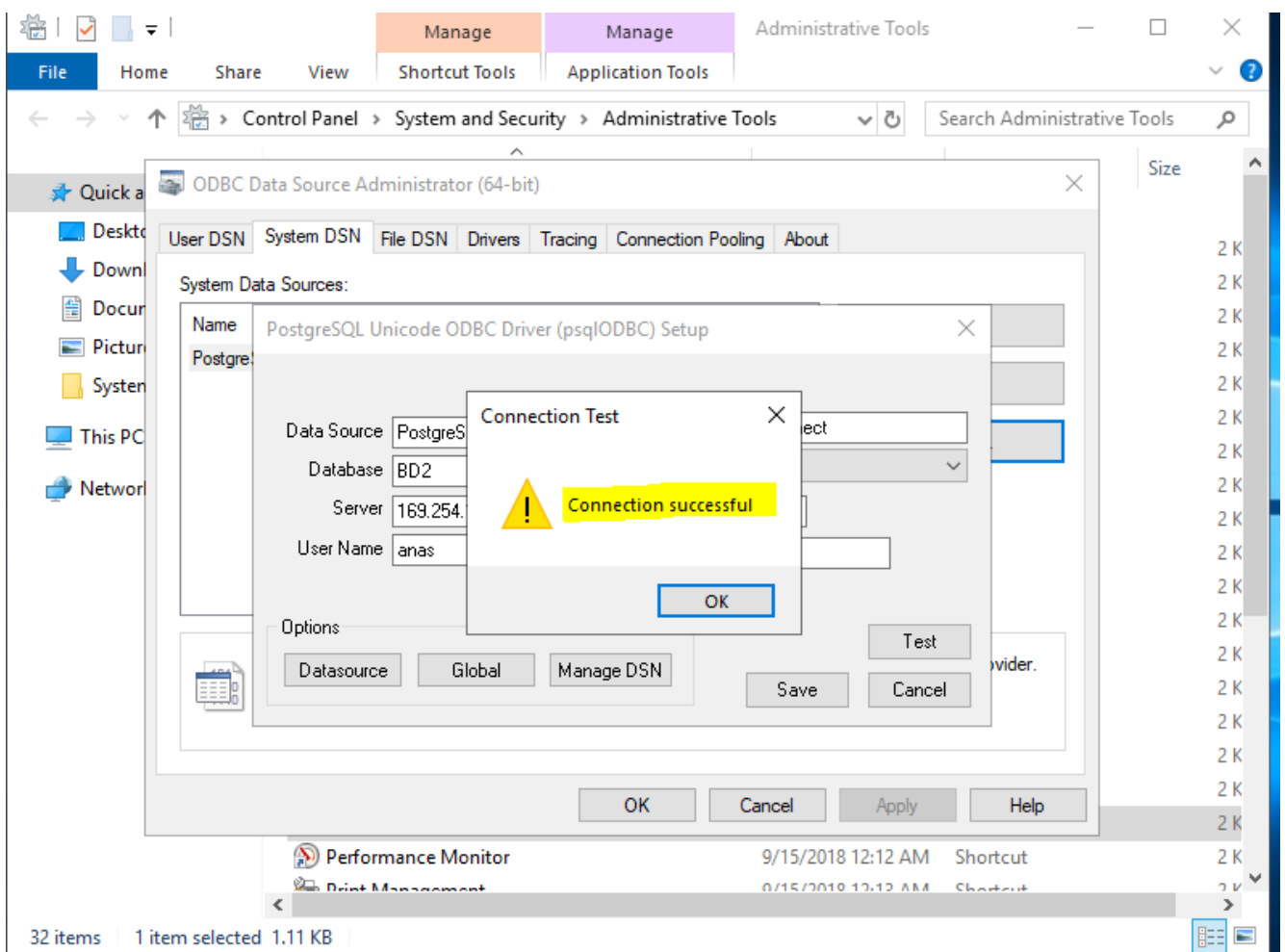
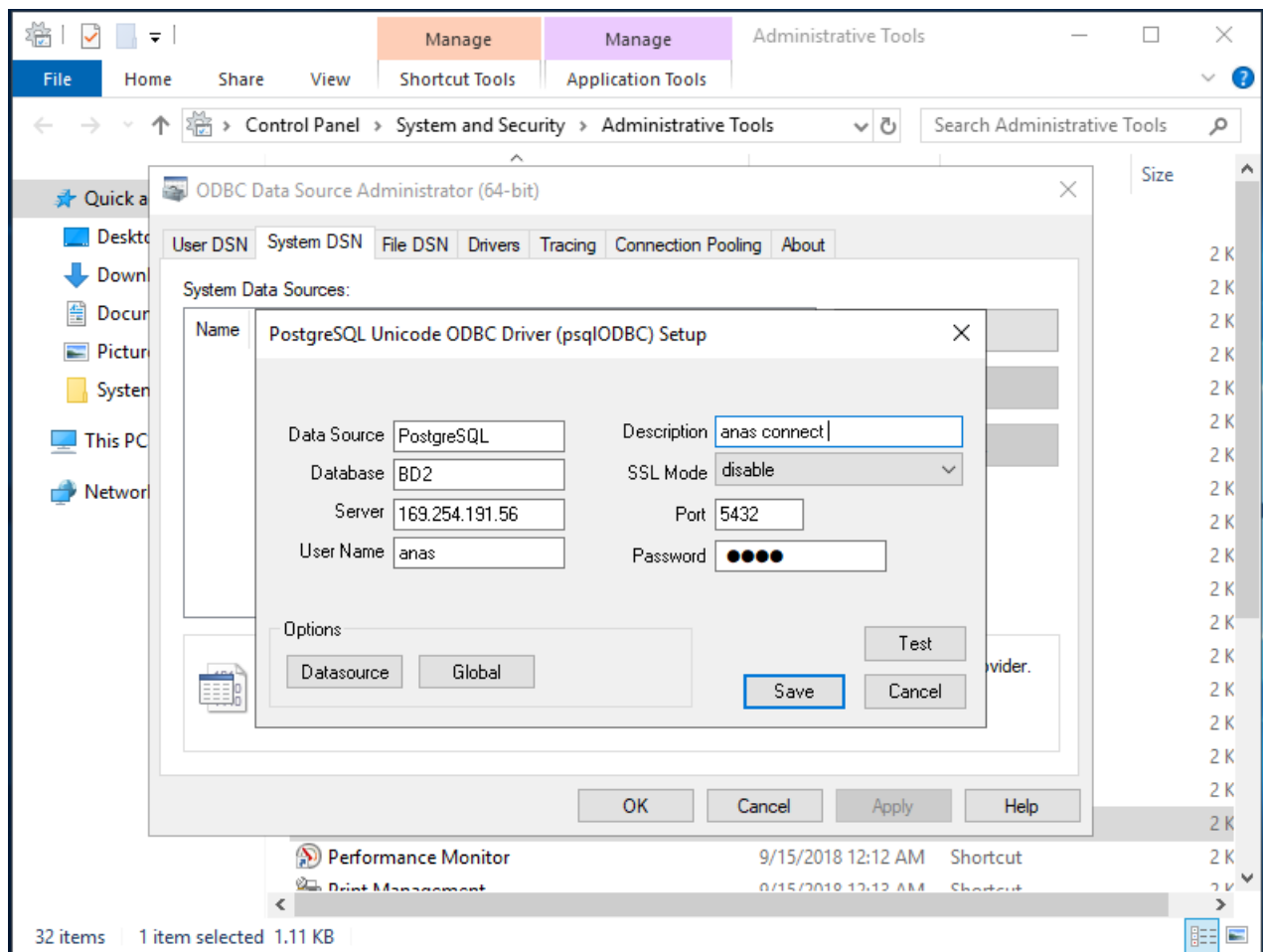
#listen_addresses = 'localhost'          # what IP address(es) to listen on;
listen_addresses = '169.254.191.56'      # comma-separated list of addresses;
                                         # defaults to 'localhost'; use '*' for all
                                         # (change requires restart)
port = 5432                              # (change requires restart)
max_connections = 100                    # (change requires restart)
#superuser_reserved_connections = 3      # (change requires restart)
unix_socket_directories = '/var/run/postgresql' # comma-separated list of directories
                                         # (change requires restart)
#unix_socket_group = ''                  # (change requires restart)
#unix_socket_permissions = 0777         # begin with 0 to use octal notation
                                         # (change requires restart)
#bonjour = off                           # advertise server via Bonjour
                                         # (change requires restart)
#bonjour_name = ''                       # defaults to the computer name
                                         # (change requires restart)

## - TCP settings -

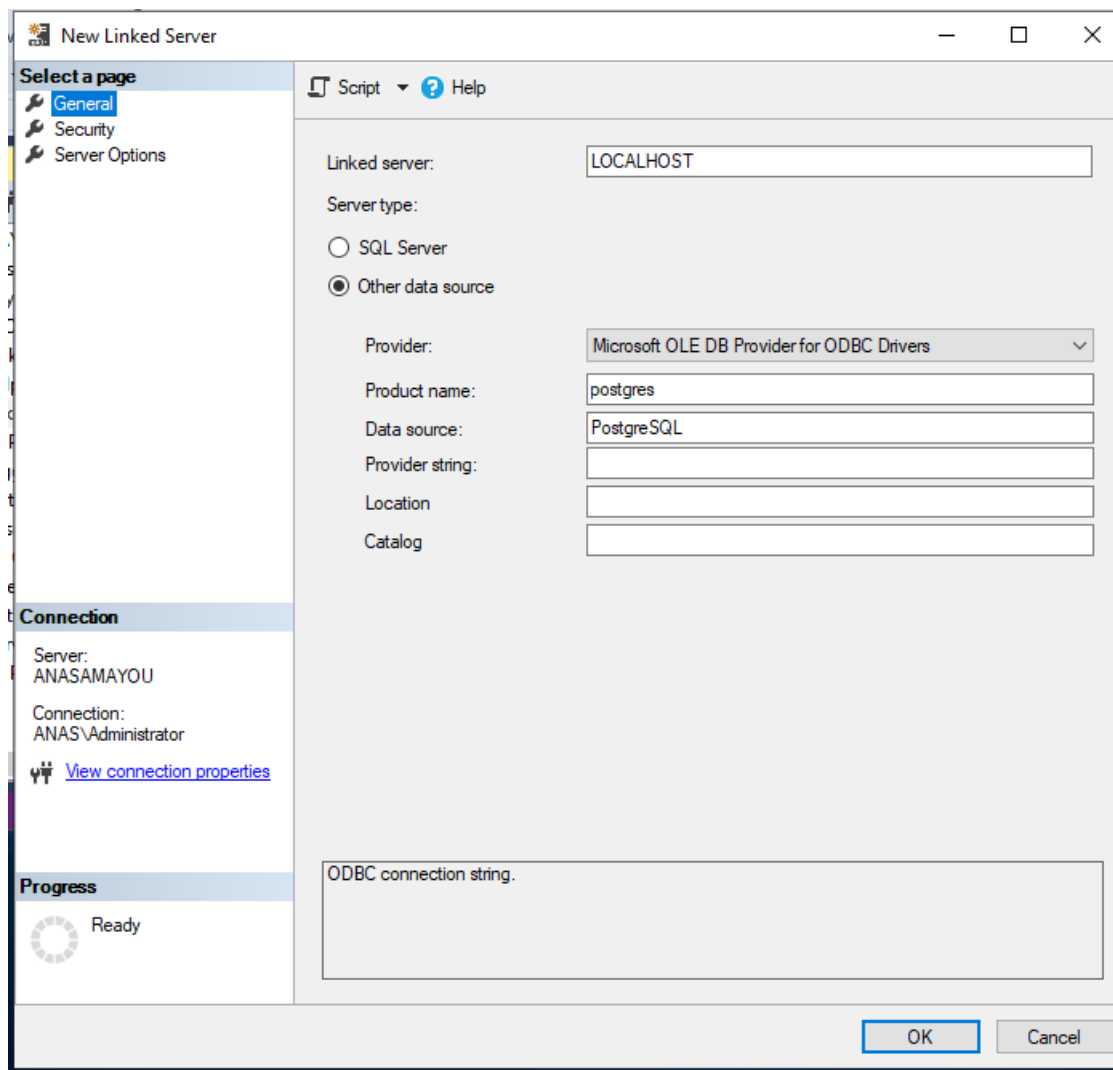
^G Get Help  ^O Write Out ^W Where Is  ^K Cut Text  ^J Justify   ^C Cur Pos
^X Exit      ^R Read File ^_ Replace   ^U Paste Text ^T To Spell  ^_ Go To Line
```

→ajoute postgresql driver et etablier la connexion :

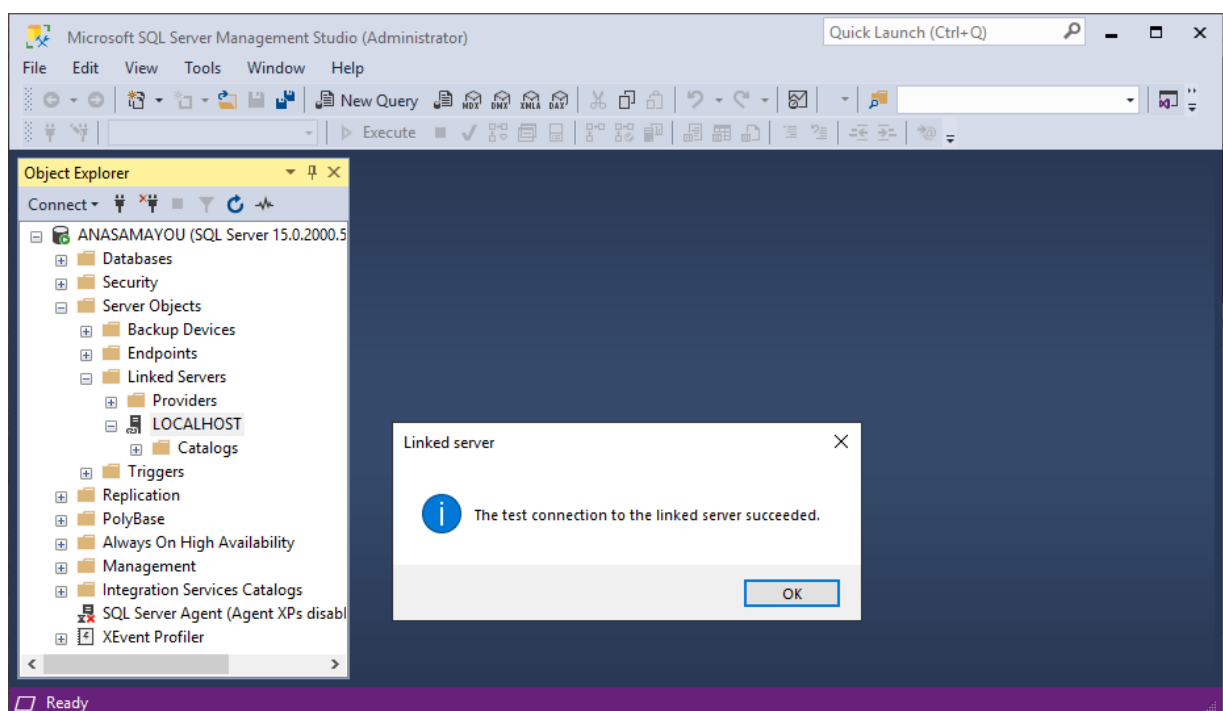




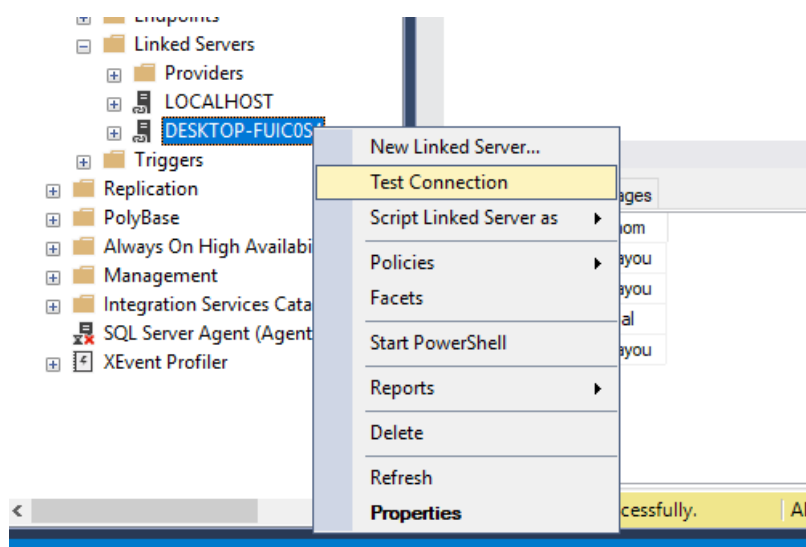
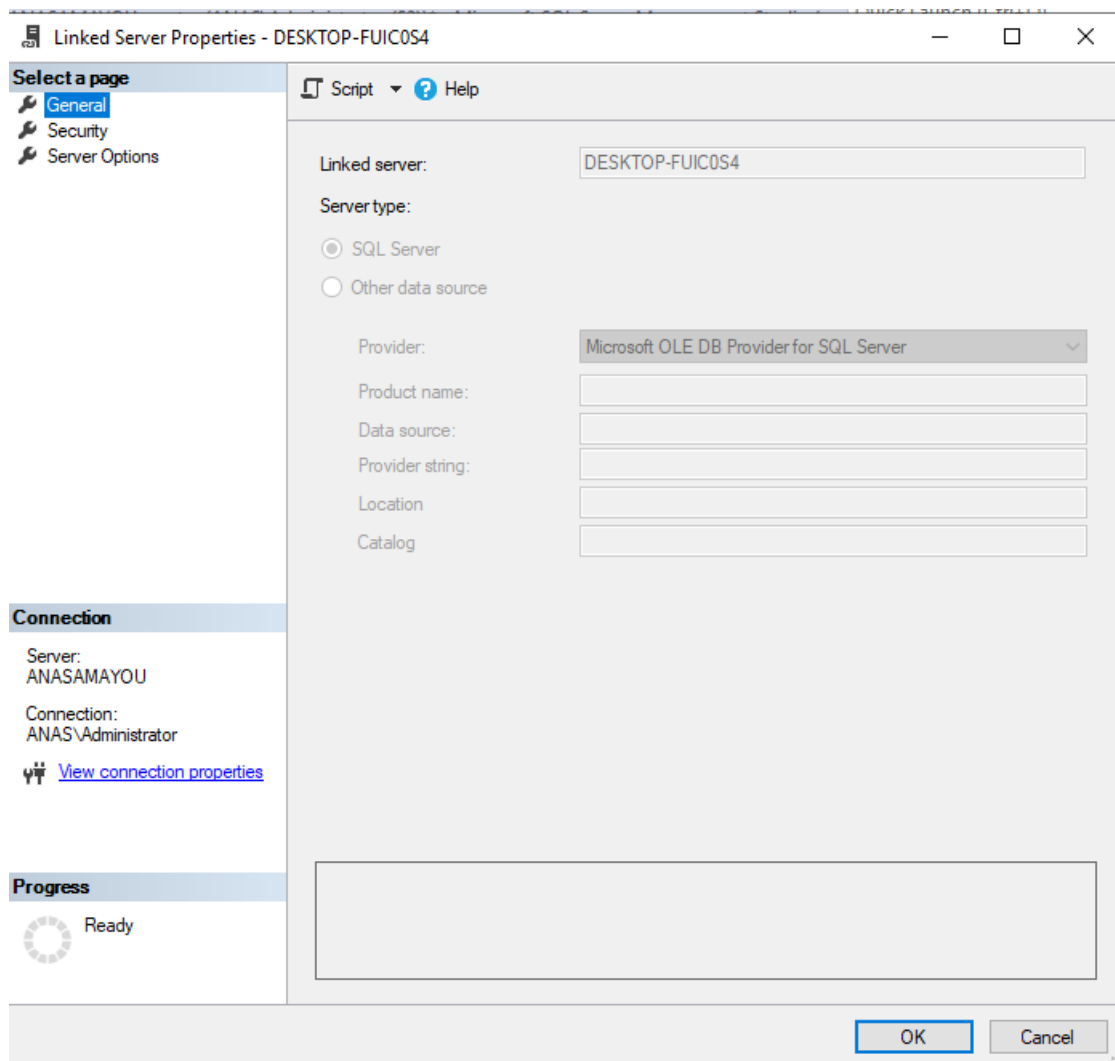
→ajoute postgresql en linked server :

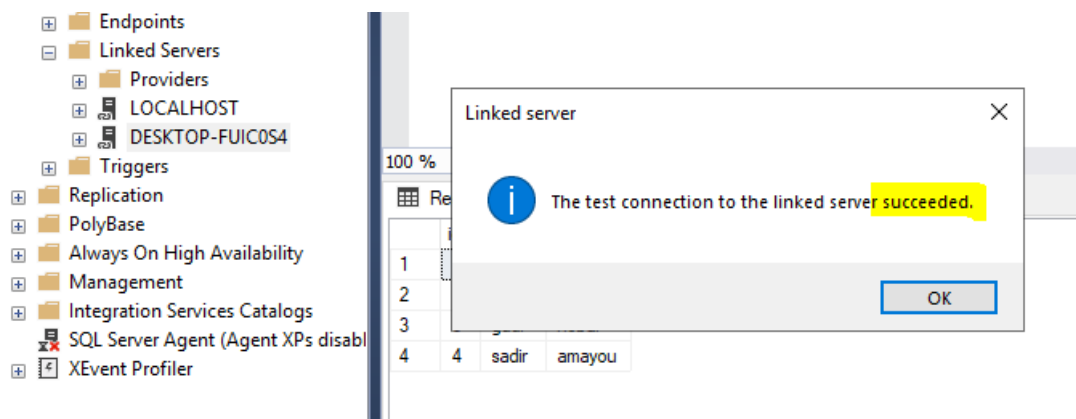


→test conection :



→ linked server to Host machine et test de connection :





→ oracle : installation et test connection linked server :

Perform full database installation with basic configuration.

Oracle base: Browse...

Software location: C:\Users\Del\Downloads\db_home

Database file location: Browse...

Database edition: Enterprise Edition

Character set: Unicode (AL32UTF8)

Global database name:

Password: Confirm password:

☒ Create as Container database

Pluggable database name:

Worksheet | Query Builder

```

create table etudiantbd4 (
  id int ,
  name VARCHAR(20),
  prenom VARCHAR(20)
)

insert into etudiantbd4 values (10,'yassmin','ajaouili');

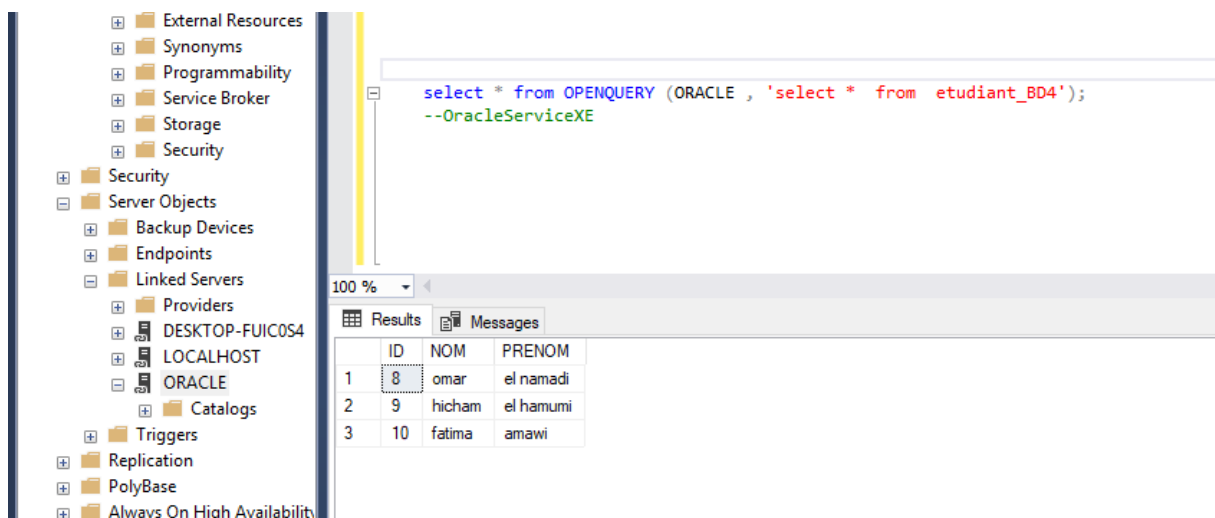
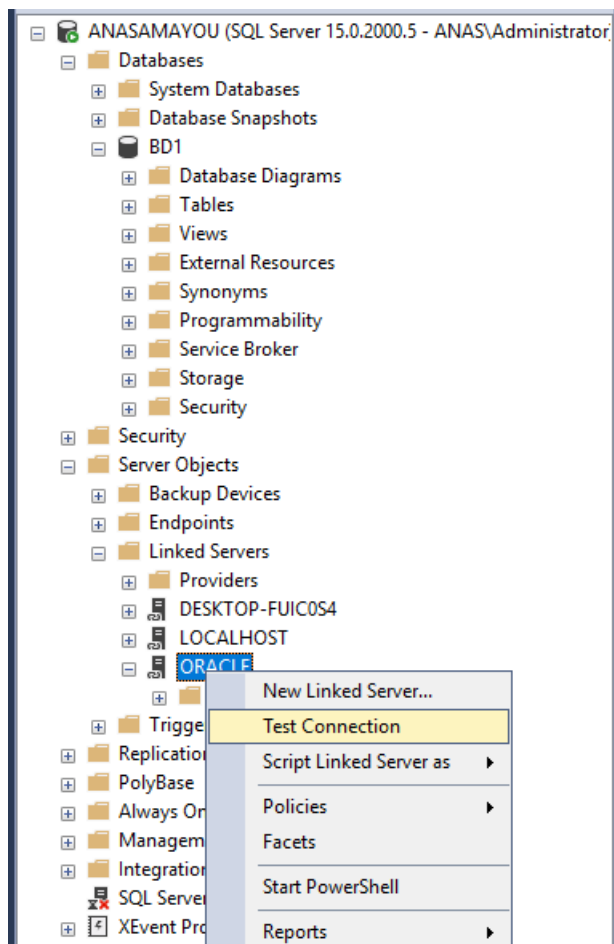
select * from etudiantbd4 ;

```

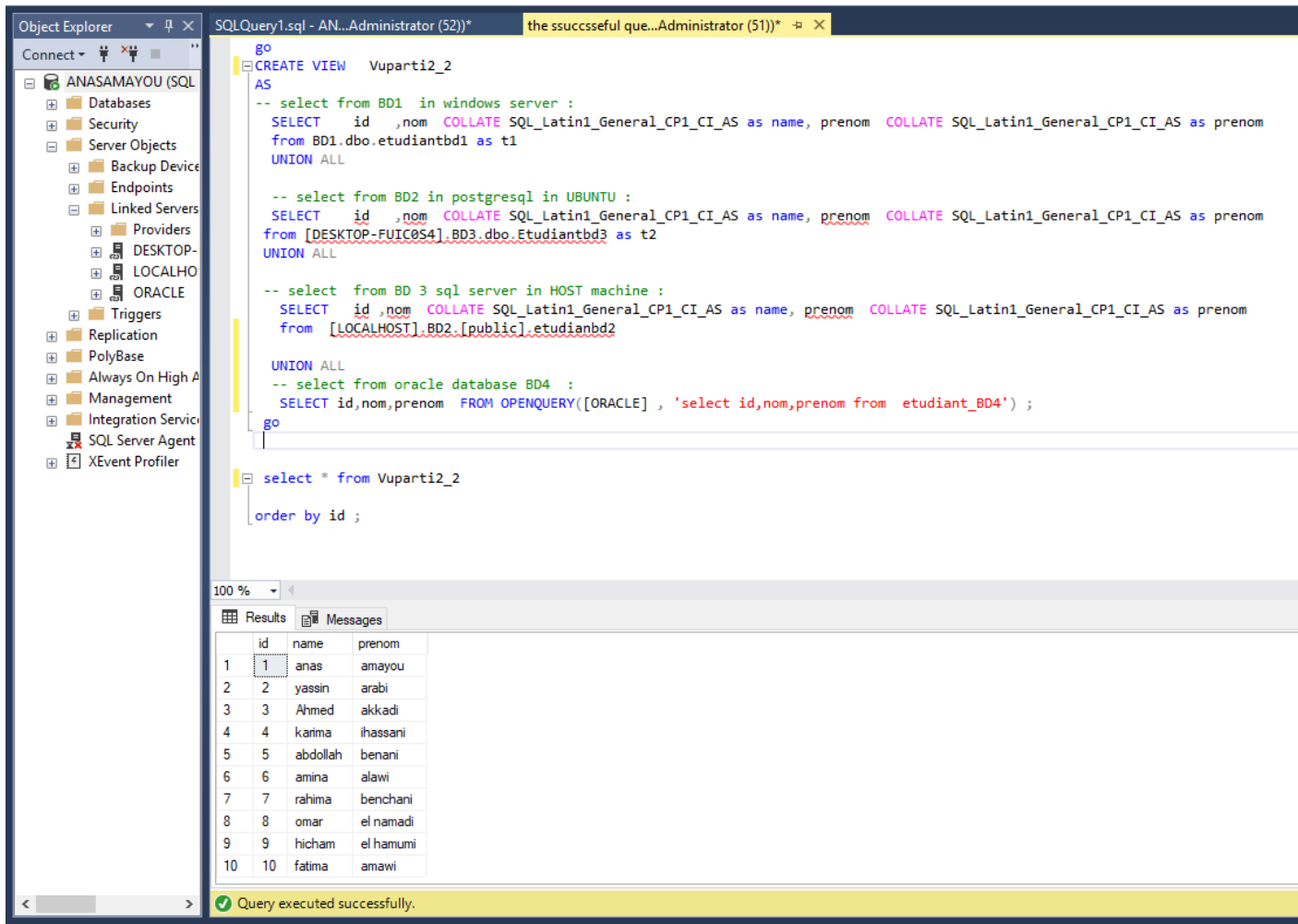
Script Output | Query Result

SQL | All Rows Fetched: 3 in 0.008 seconds

ID	NAME	PRENOM
1	8 hicham	el moutawakil
2	9 oram	AKADIL
3	10 yassmin	ajaouili



Phase 2 : une vue partitionnée basée sur les 4 bases de données. (question 1)



```
go
CREATE VIEW Vupart12_2
AS
-- select from BD1 in windows server :
SELECT id ,nom COLLATE SQL_Latin1_General_CP1_CI_AS as name, prenom COLLATE SQL_Latin1_General_CP1_CI_AS as prenom
from BD1.dbo.etudiantbd1 as t1
UNION ALL

-- select from BD2 in postgresql in UBUNTU :
SELECT id ,nom COLLATE SQL_Latin1_General_CP1_CI_AS as name, prenom COLLATE SQL_Latin1_General_CP1_CI_AS as prenom
from [DESKTOP-FUIC0S4].BD3.dbo.Etudiantbd3 as t2
UNION ALL

-- select from BD 3 sql server in HOST machine :
SELECT id ,nom COLLATE SQL_Latin1_General_CP1_CI_AS as name, prenom COLLATE SQL_Latin1_General_CP1_CI_AS as prenom
from [LOCALHOST].BD2.[public].etudianbd2
UNION ALL

-- select from oracle database BD4 :
SELECT id,nom,prenom FROM OPENQUERY([ORACLE] , 'select id,nom,prenom from etudiant_BD4') ;
go

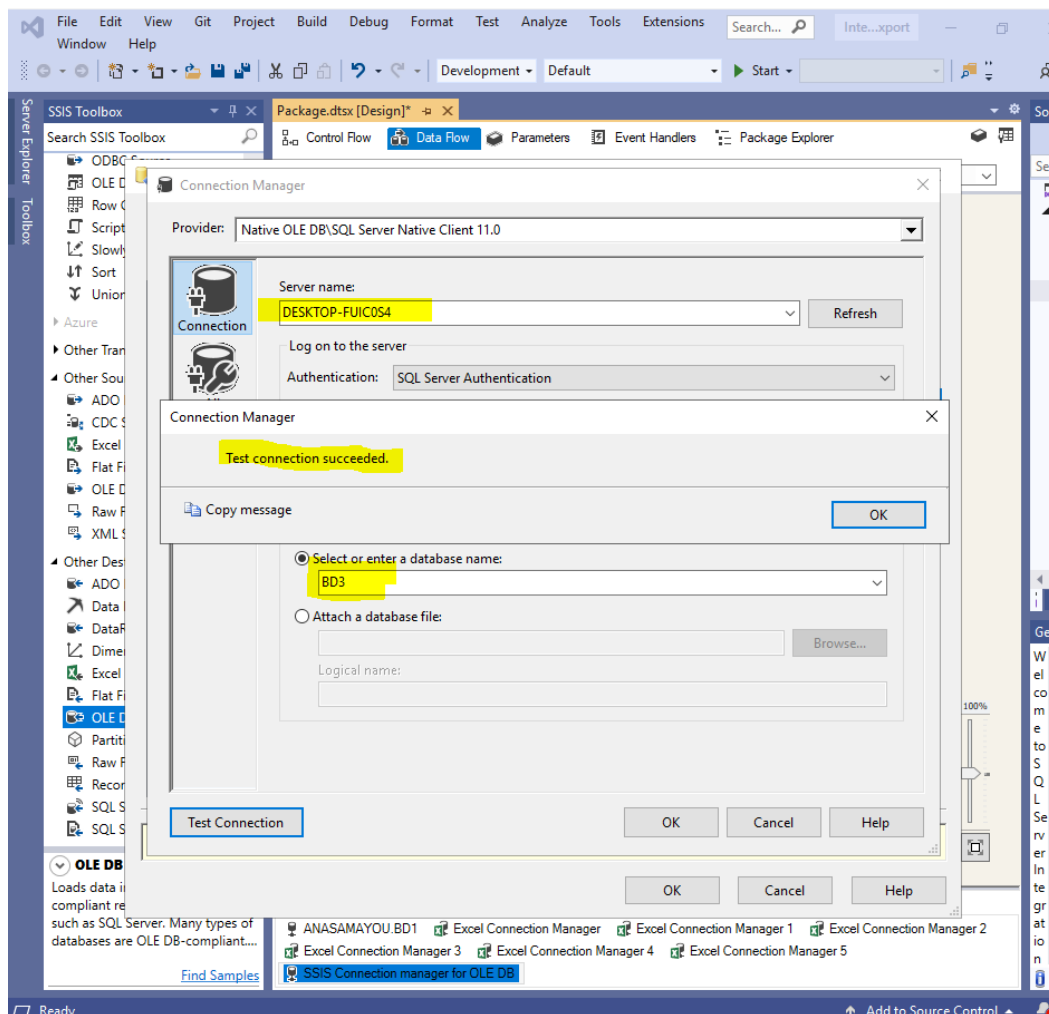
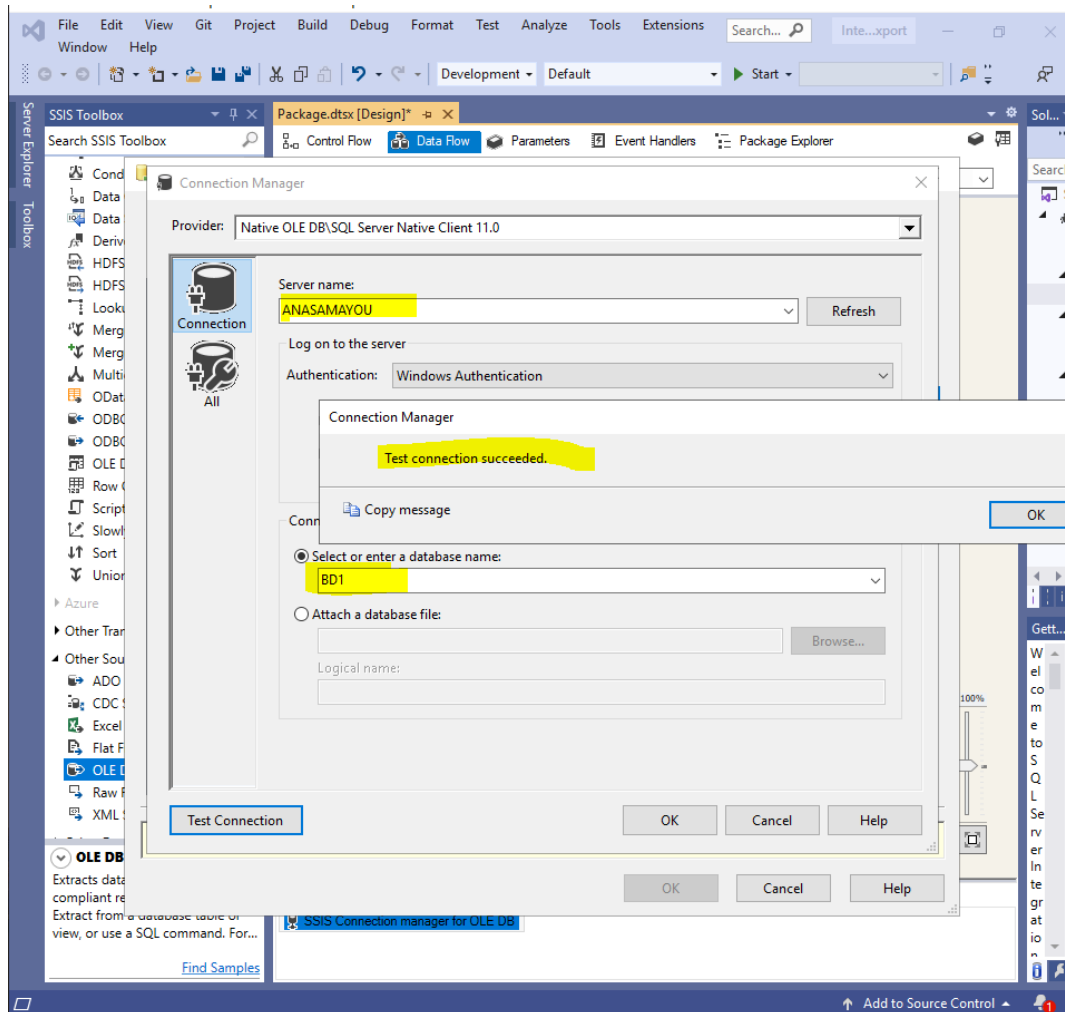
select * from Vupart12_2

order by id ;
```

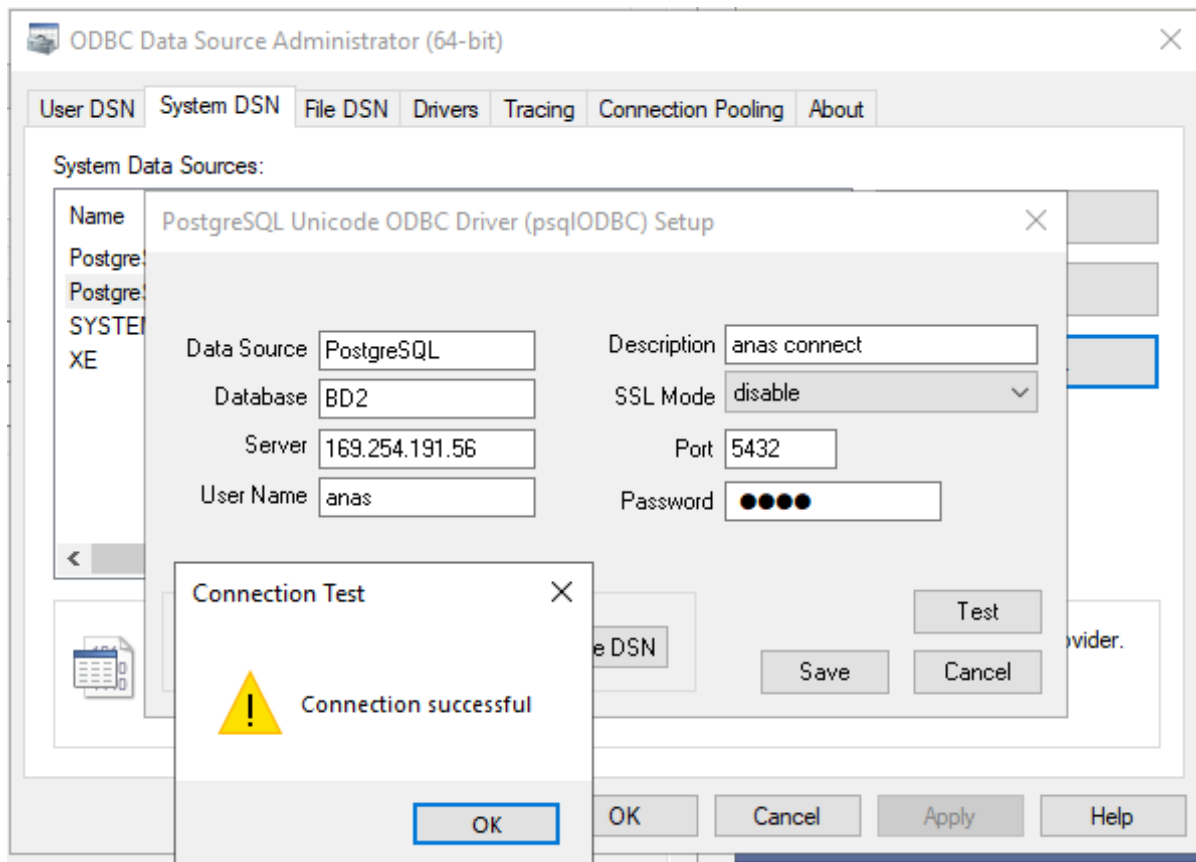
	id	name	prenom
1	1	anas	amayou
2	2	yassin	arabi
3	3	Ahmed	akkadi
4	4	karima	ihassani
5	5	abdollah	benani
6	6	amina	alawi
7	7	rahima	benchani
8	8	omar	el namadi
9	9	hicham	el hamumi
10	10	fatima	amawi

Query executed successfully.

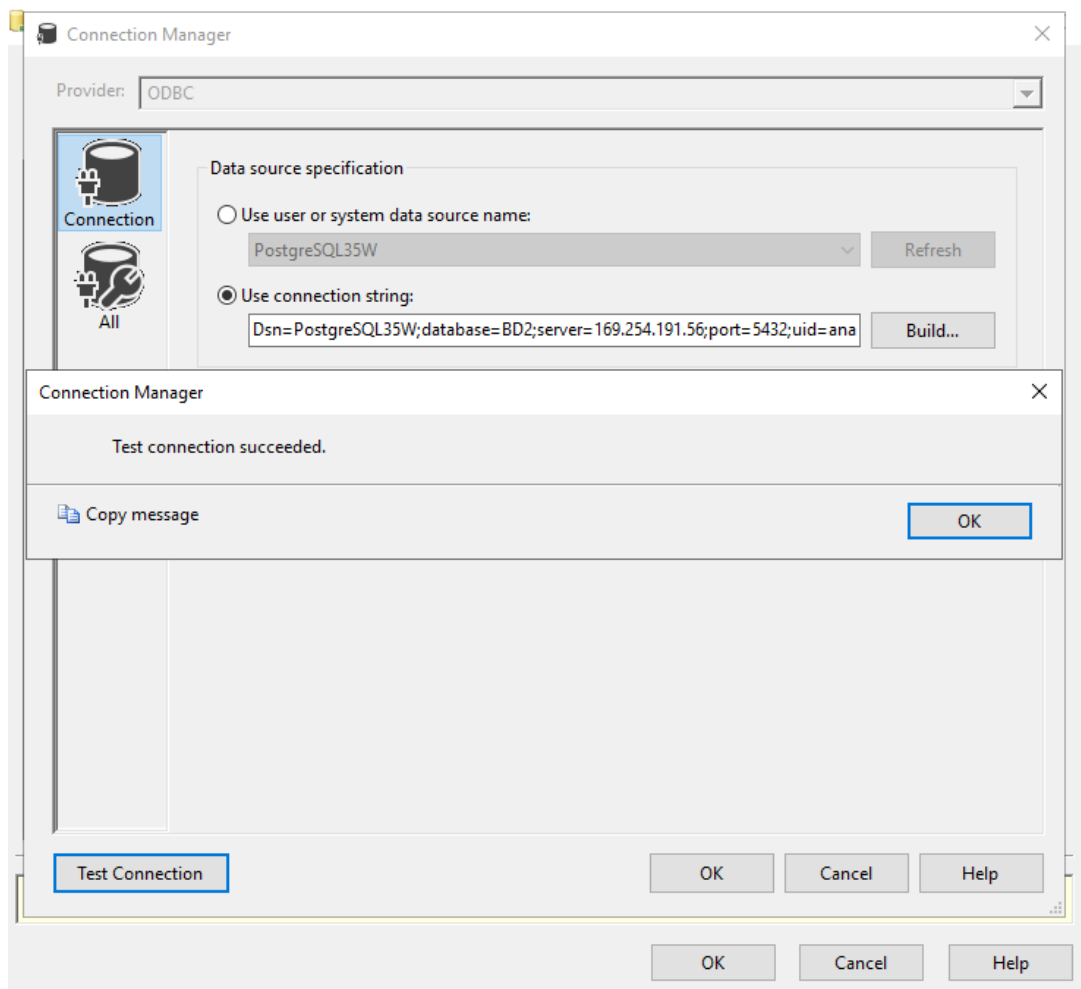
Phase 3 : creation un package SSIS montrant l'exportation, en même temps, de données de BD1 vers..(question 2)



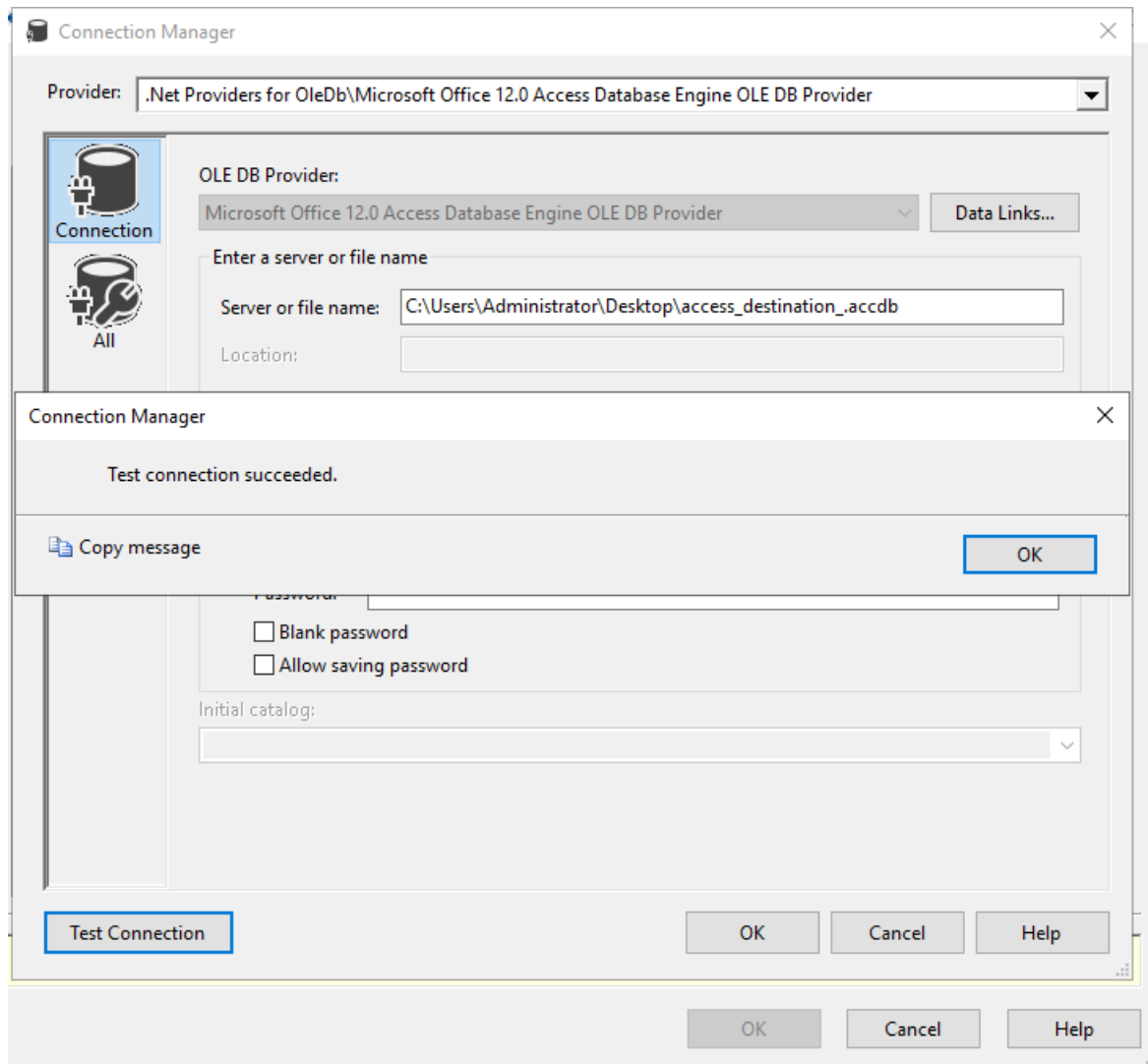
➔ Postgresql provider :



➔test :



→ Access database :

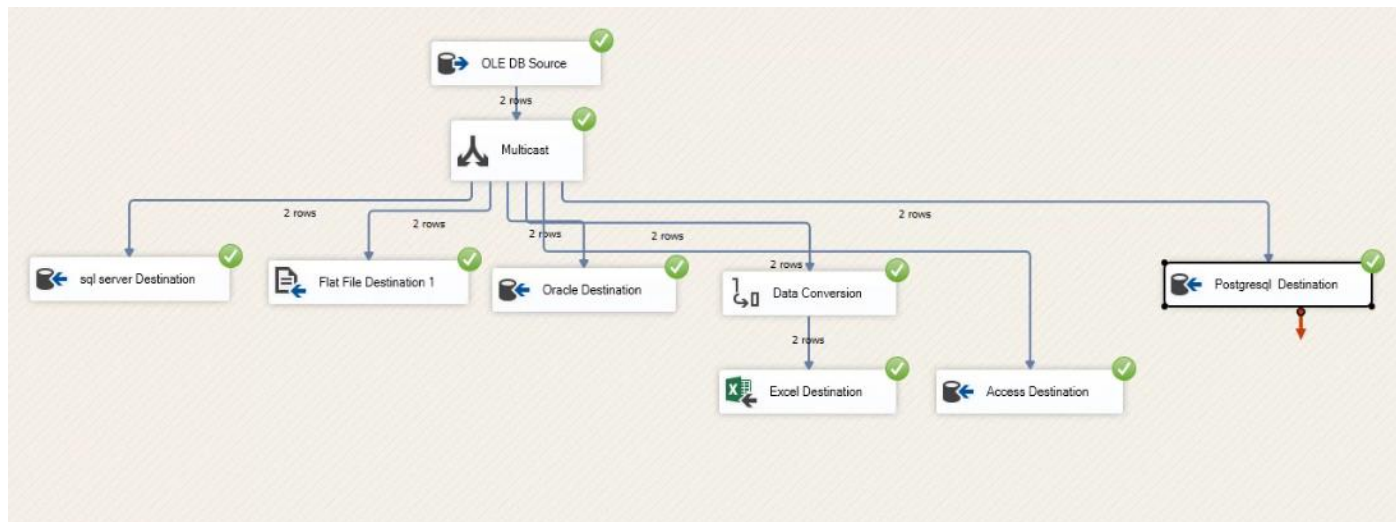


(même chose pour Excel)

Enfinement : voila la création un package SSIS montrant l'exportation, en même temps, de données de BD1

vers :

- a. les 3 autres bases de données**
- b. une base de données Access**
- c. un fichier Excel**
- d. un fichier texte**



Finalement ce projet a été vraiment un projet intéressant et "challenging" . merci !