

# TP : Applications des bases de données

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Objectifs du TP :

Installer le système d'authentification freeradius et le coupler avec une base de données de type mysql

Vous apprendrez :

a- à exécuter un script sql

b- à paramétrer une application pour qu'elle utilise une base de données

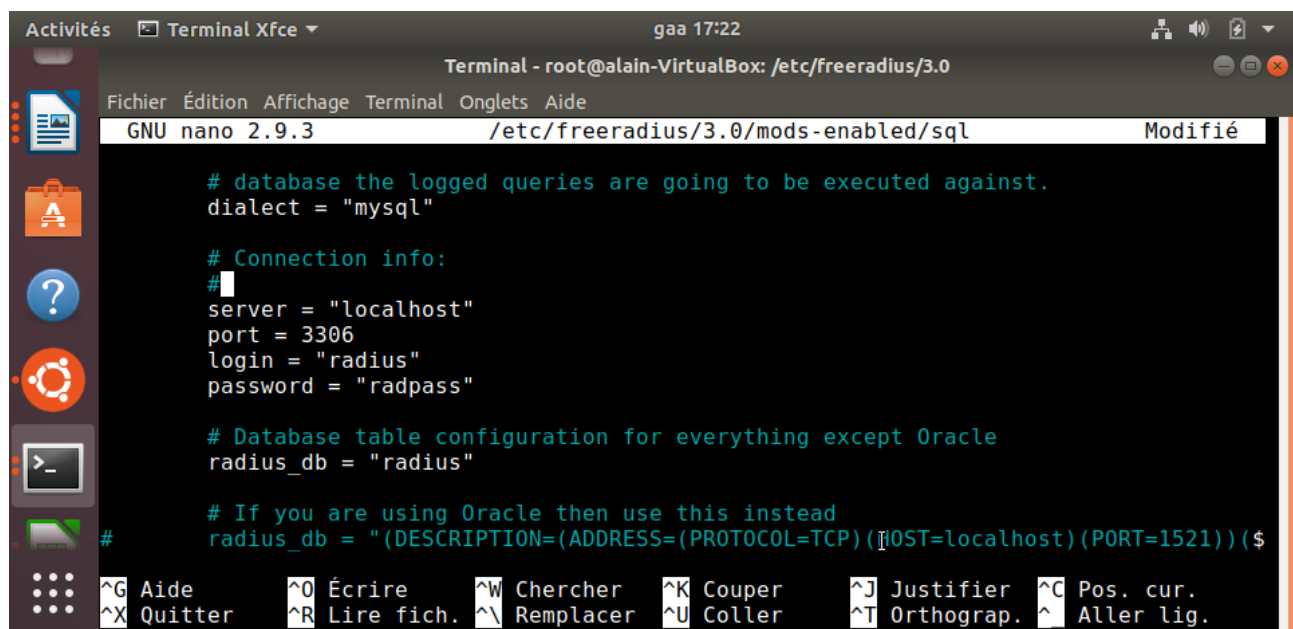
1- on vous demande d'installer les paquets freeradius freeradius-utils et freeradius-mysql

2- Aller dans le dossier /etc/freeradius/3.0/mods-config/sql/main/mysql

2.1 Que contient le fichier schema.sql ?

2.2 Que contient le fichier setup.sql ?

3- interpréter la figure 1



```
GNU nano 2.9.3 /etc/freeradius/3.0/mods-enabled/sql Modifié

# database the logged queries are going to be executed against.
dialect = "mysql"

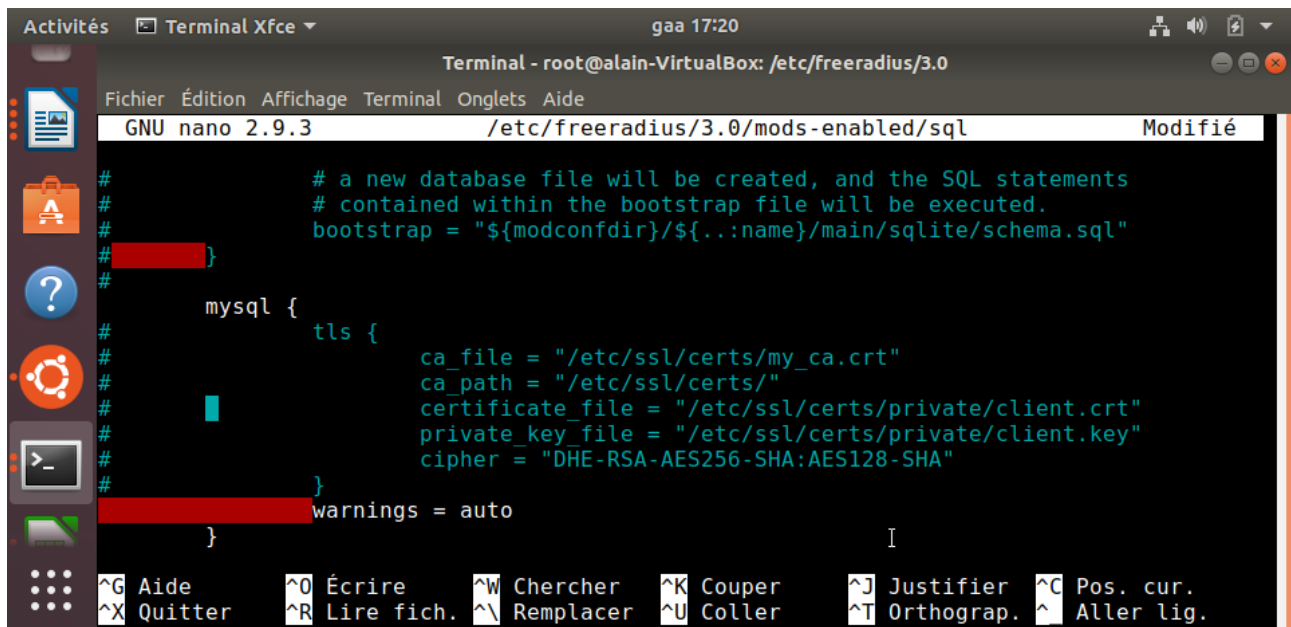
# Connection info:
#
server = "localhost"
port = 3306
login = "radius"
password = "radpass"

# Database table configuration for everything except Oracle
radius_db = "radius"

# If you are using Oracle then use this instead
radius_db = "(DESCRIPTION=(ADDRESS=(PROTOCOL=TCP)(HOST=localhost)(PORT=1521))($

^G Aide      ^O Écrire   ^W Chercher  ^K Couper    ^J Justifier ^C Pos. cur.
^X Quitter   ^R Lire fich. ^\ Remplacer ^U Coller    ^T Orthograp. ^_ Aller lig.
```

fig 1

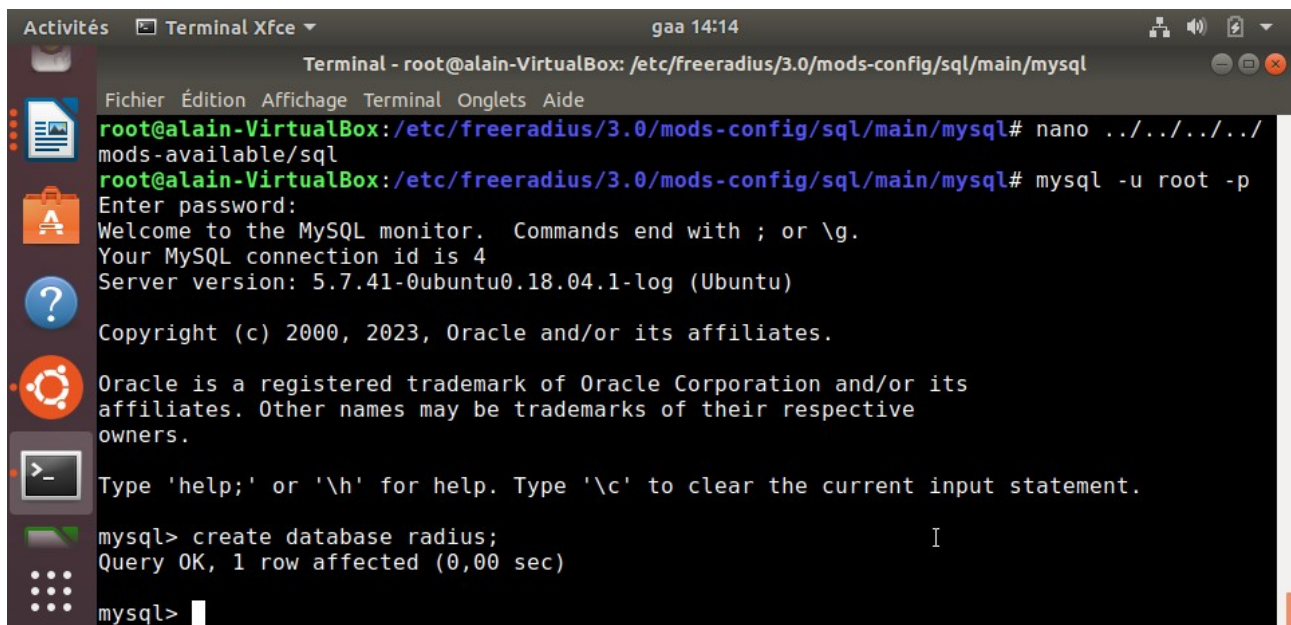


```
Terminal - root@alain-VirtualBox: /etc/freeradius/3.0
GNU nano 2.9.3 /etc/freeradius/3.0/mods-enabled/sql Modifié

# a new database file will be created, and the SQL statements
# contained within the bootstrap file will be executed.
bootstrap = "${modconfdir}/${!:.:name}/main/sqlite/schema.sql"
#
mysql {
  #
  #   tls {
  #       ca_file = "/etc/ssl/certs/my_ca.crt"
  #       ca_path = "/etc/ssl/certs/"
  #       certificate_file = "/etc/ssl/certs/private/client.crt"
  #       private_key_file = "/etc/ssl/certs/private/client.key"
  #       cipher = "DHE-RSA-AES256-SHA:AES128-SHA"
  #   }
  #
  warnings = auto
}
```

fig2

4- Intepreztez la figure suivante :



```
Terminal - root@alain-VirtualBox: /etc/freeradius/3.0/mods-config/sql/main/mysql
root@alain-VirtualBox:/etc/freeradius/3.0/mods-config/sql/main/mysql# nano ../../../../mods-available/sql
root@alain-VirtualBox:/etc/freeradius/3.0/mods-config/sql/main/mysql# mysql -u root -p
Enter password:
Welcome to the MySQL monitor.  Commands end with ; or \g.
Your MySQL connection id is 4
Server version: 5.7.41-0ubuntu0.18.04.1-log (Ubuntu)

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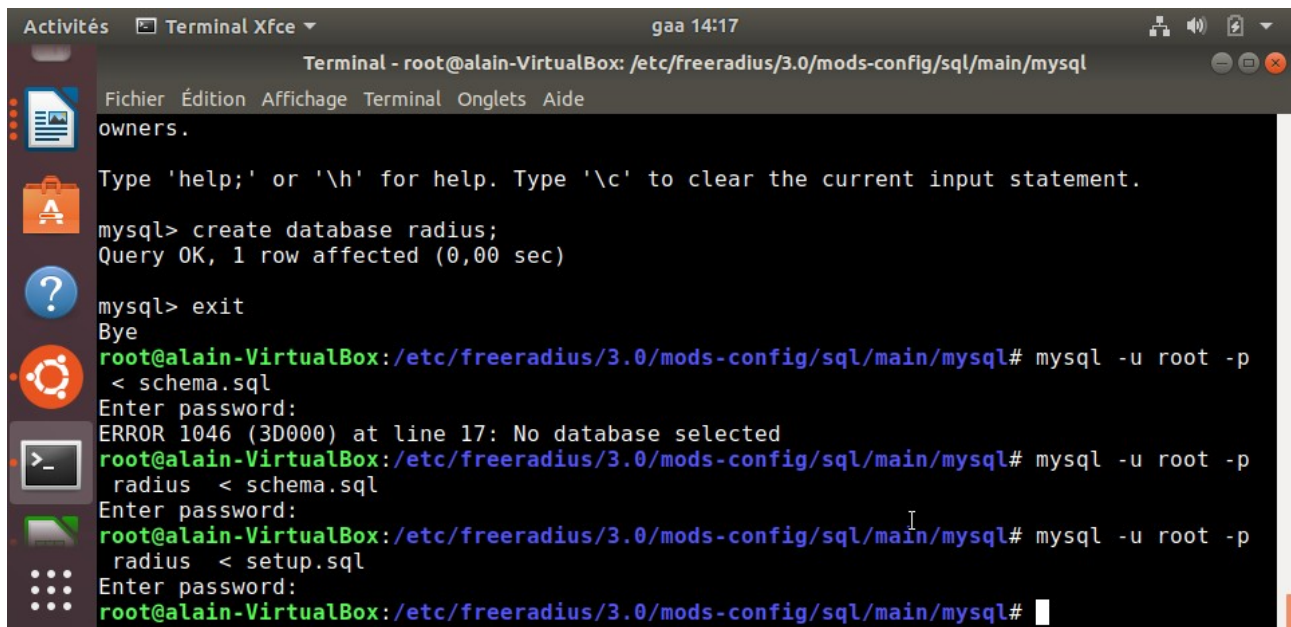
Type 'help;' or '\h' for help. Type '\c' to clear the current input statement.

mysql> create database radius;
Query OK, 1 row affected (0,00 sec)

mysql>
```

fig3

4- Interpréter la figure 4



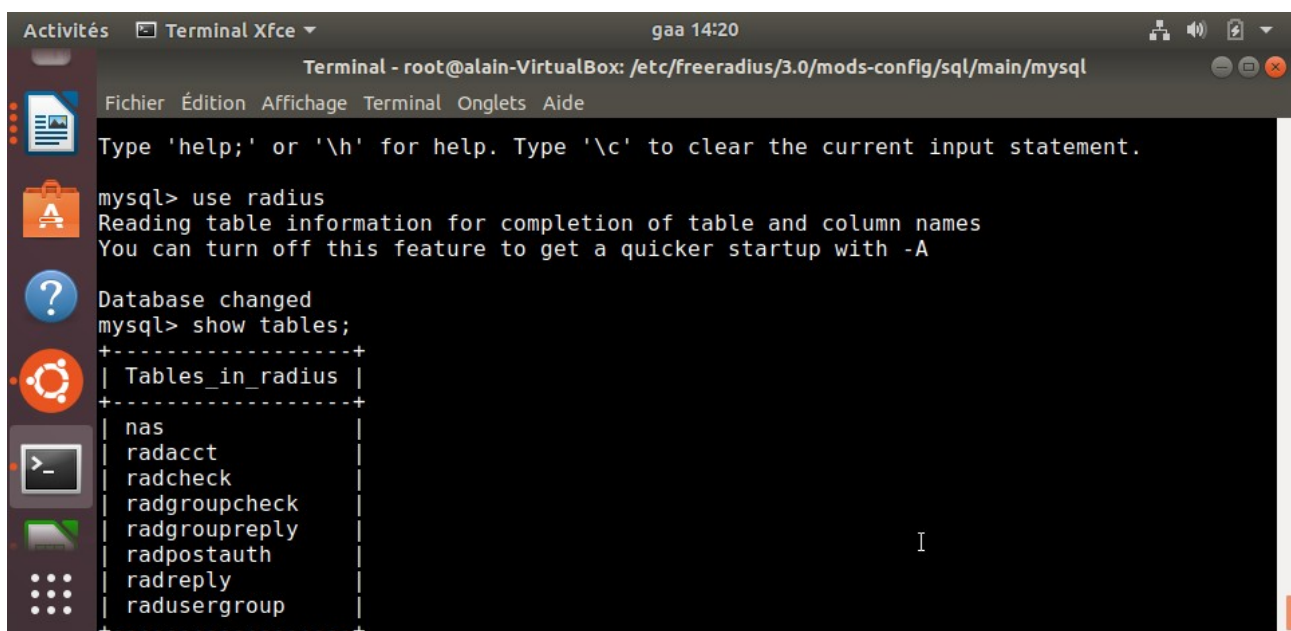
A terminal window titled "Terminal - root@alain-VirtualBox: /etc/freeradius/3.0/mods-config/sql/main/mysql" with a menu bar (Fichier, Édition, Affichage, Terminal, Onglets, Aide) and a status bar (gaa 14:17). The terminal shows the following sequence of commands and output:

```
owners.
Type 'help;' or '\h' for help. Type '\c' to clear the current input statement.
mysql> create database radius;
Query OK, 1 row affected (0,00 sec)

mysql> exit
Bye
root@alain-VirtualBox:/etc/freeradius/3.0/mods-config/sql/main/mysql# mysql -u root -p
< schema.sql
Enter password:
ERROR 1046 (3D000) at line 17: No database selected
root@alain-VirtualBox:/etc/freeradius/3.0/mods-config/sql/main/mysql# mysql -u root -p
radius < schema.sql
Enter password:
root@alain-VirtualBox:/etc/freeradius/3.0/mods-config/sql/main/mysql# mysql -u root -p
radius < setup.sql
Enter password:
root@alain-VirtualBox:/etc/freeradius/3.0/mods-config/sql/main/mysql#
```

fig4

5- Interpréter la figure 5



A terminal window titled "Terminal - root@alain-VirtualBox: /etc/freeradius/3.0/mods-config/sql/main/mysql" with a menu bar (Fichier, Édition, Affichage, Terminal, Onglets, Aide) and a status bar (gaa 14:20). The terminal shows the following sequence of commands and output:

```
Type 'help;' or '\h' for help. Type '\c' to clear the current input statement.
mysql> use radius
Reading table information for completion of table and column names
You can turn off this feature to get a quicker startup with -A

Database changed
mysql> show tables;
+-----+
| Tables_in_radius |
+-----+
| nas               |
| radacct           |
| radcheck          |
| radgroupcheck     |
| radgroupreply     |
| radpostauth       |
| radreply          |
| radusergroup      |
+-----+
```

fig5

6- Interpréter la figure 6

```

Activités Terminal Xfce gaa 14:22
Terminal - root@alain-VirtualBox: /etc/freeradius/3.0/mods-config/sql/main/mysql

Fichier Édition Affichage Terminal Onglets Aide

| radgroupreply |
| radpostauth  |
| radreply     |
| radusergroup |
+-----+
8 rows in set (0,00 sec)

mysql> desc radcheck ;
+-----+-----+-----+-----+-----+-----+
| Field | Type | Null | Key | Default | Extra |
+-----+-----+-----+-----+-----+-----+
| id    | int(11) unsigned | NO | PRI | NULL | auto_increment |
| username | varchar(64) | NO | MUL | | |
| attribute | varchar(64) | NO | | | |
| op     | char(2) | NO | | == | |
| value  | varchar(253) | NO | | | |
+-----+-----+-----+-----+-----+-----+
5 rows in set (0,00 sec)

mysql>

```

fig

7- interpretez l'écran suivant :

```

Activités Terminal Xfce gaa 14:29
Terminal - root@alain-VirtualBox: /etc/freeradius/3.0/mods-config/sql/main/mysql

Fichier Édition Affichage Terminal Onglets Aide

+-----+-----+-----+-----+-----+-----+
5 rows in set (0,00 sec)

mysql> insert into(username,attribute,op,value) values("edgard","Cleartext-Password",":=", "passer"),("ghislain","Cleartext-Password",":=", "passer");
ERROR 1064 (42000): You have an error in your SQL syntax; check the manual that corresponds to your MySQL server version for the right syntax to use near '(username,attribute,op,value) values("edgard","Cleartext-Password",":=", "passer")' at line 1
mysql> insert into(username,attribute,op,value) values("edgard","Cleartext-Password",":=", "passer"),("ghislain","Cleartext-Password",":=", "passer");
ERROR 1064 (42000): You have an error in your SQL syntax; check the manual that corresponds to your MySQL server version for the right syntax to use near '(username,attribute,op,value) values("edgard","Cleartext-Password",":=", "passer")' at line 1
mysql> insert into radcheck(username,attribute,op,value) values("edgard","Cleartext-Password",":=", "passer");
Query OK, 2 rows affected (0,05 sec)
Records: 2 Duplicates: 0 Warnings: 0

mysql>

```

fig6

8- commentez la figure 7

```

Terminal - root@alain-VirtualBox: /etc/freeradius/3.0
attr_filter      idn              realm
cache            inner-eap        redis
cache_eap        ippool           rediswho
chap            krb5             replicate
couchbase        ldap            rest
counter          linelog         smbpasswd
cui             logintime       smsotp
date            mac2ip          soh
detail          mac2vlan        sometimes
detail.example.com moonshot-targeted-ids sql
detail.log       mschap          sqlcounter
dhcp            ntlm_auth       sqlippool
dhcp_sqlippool  opendirectory   sradius
digest          otp             unbound
dynamic_clients pam              unix
eap            pap             unpack
echo          passwd          utf8

root@alain-VirtualBox:/etc/freeradius/3.0# ln -s /etc/freeradius/3.0/mods-available/sql
/etc/freeradius/3.0/mods-enabled/
root@alain-VirtualBox:/etc/freeradius/3.0#

```

fig7

9- interpréter la figure 8

```

Terminal - root@alain-VirtualBox: ~
mysql> select * from radcheck;
+----+-----+-----+-----+-----+
| id | username | attribute | op | value |
+----+-----+-----+-----+
| 1 | edgard | Cleartext-Password | := | passer |
| 2 | ghislain | Cleartext-Password | := | passer |
+----+-----+-----+-----+
2 rows in set (0,00 sec)

mysql> exit
Bye
root@alain-VirtualBox:~# radtest edgard passer localhost 1812 testing123
Sent Access-Request Id 208 from 0.0.0.0:41035 to 127.0.0.1:1812 length 76
  User-Name = "edgard"
  User-Password = "passer"
  NAS-IP-Address = 127.0.1.1
  NAS-Port = 1812
  Message-Authenticator = 0x00
  Cleartext-Password = "passer"
Received Access-Accept Id 208 from 127.0.0.1:1812 to 0.0.0.0:0 length 20

```

fig 8

9- Donnez votre conclusion générale sur une page