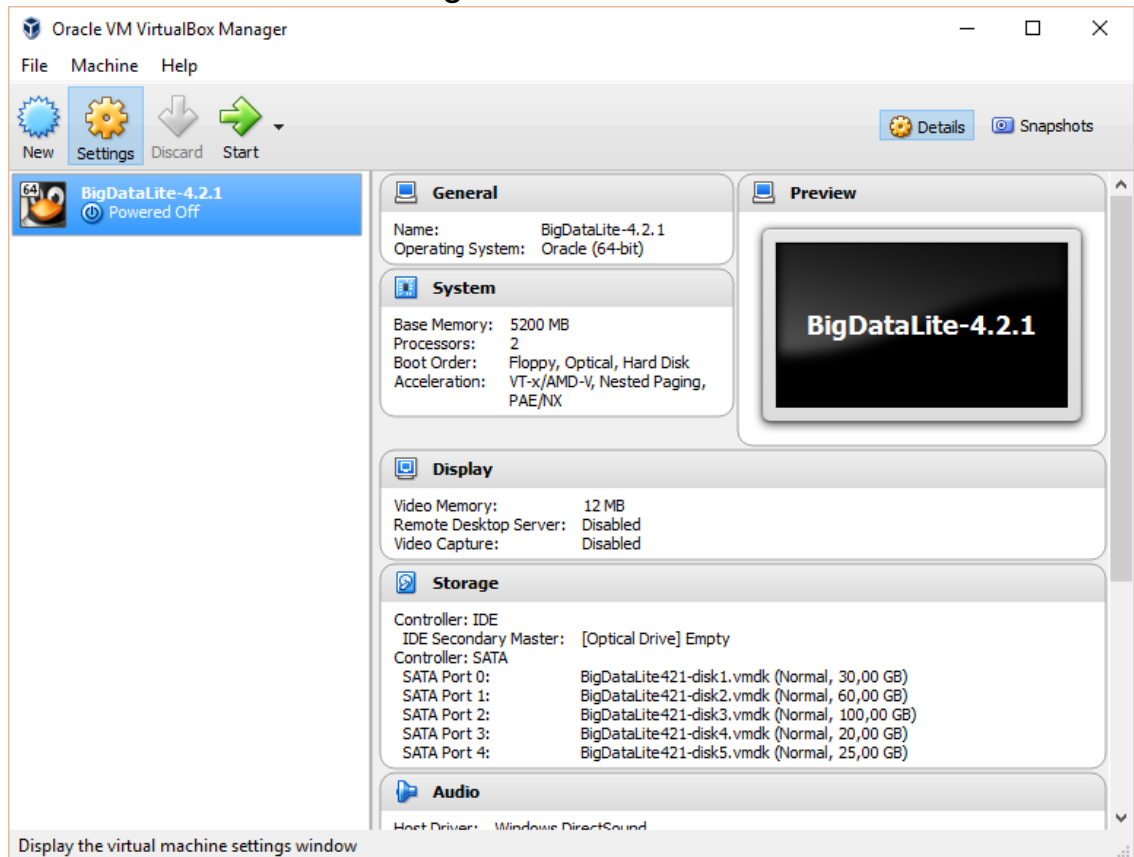
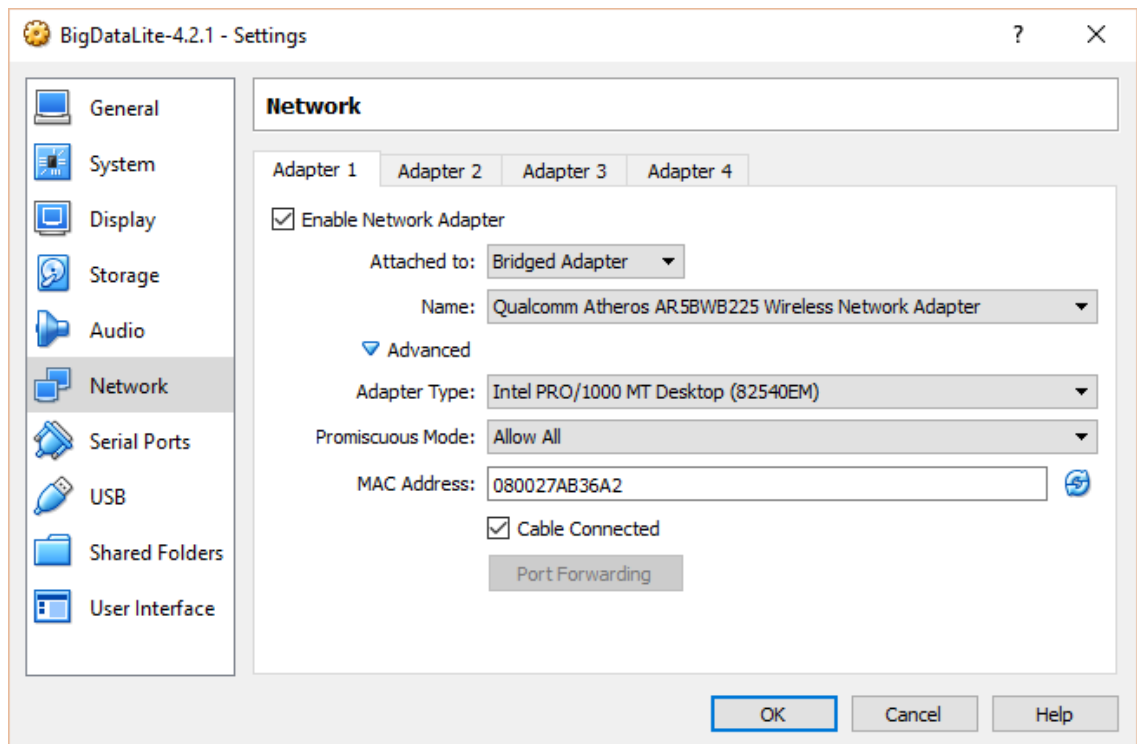


# Install R language and connect to VM with Oracle SQL DB server

1. Download and install [R language](#).
2. Download and install [RStudio](#) (optional).
3. Select your virtual machine with Oracle Linux Server in list of virtual machines and click “Settings” button:



4. In the opened window, select the “Network” section.
5. In the “Network” section change “Attache to:” field from NAT to Bridged adapter.
6. In the “Name” field, select the network adapter from your host machine that is connected to the internet or a local network.
7. Click on the “Advanced” label and in the “Promiscuous Mode” field select “Allow all”. Example:



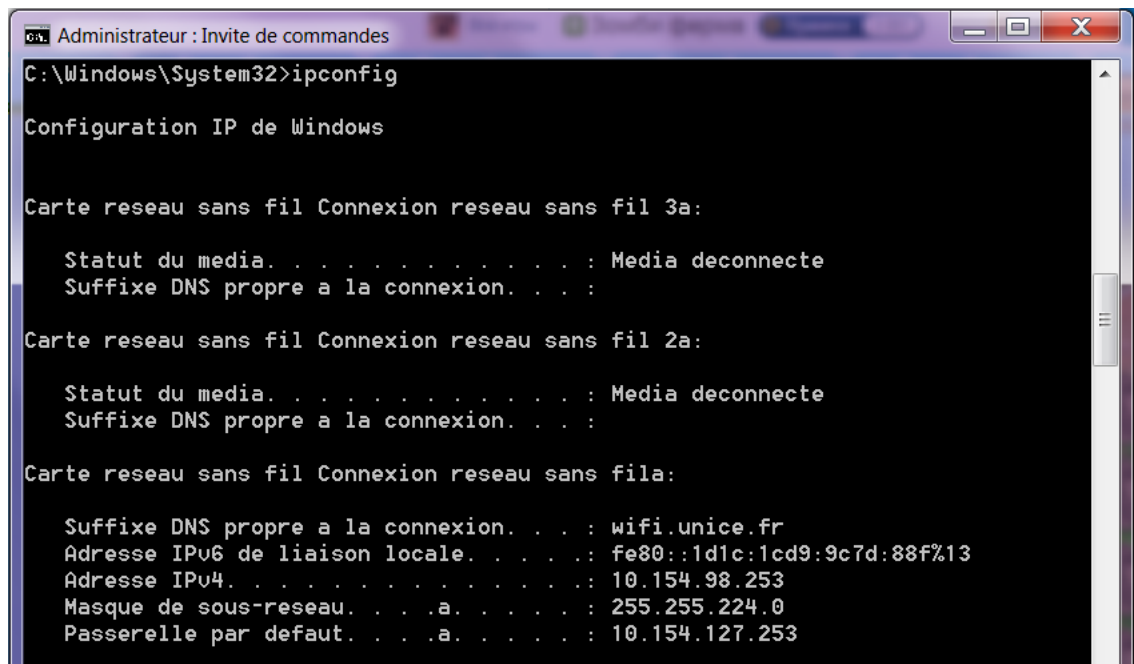
8. Click “OK” button.
9. Run your virtual machine.
10. Open a terminal and execute the command “ifconfig”. If in the description of used interface the “addr” field has an IP address, then go to step 16.

```

oracle@bigdatalite:~
File Edit View Search Terminal Help
[oracle@bigdatalite ~]$ ifconfig
eth4      Link encap:Ethernet  HWaddr 08:00:27:AB:36:A2
          inet6 addr: fe80::a00:27ff:feab:36a2/64 Scope:Link
          UP BROADCAST RUNNING MULTICAST  MTU:1500  Metric:1
          RX packets:11701 errors:0 dropped:0 overruns:0 frame:0
          TX packets:49 errors:0 dropped:0 overruns:0 carrier:0
          collisions:0 txqueuelen:1000
          RX bytes:1390313 (1.3 MiB)  TX bytes:13470 (13.1 KiB)

```

11. If in the description of used interface, the “addr” field is empty, in your host machine open a console and execute the command “ipconfig”. You should know the IP address, netmask and default gateway of the adapter, which is currently using.



```
Administrateur : Invite de commandes
C:\Windows\System32>ipconfig

Configuration IP de Windows

Carte reseau sans fil Connexion reseau sans fil 3a:

    Statut du media. . . . . : Media deconnecte
    Suffixe DNS propre a la connexion. . . :

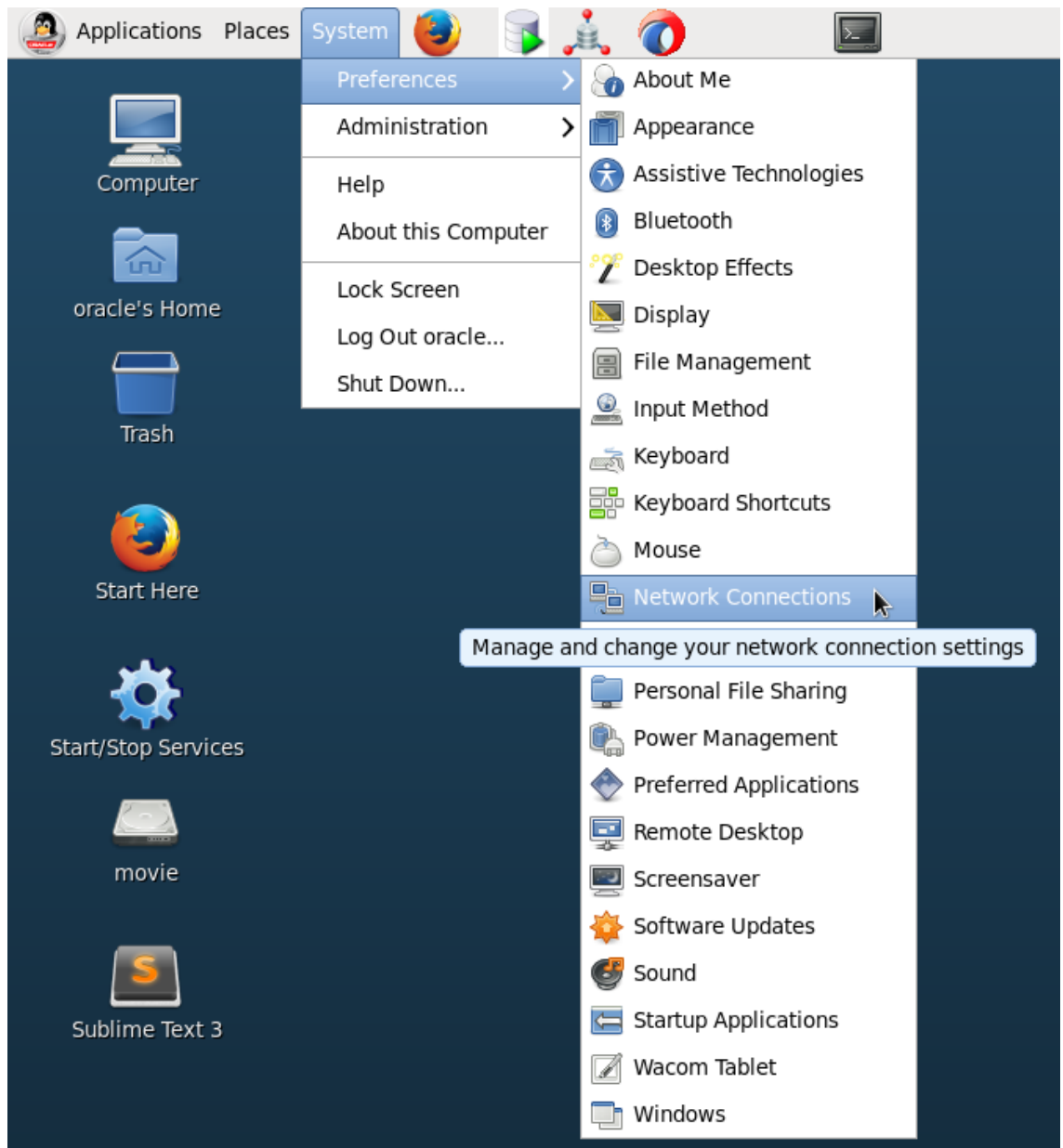
Carte reseau sans fil Connexion reseau sans fil 2a:

    Statut du media. . . . . : Media deconnecte
    Suffixe DNS propre a la connexion. . . :

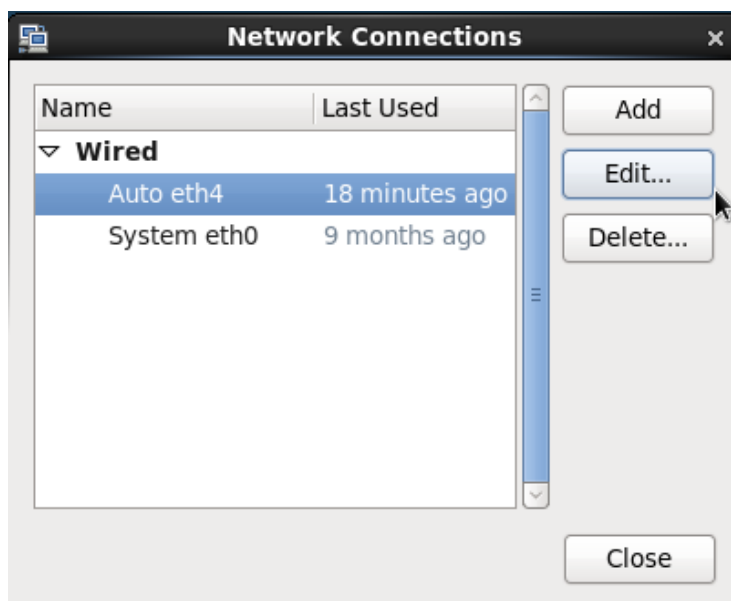
Carte reseau sans fil Connexion reseau sans fila:

    Suffixe DNS propre a la connexion. . . : wifi.unice.fr
    Adresse IPv6 de liaison locale. . . . : fe80::1d1c:1cd9:9c7d:88f%13
    Adresse IPv4. . . . . : 10.154.98.253
    Masque de sous-reseau. . . .a. . . . : 255.255.224.0
    Passerelle par defaut. . . .a. . . . : 10.154.127.253
```

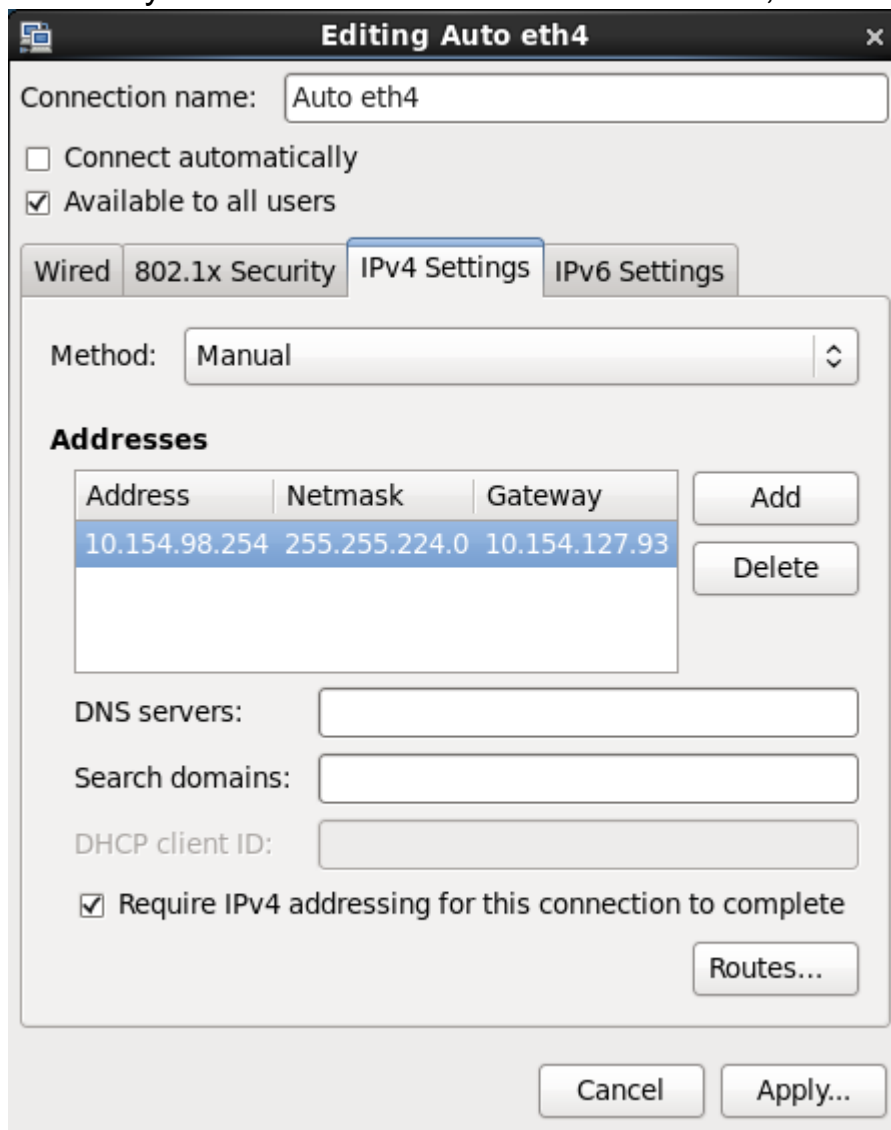
12. In your virtual machine click to the System -> Preferences -> Network Connections.



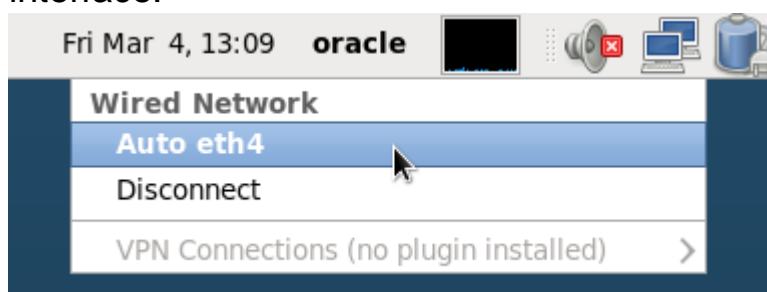
13. In the opened window select used interface and click “Edit” button:



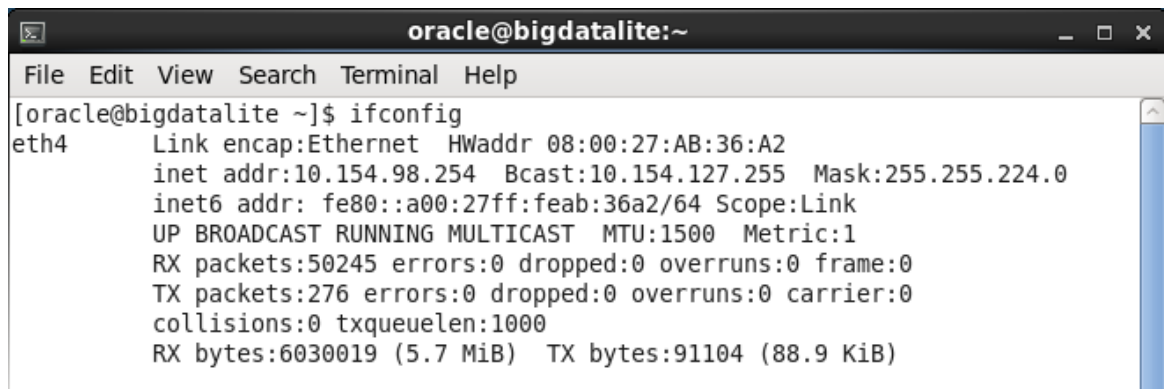
14. In the opened window click on the tab “IPv4 Settings”, choose “Manual” in the “Method” field and click “Add”. Write netmask and default gateway from host machine. IP address must be generated randomly. This can cause a conflict. After that, click “Apply”:



15. Reconnect to the network, for this click connections and select interface:

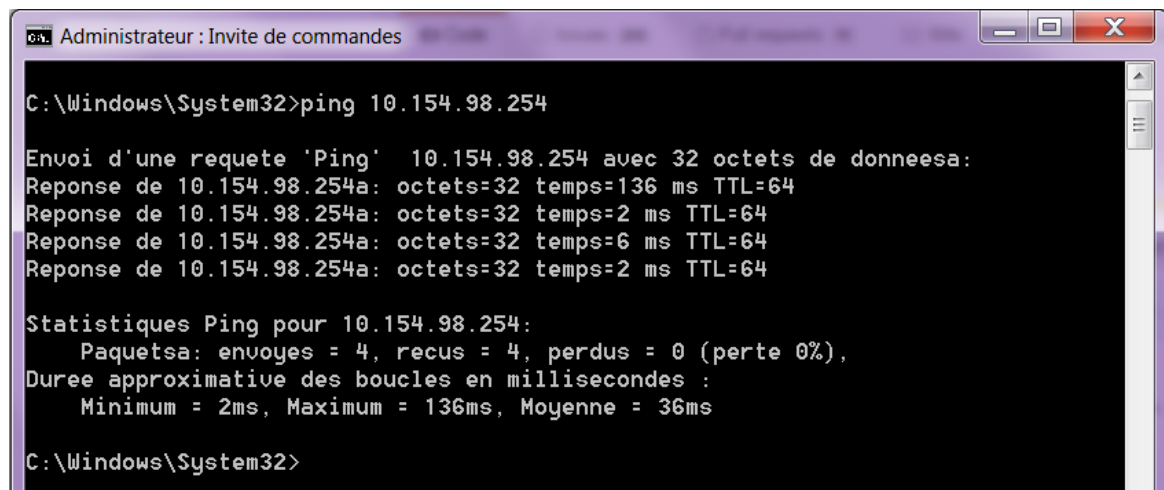


16. Now you can see IP of virtual machine in description of interface:

A terminal window titled 'oracle@bigdatalite:~' with a menu bar (File, Edit, View, Search, Terminal, Help). The command 'ifconfig' has been executed, showing details for the 'eth4' interface.

```
[oracle@bigdatalite ~]$ ifconfig
eth4      Link encap:Ethernet  HWaddr 08:00:27:AB:36:A2
          inet addr:10.154.98.254  Bcast:10.154.127.255  Mask:255.255.224.0
          inet6 addr: fe80::a00:27ff:feab:36a2/64 Scope:Link
          UP BROADCAST RUNNING MULTICAST  MTU:1500  Metric:1
          RX packets:50245 errors:0 dropped:0 overruns:0 frame:0
          TX packets:276 errors:0 dropped:0 overruns:0 carrier:0
          collisions:0 txqueuelen:1000
          RX bytes:6030019 (5.7 MiB)  TX bytes:91104 (88.9 KiB)
```

You can check ping to machine:

A Windows command prompt window titled 'Administrateur : Invite de commandes'. The command 'ping 10.154.98.254' has been executed, showing four successful replies and ping statistics.

```
C:\Windows\System32>ping 10.154.98.254

Envoi d'une requete 'Ping' 10.154.98.254 avec 32 octets de donnees:
Reponse de 10.154.98.254a: octets=32 temps=136 ms TTL=64
Reponse de 10.154.98.254a: octets=32 temps=2 ms TTL=64
Reponse de 10.154.98.254a: octets=32 temps=6 ms TTL=64
Reponse de 10.154.98.254a: octets=32 temps=2 ms TTL=64

Statistiques Ping pour 10.154.98.254:
    Paquets: envoyes = 4, recus = 4, perdus = 0 (perte 0%),
    Duree approximative des boucles en millisecondes :
        Minimum = 2ms, Maximum = 136ms, Moyenne = 36ms

C:\Windows\System32>
```

17. Now, you can connect to database from R in your host machine.  
Create folder for project in "My documents" directory. Example, "r-project". Download [Oracle Database JDBC Driver](#). Copy ojdbc6.jar to the r-project folder.

18. Use the following code to connect to database:

```
setwd("~/r-project/") #set working directory
install.packages("RJDBC") #install package for the
Oracle SQL Database connection
library(RJDBC) #load this library
driver <- JDBC("oracle.jdbc.OracleDriver",
classPath="~/r-project/ojdbc6.jar", " ") #load driver.
classPath represents to a directory with Oracle
Database JDBC Driver
connection <- dbConnect(driver,
"jdbc:oracle:thin:@10.154.109.228:1521:cdb", "system",
"welcomel") #create a connection. DATABASE LISTENER
SHOULD BE STARTED
test <- dbGetQuery(connection, "SELECT 'test' FROM
dual") #send query
test #print result
dbDisconnect(connection) #close connection
```