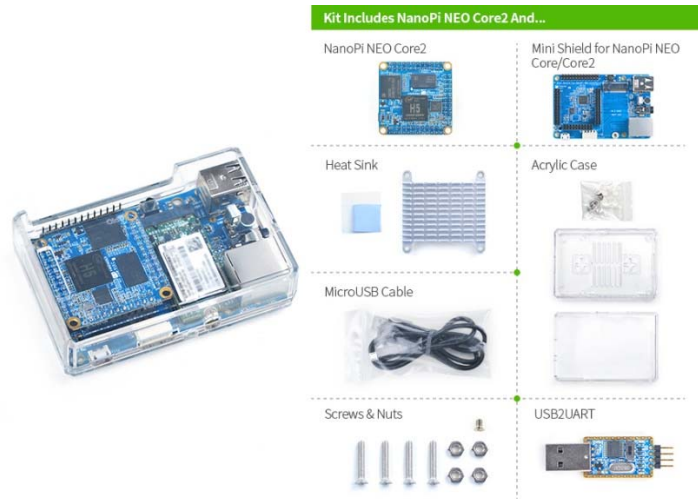


NANO PI CORE 2

PARTIE 1 : PREPARATION DE LA CARTE SD

a/ Achat du matériel :

https://www.friendlyarm.com/index.php?route=product/product&product_id=214



b/Téléchargement du fichier pour la carte SD (8 Go)

<https://drive.google.com/drive/folders/1moc57opcmlMle66bOCXgxA6OcoV7qrGh>

[fichier eflasher](#)

c/ Transférer le fichier *img sur la carte SD à l'aide d'un logiciel Win32dikimager ou

d/ Démarrer « Putty » à l'aide de l'IP du Système

logging : root
password : fa

envoyer les commandes :

```
$ sudo apt-get update && sudo apt-get upgrade -y  
$ sudo reboot
```

e/ Transfert à la mémoire emmc

Démarrer « Putty » à l'aide de l'IP du Système

Au prompt exécuter la commande :

```
$ eflasher
```

Prendre l'option 2 friendlycore-xenial puis « enter »

```
root@NanoPi-NEO-Core2: ~
-----
Ready to Go with Linux
-----
Ready to install
Version:
      2017-12-08
Path:
      /mnt/sdcard/FriendlyCore-Xenial
Image files:
      sunxi-spl.bin 32.00 KB
      u-boot.itb 528.24 KB
      boot.img 100.00 MB
      rootfs.img 1.11 GB
Total size:
      1.21 GB
Kernel parameter:
      Default
-----
>>> Do you wish to continue? (yes/no) :
yes
```

Répondre **yes** puis « enter »

```
root@NanoPi-NEO-Core2: ~
-----
Installing Linux
-----
Speed: 12.70 MB/s
Remaining Time: 00:01:26
[=====] 10%
-----
>>>If you want to cancel, input "c" then press <Enter> key.

```

\$ **sudo reboot** et enlever la SD

PARTIE 2: PROGRAMMATION XFCE4

Au prompt exécuter les commandes :

```
$ sudo apt-get update && sudo apt-get upgrade -y
```

Aux demandes répondre 2 fois « N »

```
$ sudo reboot
```

Au prompt exécuter les commandes :

```
login : pi
```

```
password : pi
```

```
$ sudo apt-get install xorg lightdm xfce4 tango-icon-theme
```

```
$ sudo apt-get install gnome-icon-theme
$ sudo reboot
```

Au prompt exécuter les commandes :

```
login : pi
```

```
password : pi
```

```
$ sudo apt-get install tightvncserver -y
```

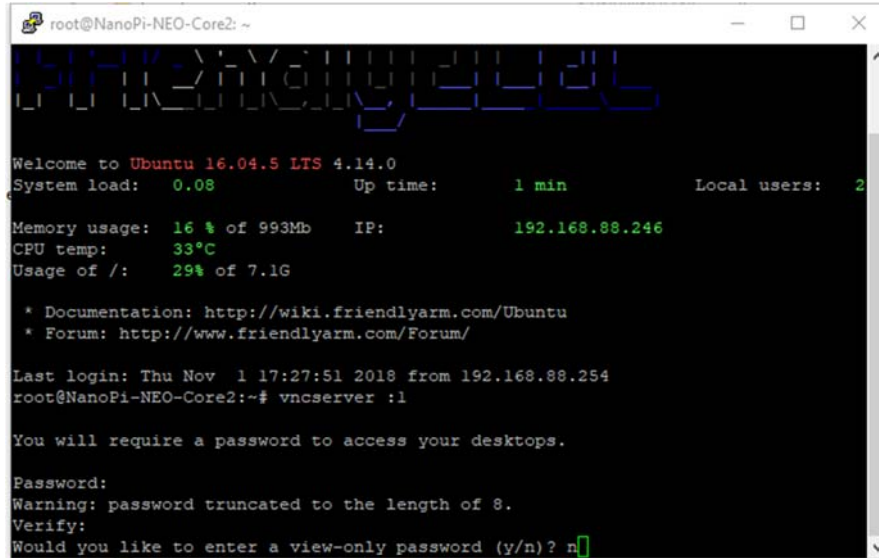
```
$ sudo apt-get install tightvncserver xfonds-base -y
```

```
$ vncserver :1
```

```
Mot de passe :xxx
```

```
Verify : xxxx
```

```
Puis répondre « n »
```



```
root@NanoPi-NEO-Core2: ~
Welcome to Ubuntu 16.04.5 LTS 4.14.0
System load:  0.08      Up time:       1 min      Local users:  2
Memory usage: 16 % of 993Mb  IP:           192.168.88.246
CPU temp:     33°C
Usage of /:   29% of 7.1G

* Documentation: http://wiki.friendlyarm.com/Ubuntu
* Forum: http://www.friendlyarm.com/Forum/

Last login: Thu Nov  1 17:27:51 2018 from 192.168.88.254
root@NanoPi-NEO-Core2:~# vncserver :1

You will require a password to access your desktops.

Password:
Warning: password truncated to the length of 8.
Verify:
Would you like to enter a view-only password (y/n)? n
```

Lancer VNCVIEWER à l'aide de l'IP

Prendre le bureau par défaut

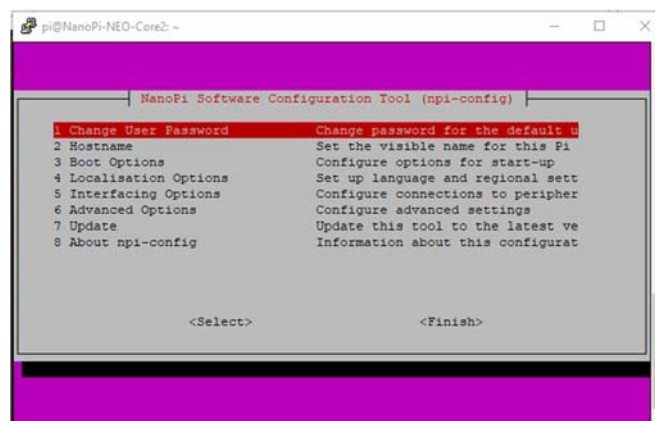
Dans la fenêtre du bureau apparait une erreur

Ouvrir un terminal et entre la commande suivante :

```
$ sudo chmod 755 /home/pi/.cache/*.*
```

Puis dans un terminal :

```
$ sudo npi-config
```



Choisir les options souhaitées : Wifi , langue,

Puis :

```
$ sudo apt-get install mousepad -y
```

```
$ sudo apt-get install screen
$ sudo apt-get install g++ -y
$ sudo reboot
```

Au prompt exécuter les commandes :

```
login : root
password : fa
$ vncserver :1
```

```
mot de passe :xxx
Verify : xxxx
Puis répondre « n »
```

```
$ sudo nano /etc/systemd/system/vncserver@.service
```

Avec le contenu suivant :

```
[Unit]
Description=Service de bureau à distance (VNC)
After=syslog.target network.target

[Service]
Type=forking
User=pi
PAMName=login
PIDFile=/home/pi/.vnc/%H:%i.pid
ExecStartPre=-/usr/bin/vncserver -kill :%i > /dev/null 2>&1
ExecStart=/usr/bin/vncserver -depth 24 -geometry 1600x1000 :%i
ExecStop=/usr/bin/vncserver -kill :%i

[Install]
WantedBy=multi-user.target
```

```
$ sudo systemctl daemon-reload && sudo systemctl enable vncserver@1.service
$ sudo chmod 777 /etc/systemd/system/vncserver@.service
$ sudo reboot
```

PARTIE 2: INSTALLATION MMDVMHost

Démarrer « Putty » à l'aide de l'IP du Système

Au prompt exécuter les commandes :

```
login : pi
password : pi
```

```
$ sudo mkdir Applications (ou autre modifié le mmdvmhost en conséquence)
```

```
$ cd Applications
$ sudo git clone https://github.com/g4klx/MMDVMHost.git
$ cd MMDVMHost
$ sudo make
$ sudo nano /lib/systemd/system/mmdvmhost.service
```

```
[Unit]
Description=MMDVM Host Service
```

```
After=syslog.target network.target
```

```
[Service]
```

```
User=root
```

```
WorkingDirectory=/home/pi/Applications/MMDVMHost
```

```
ExecStart=/usr/bin/screen -S MMDVMHost -D -m
```

```
/home/pi/Applications/MMDVMHost/MMDVMHost /home/pi/MMDVM.ini
```

```
ExecStop=/usr/bin/screen -S MMDVMHost -X quit
```

```
[Install]
```

```
WantedBy=multi-user.target
```

```
$ sudo chmod 755 /lib/systemd/system/mmdvmhost.service
```

```
$ cd /etc
```

```
$ sudo ln -s /lib/systemd/system/mmdvmhost.service
```

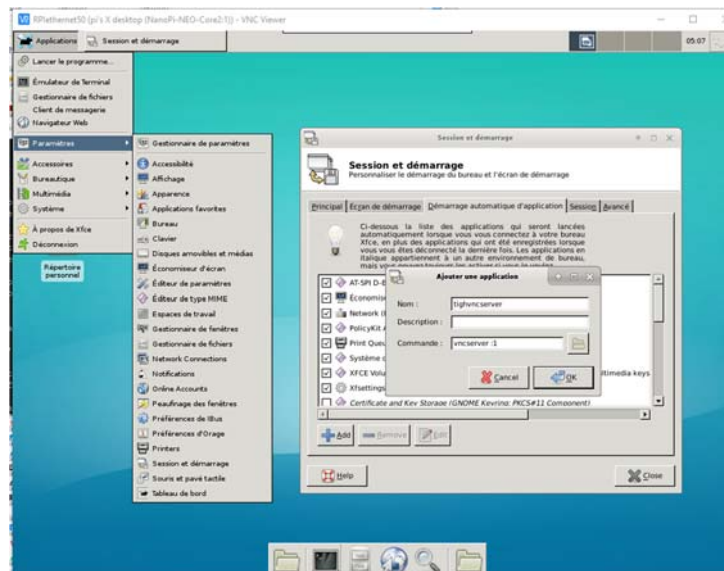
```
/etc/systemd/system/mmdvmhost.service
```

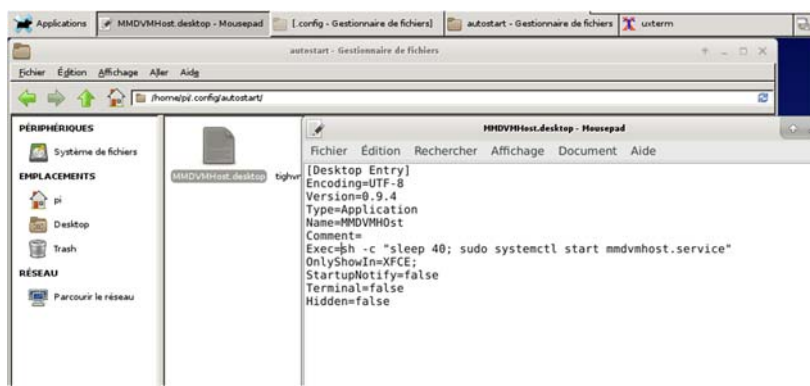
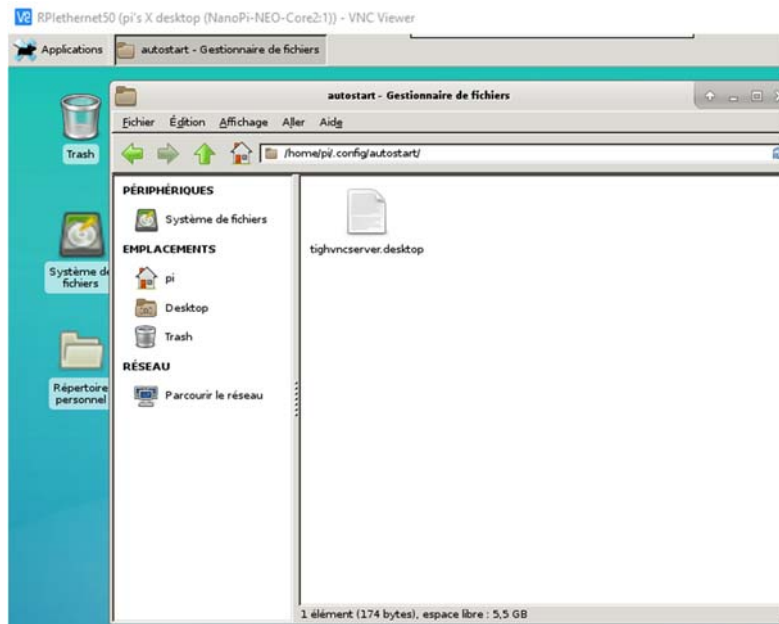
```
$ sudo systemctl daemon-reload
```

```
$ sudo reboot
```

Lancer VNCviewer

Préparer les « autostart »





PARTIE 3: INSTALLATION RAMDISK/MMDVM.ini

Ouvrir un terminal « Putty »

login : pi

password : pi

Au prompt exécuter les commandes :

```
$ cd /
$ sudo mkdir /ramdisk
$ sudo nano /etc/fstab
ajouter à la fin
$ tmpfs /ramdisk tmpfs nodev,nosuid,size=10M 0 0
$ sudo mount -a
```

```
$ cd /home/pi
```

```
$ sudo nano MMDVM.ini
```

```
[General]
Callsign=F****
Id=2*****
Timeout=240
Duplex=1
# ModeHang=10
RFModeHang=300
```

NetModeHang=300
Display=Nextion
Daemon=0

[Info]

RXFrequency=434775000
TXFrequency=439775000
Power=1
Latitude=0.00000
Longitude=0.00000
Height=0
Location=
Description=Multi-Mode Repeater
URL=www.google.co.uk

[Log]

Logging levels, 0=No logging
DisplayLevel=1
FileLevel=1
FilePath=/ramdisk
FileRoot=MMDVM

[CW Id]

Enable=0
Time=10
Callsign=

[DMR Id Lookup]

File=/DMRIds.dat
Time=24

[NXDN Id Lookup]

File=/home/pi/NXDN.csv
Time=24

[Modem]

Port=/dev/ttyACM0
Port=/dev/ttyUSB0
Port=\\.\\.COM3
Protocol=uart
Address=0x22
TXInvert=1
RXInvert=0
PTTInvert=0
TXDelay=100
RXOffset=-250
TXOffset=-250
DMRDelay=0
RXLevel=50
TXLevel=52
RXDCOffset=0
TXDCOffset=0
RFLevel=100
CWidTXLevel=50
D-StarTXLevel=50
DMRTXLevel=50
YSF TXLevel=50
P25TXLevel=50
NXDNTXLevel=50
POCSAGTXLevel=50
RSSIMappingFile=RSSI.dat

Trace=0
Debug=0

[Transparent Data]

Enable=0
RemoteAddress=127.0.0.1
RemotePort=40094
LocalPort=40095

[UMP]

Enable=0
Port=\\.\\.COM4
Port=/dev/ttyACM1

[D-Star]

Enable=0
Module=B
SelfOnly=0
AckReply=1
AckTime=750
ErrorReply=1
RemoteGateway=0
ModeHang=10

[DMR]

Enable=1
Beacons=0
BeaconInterval=60
BeaconDuration=3
ColorCode=1
SelfOnly=0
EmbeddedLCOnly=0
DumpTADData=1
Prefixes=234,235
Slot1TGWhiteList=
Slot2TGWhiteList=
CallHang=3
TXHang=4
ModeHang=10

[System Fusion]

Enable=0
LowDeviation=0
SelfOnly=0
#DGID=1
RemoteGateway=0
ModeHang=10

[P25]

Enable=0
NAC=293
SelfOnly=0
OverrideUIDCheck=0
RemoteGateway=0
ModeHang=10

[NXDN]

Enable=0
RAN=1
SelfOnly=0
RemoteGateway=0

ModeHang=10

[POCSAG]

Enable=0

Frequency=439987500

[D-Star Network]

Enable=1

GatewayAddress=127.0.0.1

GatewayPort=20010

LocalPort=20011

ModeHang=3

Debug=0

[DMR Network]

Enable=1

Address=44.131.4.1

Port=62031

Jitter=360

Local=62032

Password=passw0rd

Options=

Slot1=1

Slot2=1

Debug=0

[System Fusion Network]

Enable=1

LocalAddress=127.0.0.1

LocalPort=3200

GatewayAddress=127.0.0.1

GatewayPort=4200

ModeHang=20

Debug=0

[P25 Network]

Enable=0

GatewayAddress=127.0.0.1

GatewayPort=42020

LocalPort=32010

ModeHang=3

Debug=0

[NXDN Network]

Enable=1

LocalAddress=127.0.0.1

LocalPort=14021

GatewayAddress=127.0.0.1

GatewayPort=14020

ModeHang=20

Debug=0

[POCSAG Network]

Enable=0

LocalAddress=127.0.0.1

LocalPort=3800

GatewayAddress=127.0.0.1

GatewayPort=4800

ModeHang=3

Debug=0

```
[TFT Serial]
# Port=modem
Port=/dev/ttyAMA0
Brightness=50

[HD44780]
Rows=4
Columns=20

# For basic HD44780 displays (4-bit connection)
# rs, strb, d0, d1, d2, d3
Pins=11,10,0,1,2,3

# Device address for I2C
I2CAddress=0x20

# PWM backlight
PWM=0
PWMPin=21
PWMBright=100
PWMDim=16

DisplayClock=1
UTC=0

[Nextion]
Port=modem
# Port=/dev/ttyUSB0
Brightness=50
DisplayClock=1
UTC=0
#Screen Layout: 0=G4KLX 2=ON7LDS
ScreenLayout=3
IdleBrightness=20

[OLED]
Type=3
Brightness=0
Invert=0
Scroll=1

[LCDproc]
Address=localhost
Port=13666
#LocalPort=13667
DimOnIdle=0
DisplayClock=1
UTC=0
```

```
$ sudo reboot
```

PARTIE 4: INSTALLATION DASHBOARD

```
$ sudo apt-get update && sudo apt-get upgrade -y
$ sudo apt-get install apache2 -y
$ sudo apt-get install php* libapache2-mod-php* -y
$ sudo apt-get install libapache2-mod-php -y
$ sudo chown -R www-data:pi /var/www/html/
$ sudo chmod -R 770 /var/www/html/
```

```
$ cd /var/www/html/
$ rm *
$ git clone https://github.com/dg9vh/MMDVMHost-Dashboard.git
$ cd MMDVMHost-Dashboard
$ mv * /var/www/html/
$ cd ..
$ rm -rf MMDVMHost-Dashboard
$ sudo nano /etc/sudoers
ajouter
$ www-data ALL=(ALL) NOPASSWD : ALL
$ cd config
$ sudo nano config.php

<?php
# This is an auto-generated config-file!
# Be careful, when manual editing this!

date_default_timezone_set('UTC');
define("MMDVMLOGPATH", "/ramdisk");
define("MMDVMLOGPREFIX", "MMDVM");
define("MMDVMINIPATH", "/home/pi/");
define("MMDVMINIFILENAME", "MMDVM.ini");
define("MMDVMHOSTPATH", "/home/pi/Applications/MMDVMHost");
define("ENABLEXTDLOOKUP", "on");
define("DMRIDDATPATH", "/home/pi/DMRIds.dat");
define("ENABLEYSFGATEWAY", "on");
define("YSFGATEWAYLOGPATH", "/home/pi/Applications/YSFClients/YSFGateway/");
define("YSFGATEWAYLOGPREFIX", "YSFGateway");
define("YSFGATEWAYINIPATH", "/home/pi/");
define("YSFGATEWAYINIFILENAME", "YSFGateway.ini");
define("YSFHOSTSPATH", "/home/pi/Applications/YSFClients/YSFGateway");
define("YSFHOSTSFILENAME", "YSFHosts.txt");
define("ENABLENXDNGATEWAY", "on");
define("NXDNGATEWAYLOGPATH", "/home/pi/Applications/NXDNClients/NXDNGateway");
define("NXDNGATEWAYLOGPREFIX", "NXDGateway");
define("NXDNHOSTPATH", "/home/pi/Applications/NXDNClients/NXDNGateway");
define("NXDNHOSTFILENAME", "NXDNHosts.txt");
define("NXDNGATEWAYINIPATH", "/home/pi/");
define("NXDNGATEWAYINIFILENAME", "NXDNGateway.ini");
define("LINKLOGPATH", "/var/log/opendv");
define("IRCDBGATEWAY", "ircddbgateway");
define("TIMEZONE", "Europe/Paris");
define("LOGO", "on");
define("DMRPLUSLOGO", "");
define("BRANDMEISTERLOGO", "");
define("REFRESHAFTER", "30");
define("SHOWPROGRESSBARS", "on");
define("TEMPERATUREALERT", "on");
define("TEMPERATUREHIGHLEVEL", "65");
define("ENABLENETWORKSWITCHING", "off");
define("SWITCHNETWORKUSER", "");
define("SWITCHNETWORKPW", "");
define("ENABLEMANAGEMENT", "on");
define("VIEWLOGUSER", "");
define("VIEWLOGPW", "");
define("HALTUSER", "");
define("HALTPW", "");
define("REBOOTUSER", "");
define("REBOOTPW", "");
define("RESTARTUSER", "");
```

```
define("RESTARTPW", "");
define("REBOOTMMDVM", "sudo systemctl restart mmdvmhost.service");
define("REBOOTSYS", "sudo reboot");
define("HALTSYS", "sudo halt");
define("POWERONLINEPIN", "");
define("POWERONLINESTATE", "");
define("SHOWQRZ", "on");
define("SHOWPROGRESSBARS", true);
define("LHLLINES", 40);
?>
$ cd ..
$ sudo mv setup.php setup.old
```

PARTIE 5 : MISE EN PLACE DES COMMANDES



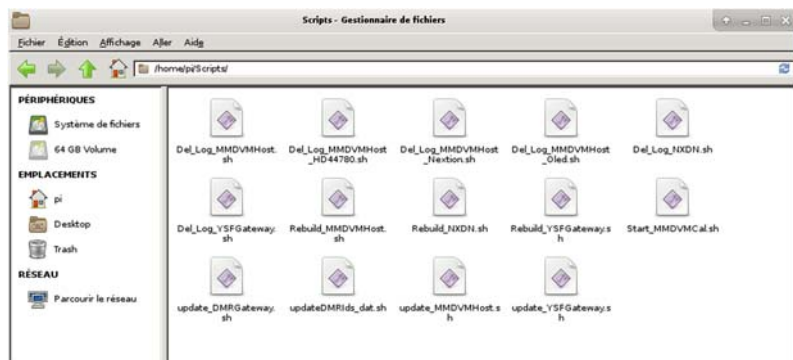
MISE EN PLACE DES ICONES :

Avec winscp transférer les icônes dans par exemple : /home /pi/Documents



Mettre les Scripts dans /home/pi/Scripts

Avec winscp transférer ou écrire les scripts dans : /home /pi/Scripts



Donner les droits

```
$ sudo chmod 755 /home/pi/Scripts
```

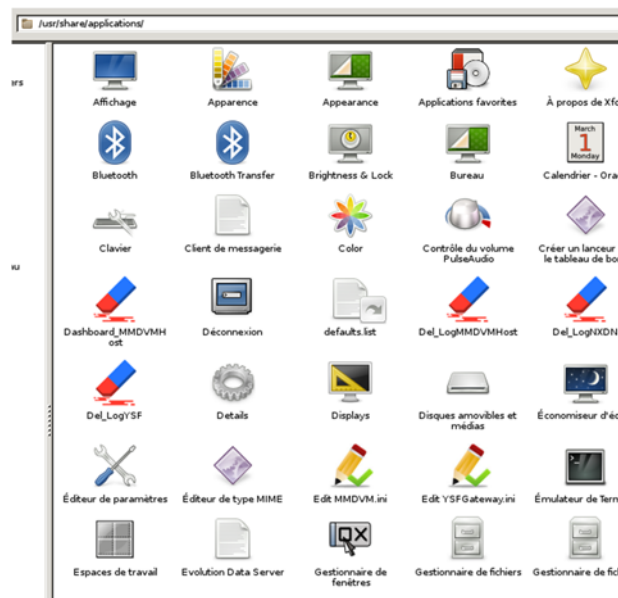
```
$ sudo chmod 755 /home/pi/Scripts/*.*
```

Mise en place des commandes :

Donner les droits et faire ses « *.desktop »

```
$ sudo chmod 755 /usr/share/applications/
```

Avec winscp transférer ou écrire les commandes dans : /usr/share/applications/

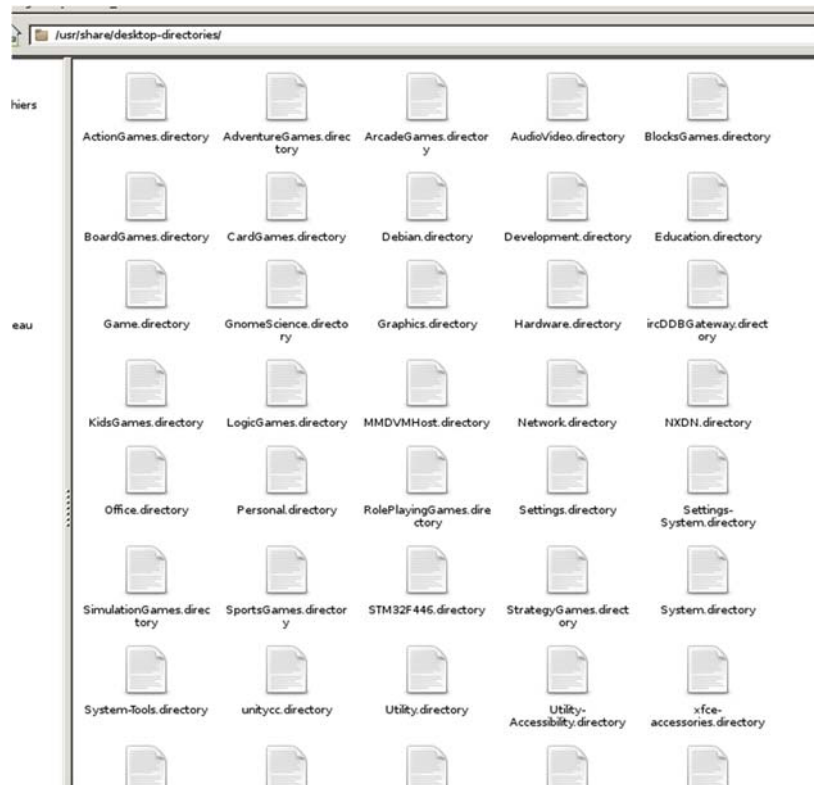


Mise en place des « directory »

Donner les droits et faire ses « *. directory »

\$ `sudo chmod 755 /usr/share/desktop-directories/`

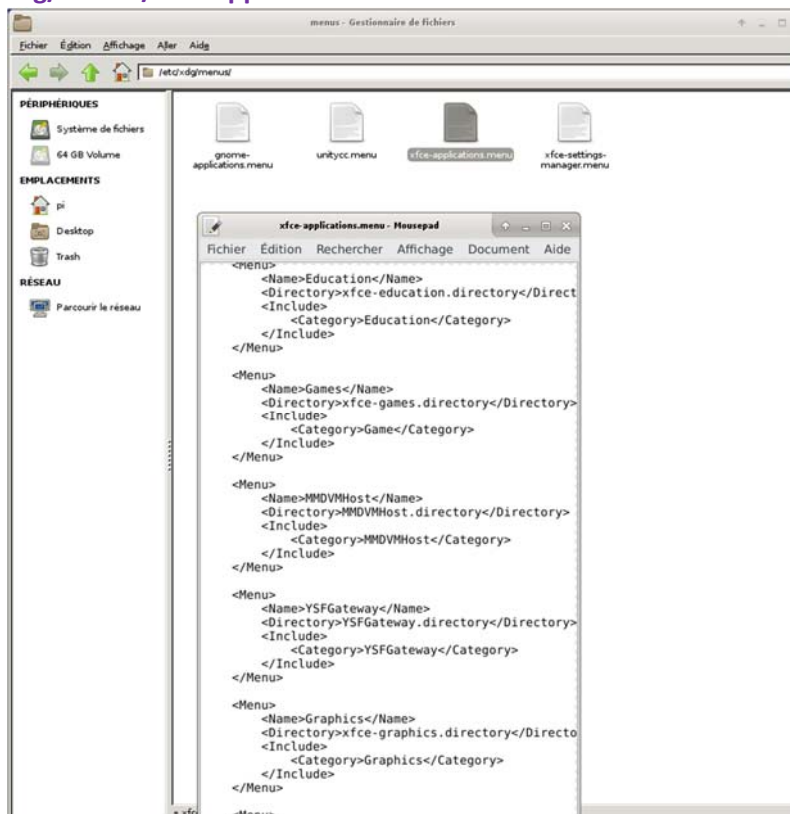
Avec winscp transférer ou écrire les « directory » dans : `/usr/share/desktop-directories/`



Mise en place des « groupes »

Donner les droits et faire ses « groupes » :MMDVMHost et.....

\$ `sudo chmod 755 /etc/xdg/menus/xfce-applications.menu`



WIFI NANO CORE 2

1/ Ouvrir un terminal

```
$ sudo su
```

2/ Liste

```
$ nmcli dev
```

3/ start wifi

```
$ nmcli r wifi on
```

```
collisions:0 txqueuelen:1000
RX bytes:381774 (381.7 KB) TX bytes:1014912 (1.0 MB)

root@NanoPi-NEO-Core2:~# nmcli dev wifi
* SSID      MODE  CHAN  RATE    SIGNAL  BARS  SECURITY
* FI1ZL     Infra 5     54 Mbit/s  84      ████  WPA2
  orange    Infra 1     54 Mbit/s  47      ████  WPA2
  Livebox-D8F6  Infra 1     54 Mbit/s  44      ████  WPA2
root@NanoPi-NEO-Core2:~#
```

4/ Sources Wifi

```
$ nmcli dev wifi
```

```
RX bytes:381774 (381.7 KB) TX bytes:1014912 (1.0 MB)

root@NanoPi-NEO-Core2:~# nmcli dev wifi
* SSID      MODE  CHAN  RATE    SIGNAL  BARS  SECURITY
* FI1ZL     Infra 5     54 Mbit/s  84      ████  WPA2
  orange    Infra 1     54 Mbit/s  47      ████  WPA2
  Livebox-D8F6  Infra 1     54 Mbit/s  44      ████  WPA2
root@NanoPi-NEO-Core2:~# nmcli dev
DEVICE      TYPE      STATE      CONNECTION
wlx74da38288e37  wifi      connected  FI1ZL 1
eth0        ethernet  connecting (getting IP configuration)  Wired connecti
on 1
lo          loopback  unmanaged  --
root@NanoPi-NEO-Core2:~#
```

5/ Connections

```
$ ifconfig
```

```
Welcome to Ubuntu 16.04.5 LTS 4.14.0
System load:  0.88      Up time:    2 min      Local users:  2

Memory usage: 27 % of 993Mb  IP:        44.168.57.181
CPU temp:    41°C
Usage of /:   34% of 7.1G

 * Documentation: http://wiki.ubuntu.com/Ubuntu
 * Forum: http://www.ubuntu.com/Forum/

Last login: Sun Nov 18 11:39:07 2018 from 44.168.57.189
root@NanoPi-NEO-Core2:~# vncserver :1
A VNC server is already running as :1
root@NanoPi-NEO-Core2:~# ifconfig
eth0      Link encap:Ethernet  HWaddr 02:01:74:f4:7d:a5
          UP BROADCAST MULTICAST  MTU:1500  Metric:1
          RX packets:0 errors:0 dropped:0 overruns:0 frame:0
          TX packets:0 errors:0 dropped:0 overruns:0 carrier:0
          collisions:0 txqueuelen:1000
          RX bytes:0 (0.0 B)  TX bytes:0 (0.0 B)
          Interrupt:27

lo        Link encap:Local Loopback
          inet addr:127.0.0.1  Mask:255.0.0.0
          inet6 addr: ::1:128 Scope:Host
          UP LOOPBACK RUNNING  MTU:65536  Metric:1
          RX packets:208 errors:0 dropped:0 overruns:0 frame:0
          TX packets:208 errors:0 dropped:0 overruns:0 carrier:0
          collisions:0 txqueuelen:1000
          RX bytes:15256 (15.2 KB)  TX bytes:15256 (15.2 KB)

wlx74da38288e37  Link encap:Ethernet  HWaddr 74:da:38:28:8e:37
          inet addr:44.168.57.181  Bcast:44.168.57.191  Mask:255.255.255.224
          inet6 addr: fe80::bc9e:a53e:12b2:f1ef/64 Scope:Link
          UP BROADCAST RUNNING MULTICAST  MTU:1500  Metric:1
          RX packets:4364 errors:0 dropped:0 overruns:0 frame:0
          TX packets:1390 errors:0 dropped:0 overruns:0 carrier:0
          collisions:0 txqueuelen:1000
          RX bytes:381774 (381.7 KB)  TX bytes:1014912 (1.0 MB)

root@NanoPi-NEO-Core2:~#
```



5/ Connection en Wifi pour F11ZL

```
$ nmcli dev wifi connect "SSID" password "PASSWORD" ifname wlx74da38288e37
```