IUS
INSTITUT
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DES SCIENCES

Institut Universitaire des Sciences (IUS)

Faculte des sciences et technologies

Td2 - Reseau 2

Prepare par :

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Niveau : L3-Sciences Informatiques

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1. Installation et Importation Gns3 dans une machine Virtuelle (VMware Workstation):

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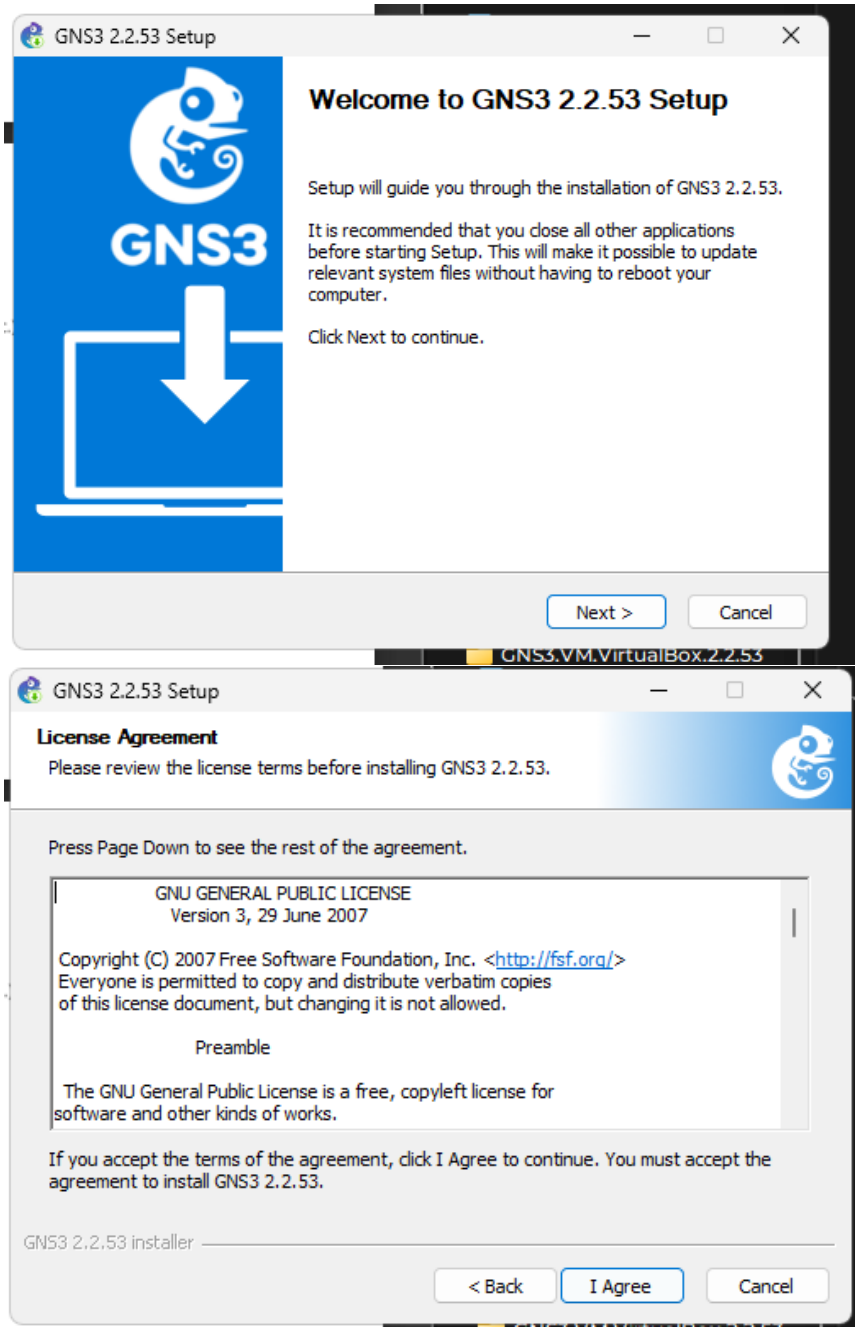
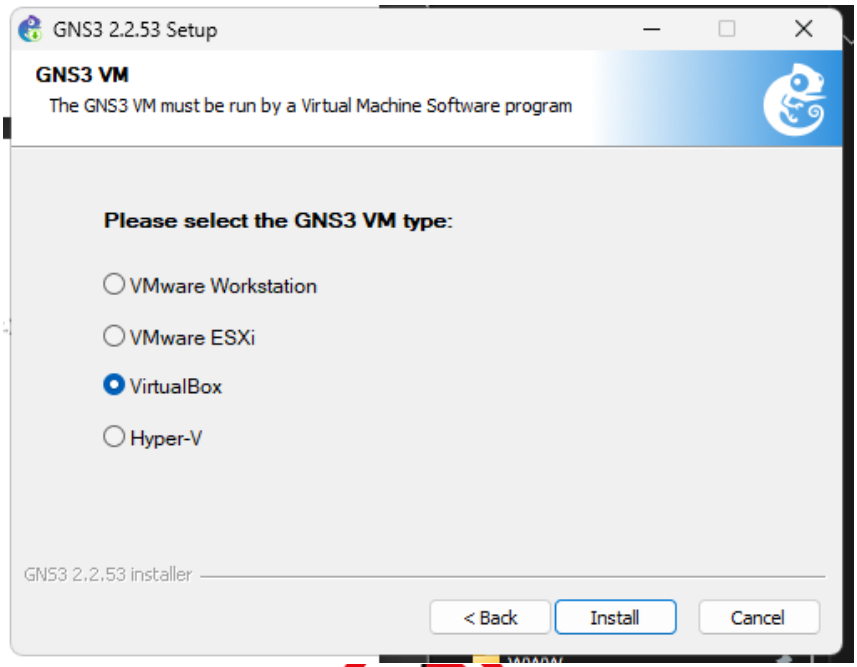
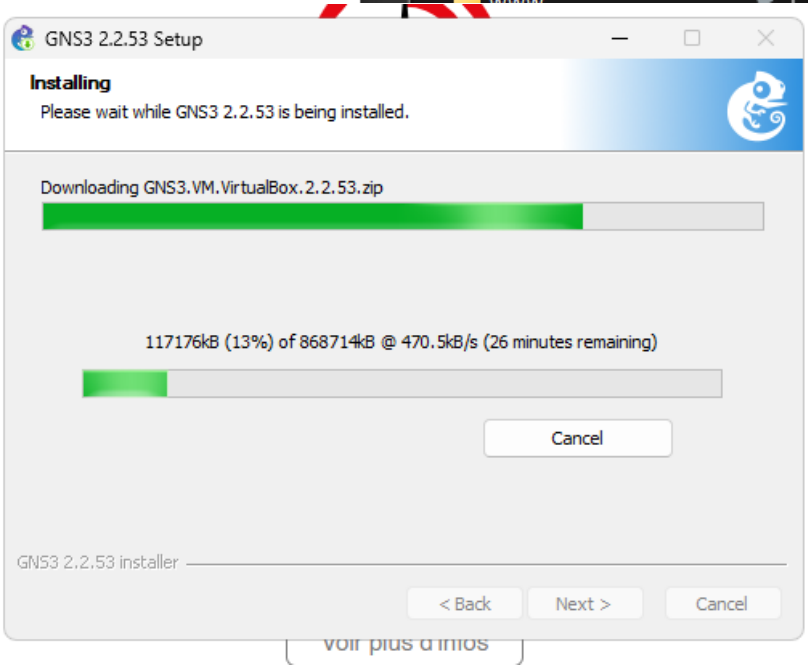
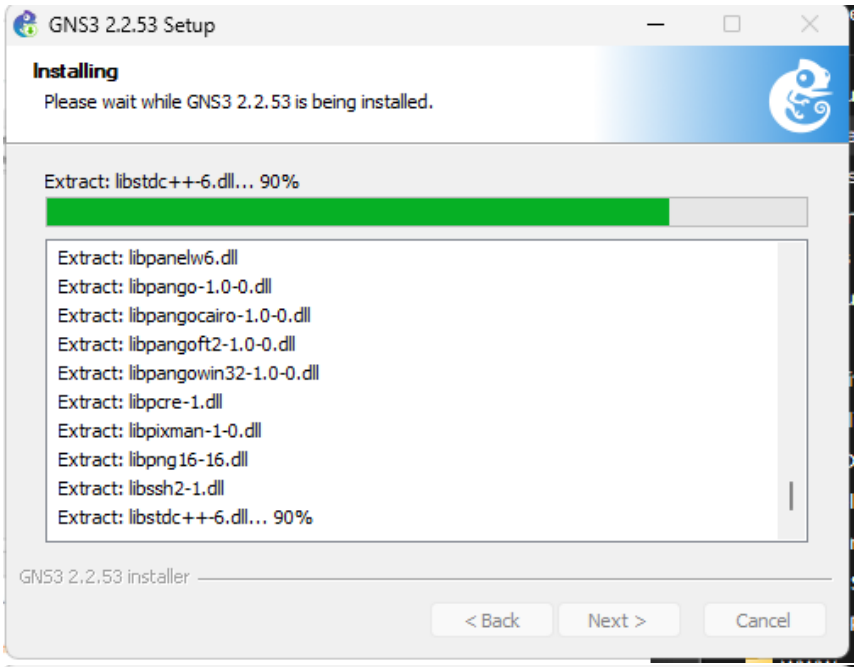
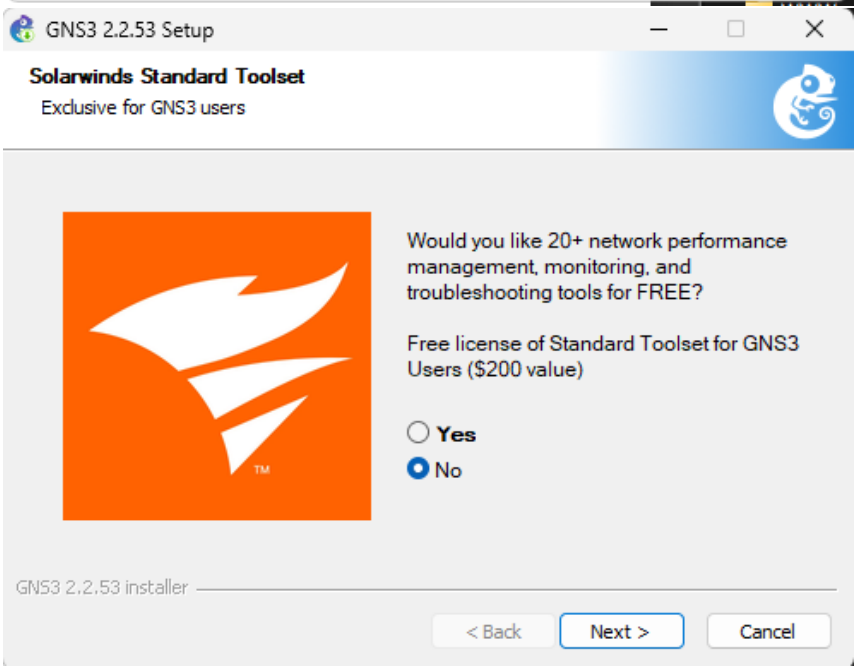
Installation



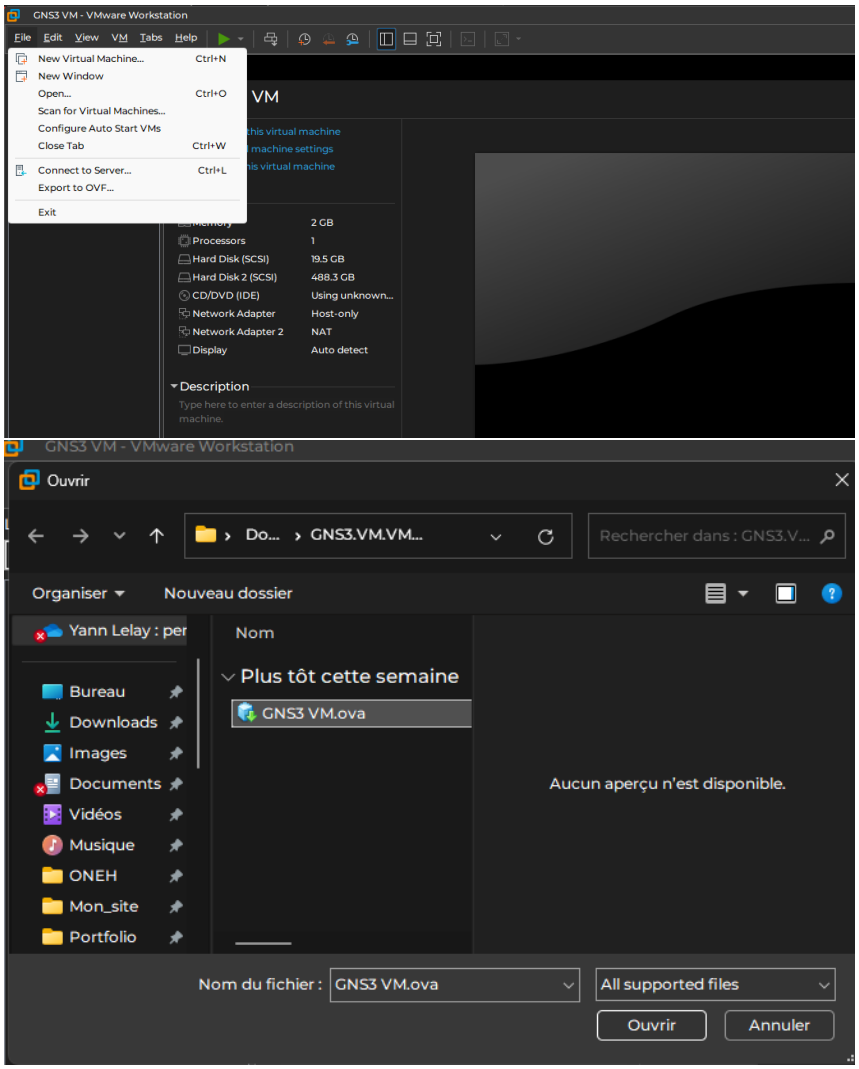

GNS3 2.2.53 Setup
GNS3 VM
The GNS3 VM must be run by a Virtual Machine Software program
Please select the GNS3 VM type:
VMware Workstation
VMware ESXi
VirtualBox
Hyper-V
GNS3 2.2.53 installer
< Back
Install
Cancel

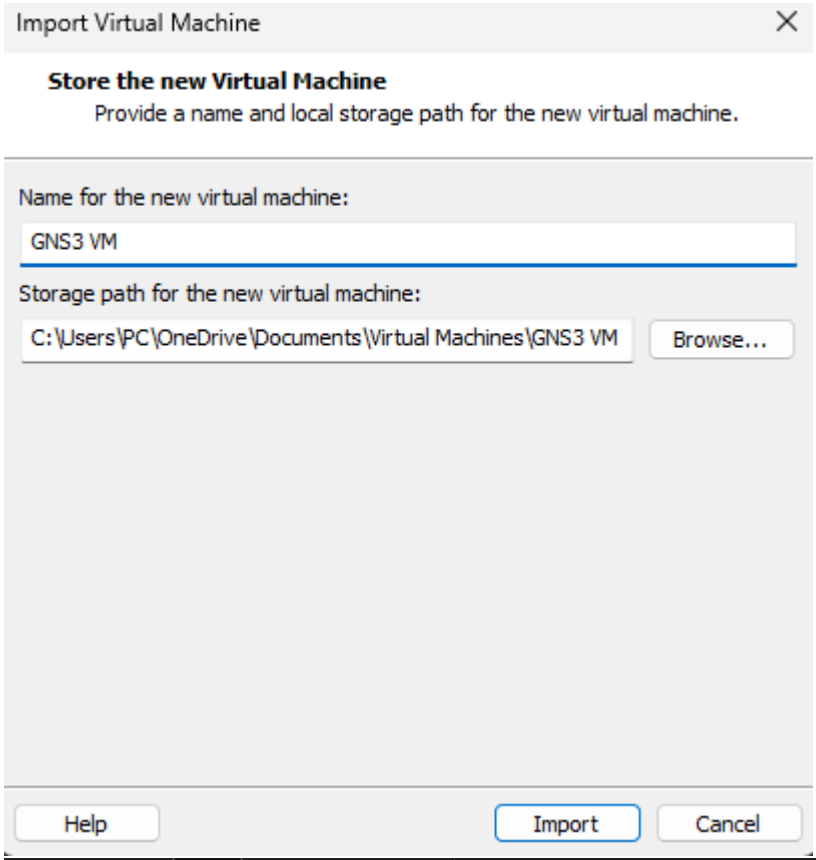

GNS3 2.2.53 Setup
Installing
Please wait while GNS3 2.2.53 is being installed.
Downloading GNS3.VM.VirtualBox.2.2.53.zip
117176kB (13%) of 868714kB @ 470.5kB/s (26 minutes remaining)
Cancel
GNS3 2.2.53 installer
< Back
Next >
Cancel

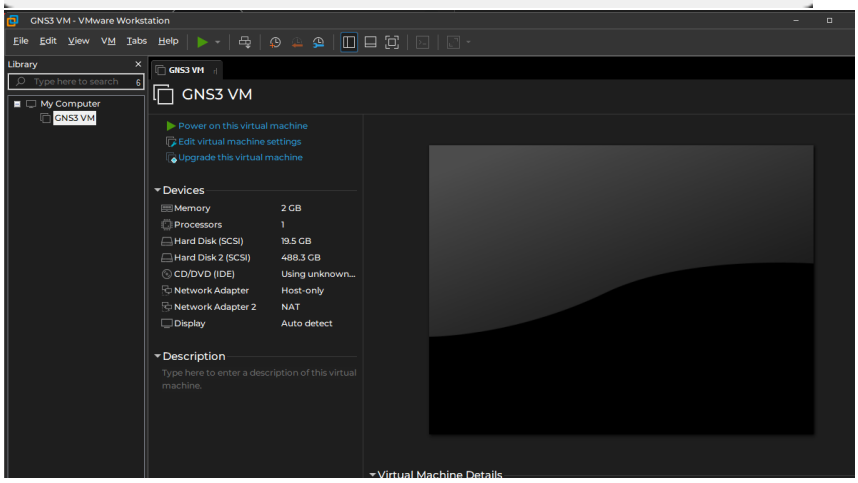

GNS3 2.2.53 Setup
Installing
Please wait while GNS3 2.2.53 is being installed.
Extract: libstdc++-6.dll... 90%
Extract: libpanelw6.dll
Extract: libpango-1.0-0.dll
Extract: libpangocairo-1.0-0.dll
Extract: libpangoft2-1.0-0.dll
Extract: libpangowin32-1.0-0.dll
Extract: libpcre-1.dll
Extract: libpixman-1-0.dll
Extract: libpng16-16.dll
Extract: libssh2-1.dll
Extract: libstdc++-6.dll... 90%
GNS3 2.2.53 installer
< Back
Next >
Cancel


GNS3 2.2.53 Setup
Solarwinds Standard Toolset
Exclusive for GNS3 users
Would you like 20+ network performance management, monitoring, and troubleshooting tools for FREE?
Free license of Standard Toolset for GNS3 Users ($200 value)
Yes
No
GNS3 2.2.53 installer
< Back
Next >
Cancel

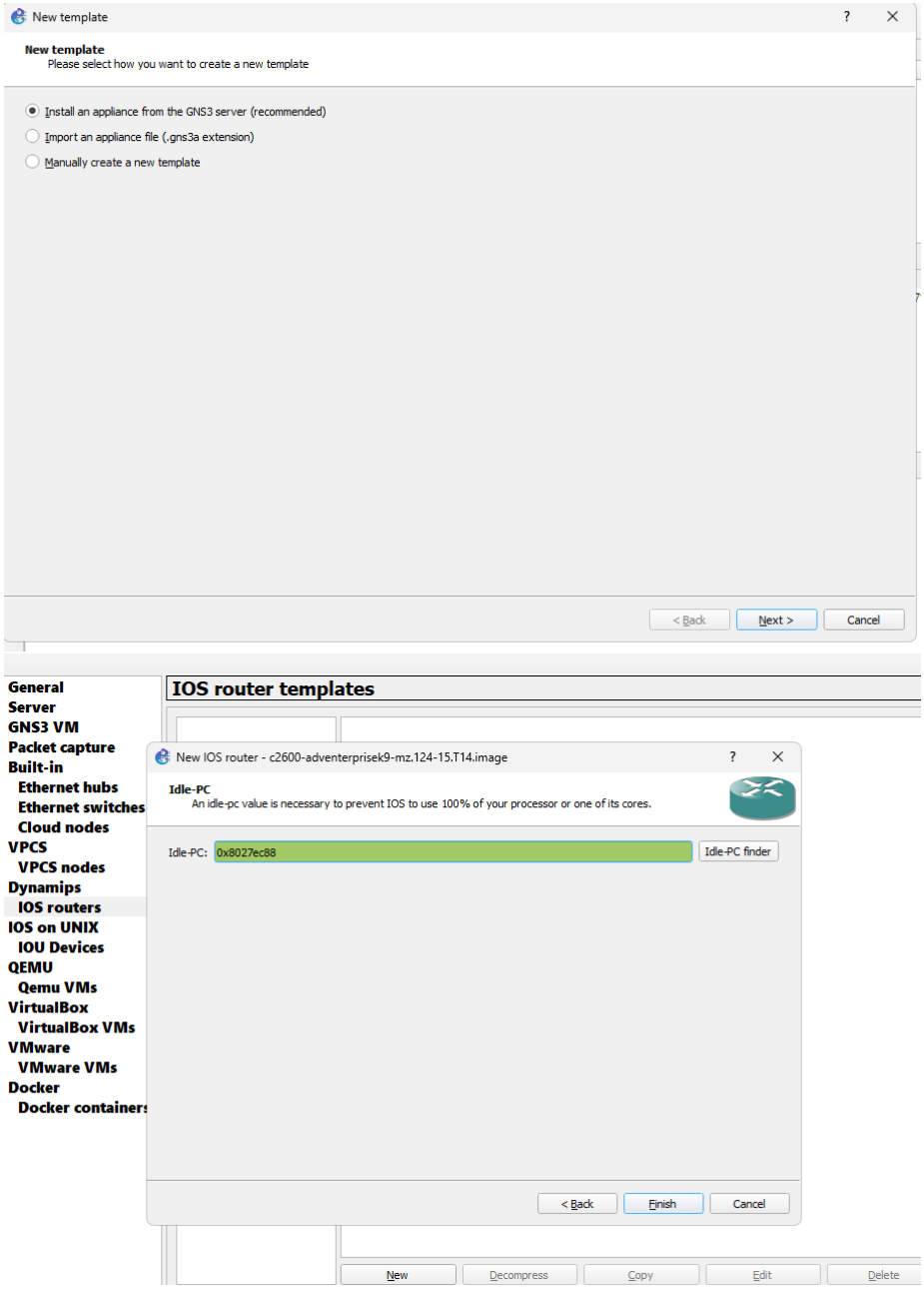
Importation

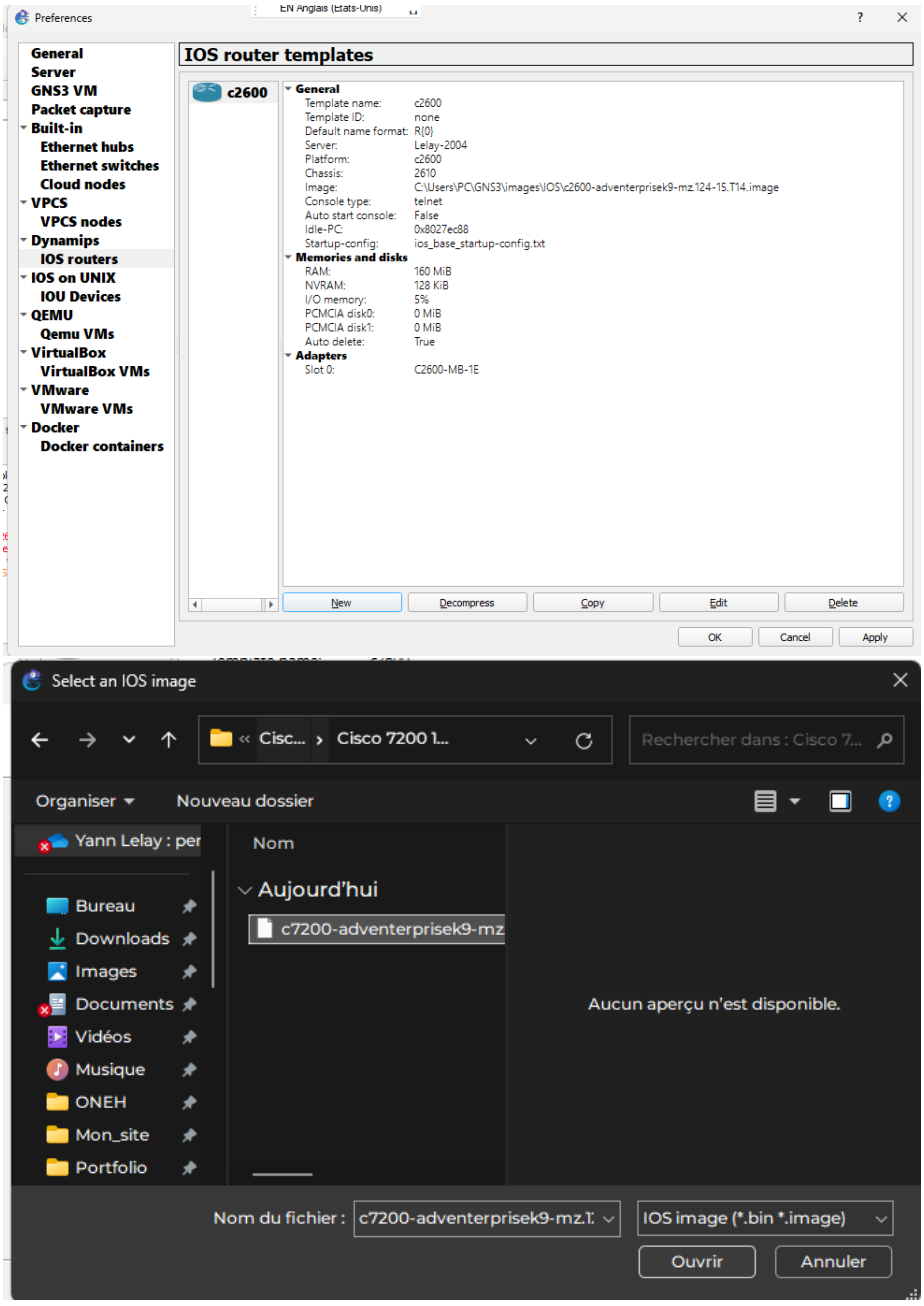


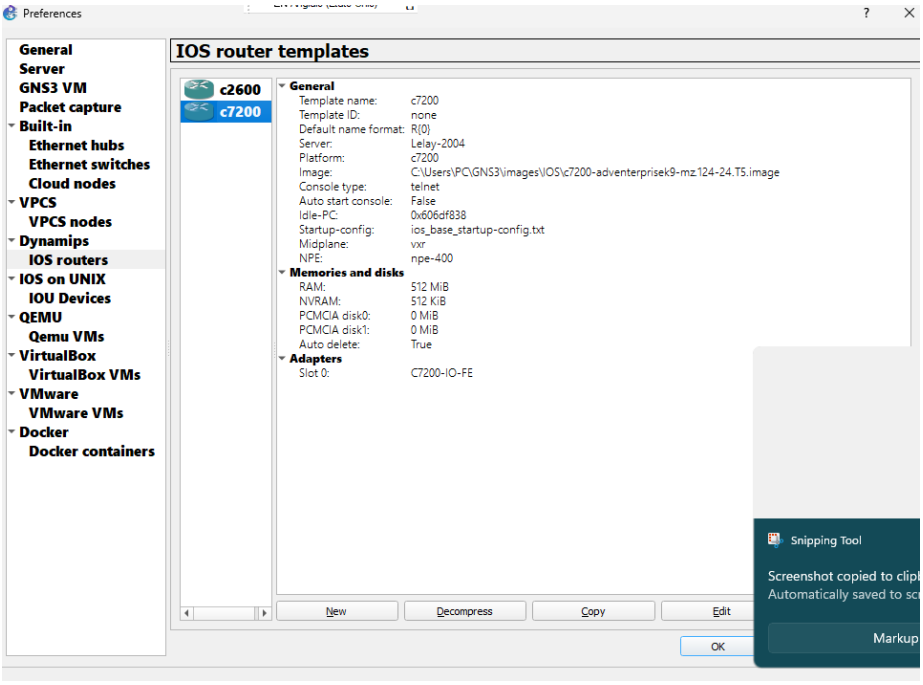

Import Virtual Machine
Store the new Virtual Machine
Provide a name and local storage path for the new virtual machine.
Name for the new virtual machine:
GNS3 VM
Storage path for the new virtual machine:
C:\Users\PC\OneDrive\Documents\Virtual Machines\GNS3 VM
Browse...
Help
Import
Cancel


GNS3 VM - VMware Workstation
File Edit View VM Tabs Help
Library
Type here to search
My Computer
GNS3 VM
GNS3 VM
Power on this virtual machine
Edit virtual machine settings
Upgrade this virtual machine
Devices
Memory 2 GB
Processors 1
Hard Disk (SCSI) 19.5 GB
Hard Disk 2 (SCSI) 488.3 GB
CD/DVD (IDE) Using unknown...
Network Adapter Host-only
Network Adapter 2 NAT
Display Auto detect
Description
Type here to enter a description of this virtual machine.
Virtual Machine Details

2. Ajouter des images ISO pour les routeurs




Preferences
EN Anglais (Etats-Unis)
General
Server
GNS3 VM
Packet capture
Built-in
Ethernet hubs
Ethernet switches
Cloud nodes
VPCS
VPCS nodes
Dynamips
IOS routers
IOS on UNIX
IOU Devices
QEMU
Qemu VMs
VirtualBox
VirtualBox VMs
VMware
VMware VMs
Docker
Docker containers
IOS router templates
c2600
General
Template name: c2600
Template ID: none
Default name format: R{0}
Server: Lelay-2004
Platform: c2600
Chassis: 2610
Image: C:\Users\PC\GNS3\images\IOS\c2600-adventerprisek9-mz.124-15.T14.image
Console type: telnet
Auto start console: False
Idle-PC: 0x8027ec88
Startup-config: ios_base_startup-config.txt
Memories and disks
RAM: 160 MiB
NVRAM: 128 KiB
I/O memory: 5%
PCMCIA disk0: 0 MiB
PCMCIA disk1: 0 MiB
Auto delete: True
Adapters
Slot 0: C2600-MB-1E
New
Decompress
Copy
Edit
Delete
OK
Cancel
Apply
Select an IOS image
Cisc... › Cisco 7200 1...
Rechercher dans : Cisco 7...
Organiser
Nouveau dossier
Yann Lelay : per
Bureau
Downloads
Images
Documents
Vidéos
Musique
ONEH
Mon_site
Portfolio
Nom
Aujourd'hui
c7200-adventerprisek9-mz
Aucun aperçu n'est disponible.
Nom du fichier : c7200-adventerprisek9-mz.1
IOS image (*.bin *.image)
Ouvrir
Annuler



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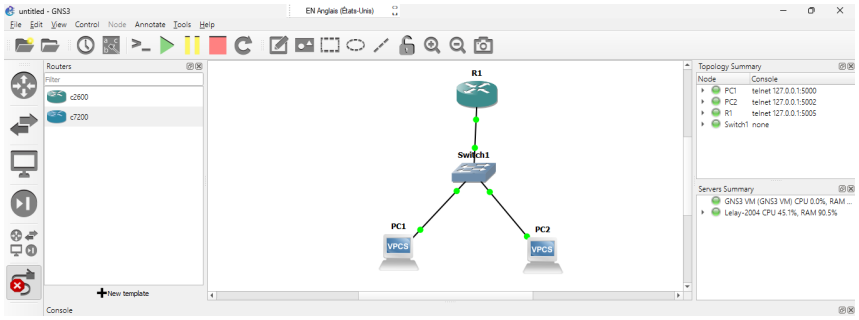
3. Reproduction de la topologie et la configuration du routeur et des PCS

- topologie 

- Configuration Routeur

```
R1#
R1#enable
R1#conf t
Enter configuration commands, one per line.  End with CNTL/Z.
R1(config)#interface f0/0
R1(config-if)#ip address 192.168.1.1 255.255.255.0
R1(config-if)#no shutdown
R1(config-if)#
*Mar 21 11:43:36.083: %LINK-3-UPDOWN: Interface FastEthernet0/0, changed state to up
*Mar 21 11:43:37.083: %LINEPROTO-5-UPDOWN: Line protocol on Interface FastEthernet0/0, changed state to up
R1(config-if)#exit
R1(config)#exit
R1#
*Mar 21 11:44:16.035: %SYS-5-CONFIG_I: Configured from console by console
R1#write memory
Building configuration...
[OK]
R1#show ip interface brief
Interface                  IP-Address      OK? Method Status                Protocol
FastEthernet0/0            192.168.1.1     YES manual up                    up
R1#
```

- configuration des PCS

1. PC1

```
PC1> ip 192.168.1.2 255.255.255.0 192.168.1.1
Checking for duplicate address...
PC1 : 192.168.1.2 255.255.255.0 gateway 192.168.1.1

PC1> show ip

NAME        : PC1[1]
IP/MASK     : 192.168.1.2/24
GATEWAY     : 192.168.1.1
DNS         :
MAC         : 00:50:79:66:68:00
LPORT       : 10010
RHOST:PORT  : 127.0.0.1:10011
MTU:        : 1500

PC1>
```

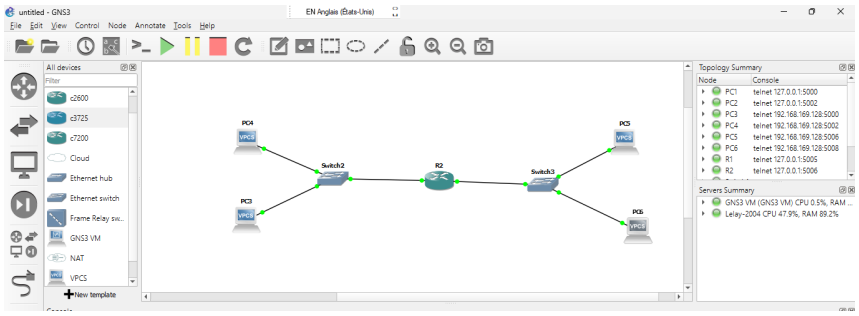
2. PC2

```
PC2> ip 192.168.1.3 255.255.255.0 192.168.1.1
Checking for duplicate address...
PC1 : 192.168.1.3 255.255.255.0 gateway 192.168.1.1

PC2> show ip

NAME        : PC2[1]
IP/MASK     : 192.168.1.3/24
GATEWAY     : 192.168.1.1
DNS         :
MAC         : 00:50:79:66:68:01
LPORT       : 10008
RHOST:PORT  : 127.0.0.1:10009
MTU:        : 1500

PC2>
```

- Test de la connexion

```
PC2> ping 192.168.1.2
84 bytes from 192.168.1.2 icmp_seq=1 ttl=64 time=5.932 ms
84 bytes from 192.168.1.2 icmp_seq=2 ttl=64 time=0.902 ms
84 bytes from 192.168.1.2 icmp_seq=3 ttl=64 time=0.759 ms
84 bytes from 192.168.1.2 icmp_seq=4 ttl=64 time=0.887 ms
84 bytes from 192.168.1.2 icmp_seq=5 ttl=64 time=0.808 ms
```

4. Reproduction de la topologie et la configuration du routeur et des PCS

- topologie 

- Configuration Routeur

```
R2#enable
R2#conf t
Enter configuration commands, one per line.  End with CNTL/Z.
R2(config)#interface f0/0
R2(config-if)#ip address 192.168.1.20 255.255.255.0
R2(config-if)#no shutdown
R2(config-if)#exit
*Mar  1 00:02:23.067: %LINK-3-UPDOWN: Interface FastEthernet0/0, changed state to up
*Mar  1 00:02:24.067: %LINEPROTO-5-UPDOWN: Line protocol on Interface FastEthernet0/0, changed state to up
R2(config-if)#exit
R2(config)#interface f0/1
R2(config-if)#ip address 192.168.1.21 255.255.255.0
% 192.168.1.0 overlaps with FastEthernet0/0
R2(config-if)#no shutdown
% 192.168.1.0 overlaps with FastEthernet0/0
FastEthernet0/1: incorrect IP address assignment
R2(config-if)#exit
R2(config)#exit
R2#wr
*Mar  1 00:03:23.363: %SYS-5-CONFIG_I: Configured from console by console
R2#write memory
Building configuration...
[OK]
R2#
```

- configuration des PCS

1. PC3

```
PC3> ip 192.168.1.23 255.255.255.0 192.168.1.20
Checking for duplicate address...
PC3 : 192.168.1.23 255.255.255.0 gateway 192.168.1.20

PC3> show ip

NAME        : PC3[1]
IP/MASK     : 192.168.1.23/24
GATEWAY     : 192.168.1.20
DNS         :
MAC         : 00:50:79:66:68:00
LPORT       : 20010
RHOST:PORT  : 127.0.0.1:20011
MTU         : 1500

PC3>
```

2. PC4

```
PC4> ip 192.168.1.22 255.255.255.0 192.168.1.20
Checking for duplicate address...
PC4 : 192.168.1.22 255.255.255.0 gateway 192.168.1.20

PC4> show ip

NAME        : PC4[1]
IP/MASK     : 192.168.1.22/24
GATEWAY     : 192.168.1.20
DNS         :
MAC         : 00:50:79:66:68:01
LPORT       : 20012
RHOST:PORT  : 127.0.0.1:20013
MTU         : 1500

PC4>
```

3. PC5

```
PC5> ip 192.168.1.24 255.255.255.0 192.168.1.21
Checking for duplicate address...
PC5 : 192.168.1.24 255.255.255.0 gateway 192.168.1.21

PC5> show ip

NAME        : PC5[1]
IP/MASK     : 192.168.1.24/24
GATEWAY     : 192.168.1.21
DNS         :
MAC         : 00:50:79:66:68:02
LPORT       : 20014
RHOST:PORT  : 127.0.0.1:20015
MTU         : 1500

PC5>
```

4. PC6

```
PC6> ip 192.168.1.25 255.255.255.0 192.168.1.21
Checking for duplicate address...
PC6 : 192.168.1.25 255.255.255.0 gateway 192.168.1.21

PC6> show ip

NAME        : PC6[1]
IP/MASK     : 192.168.1.25/24
GATEWAY     : 192.168.1.21
DNS         :
MAC         : 00:50:79:66:68:03
LPORT       : 20016
RHOST:PORT  : 127.0.0.1:20017
MTU         : 1500

PC6>
```

Conclusion :

Grace a ce td j'arrive par installer GNS3 et l'importer sur une marchine virtuelle (VMware Workstation). Ensuite Faire des ajouts des images de routeurs Cisco . Enfin faire des simulations avec des topologies en configurant des routeurs et des PCS. Ce td me plonge dans une belle aventure avec GNS3.