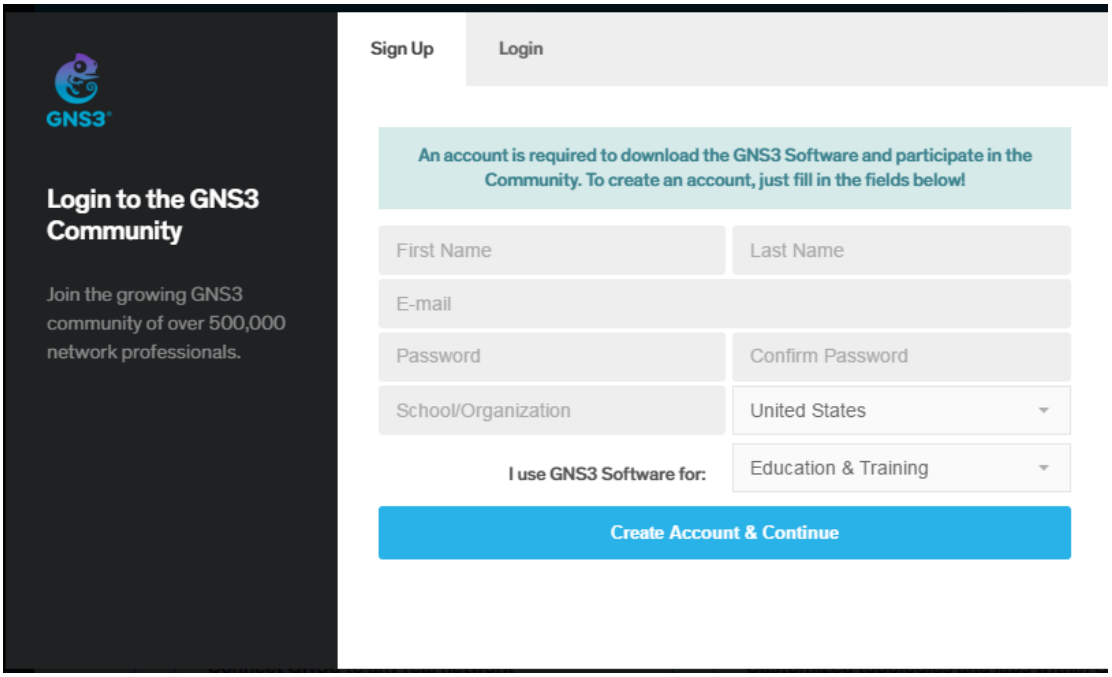
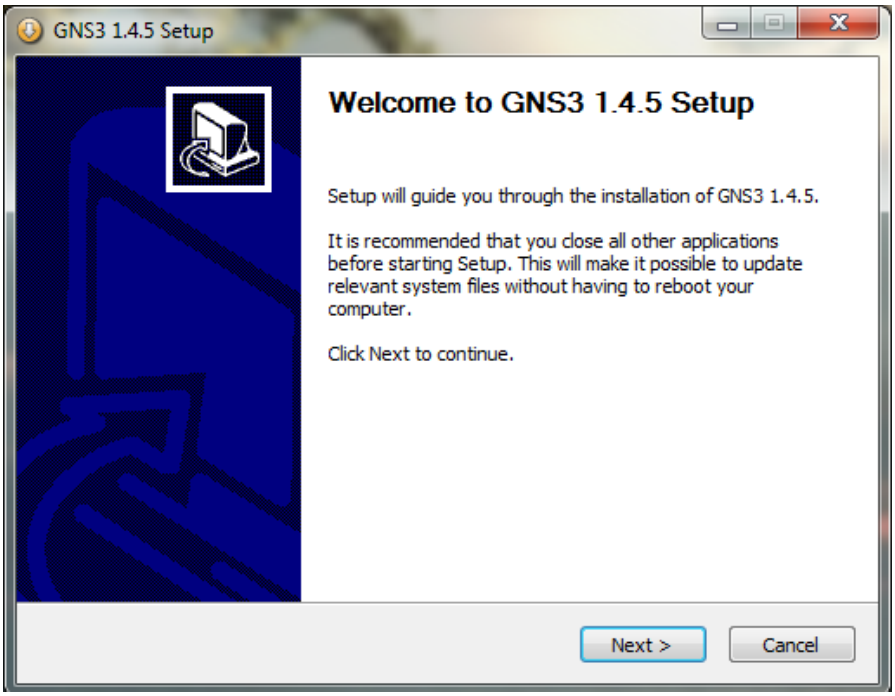
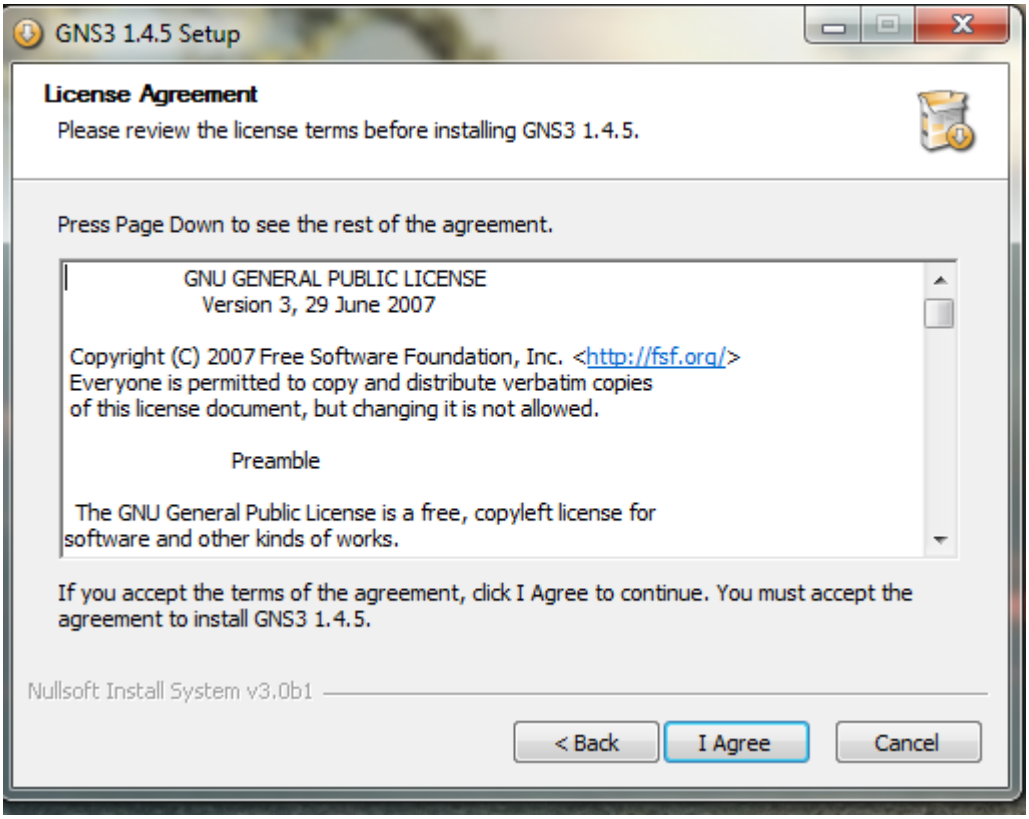
Steps

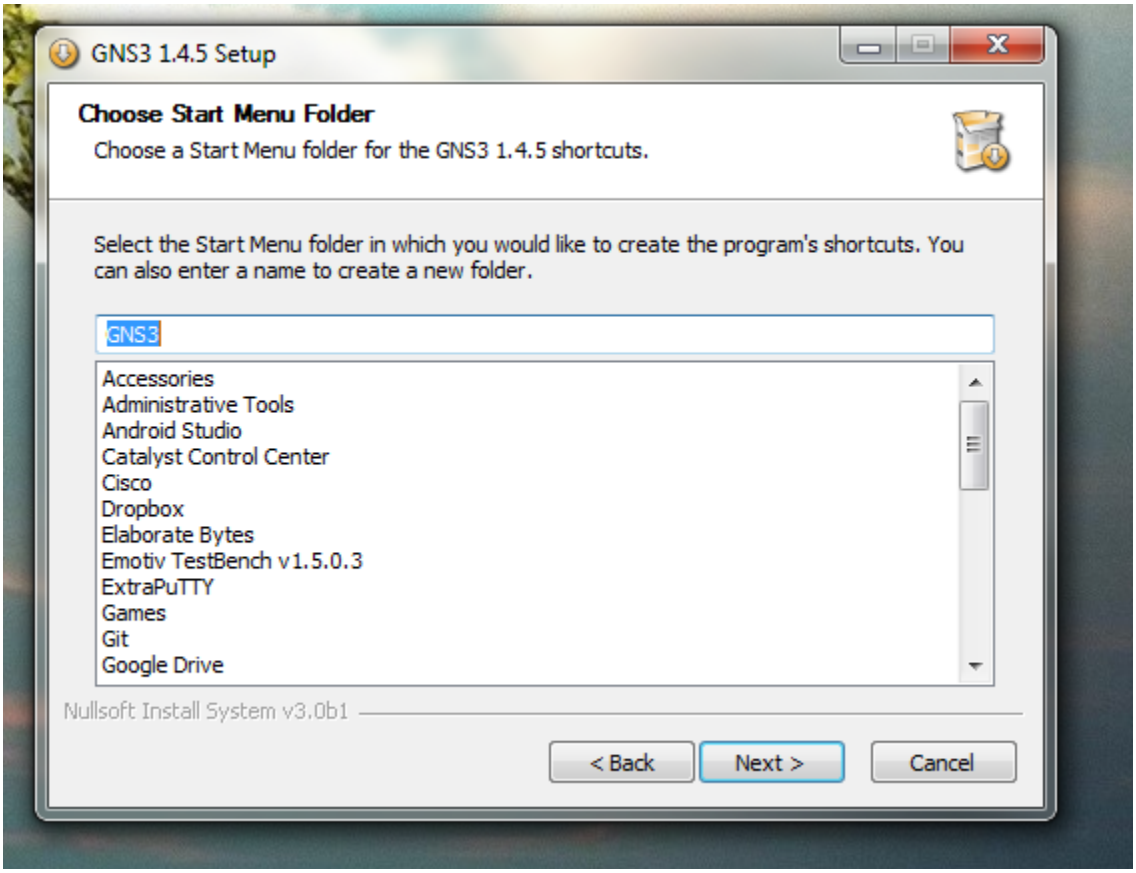
Create a free online account and download the version for your compuer (Windows/Mac/Linux)
https://www.gns3.com/software/download

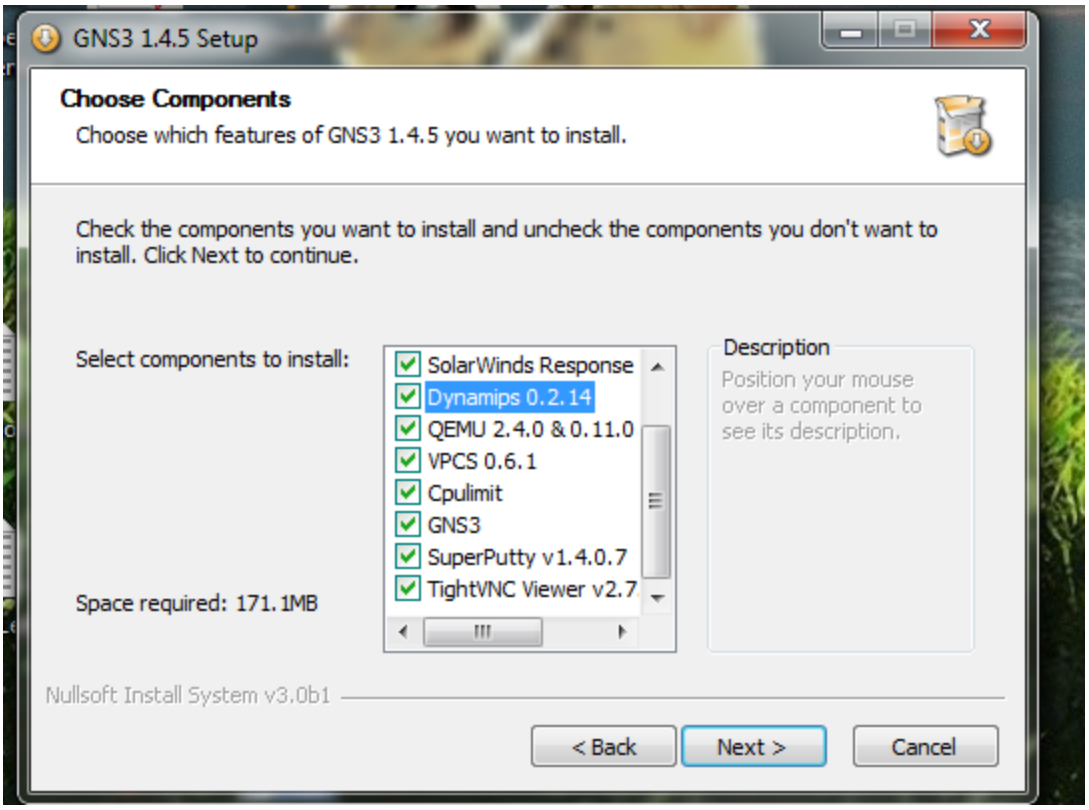


You can go with default options and the installation is essentially a matter of clicking buttons like **Next**, **Install**, and **I Agree**.

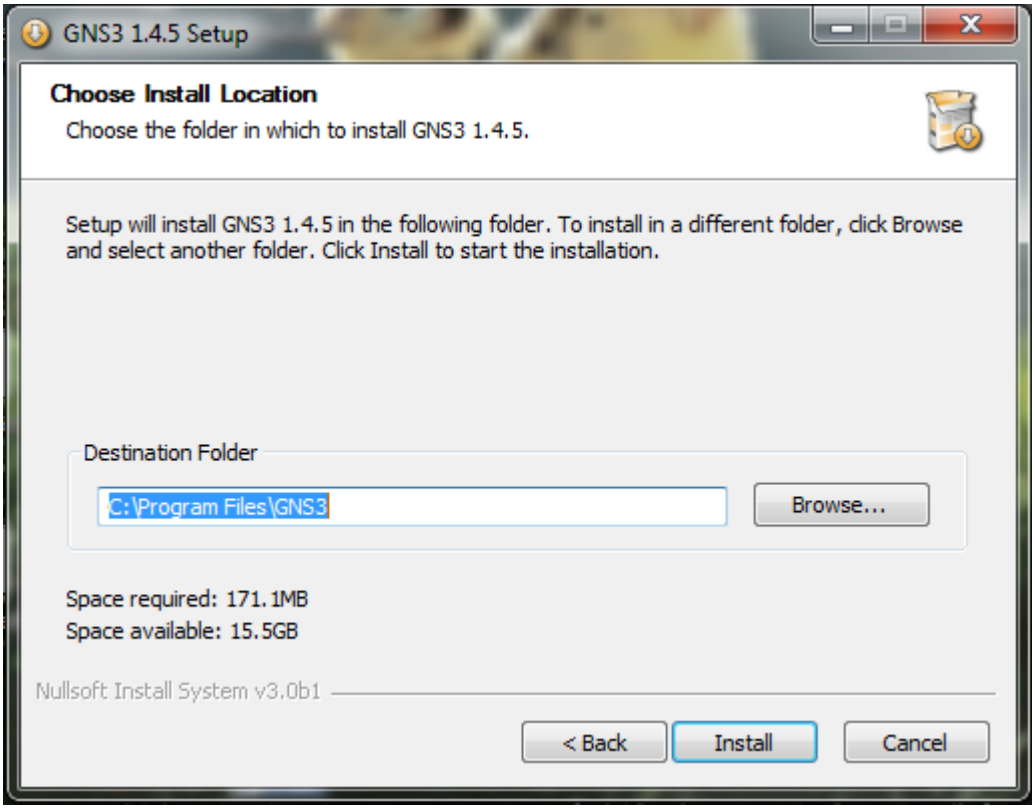


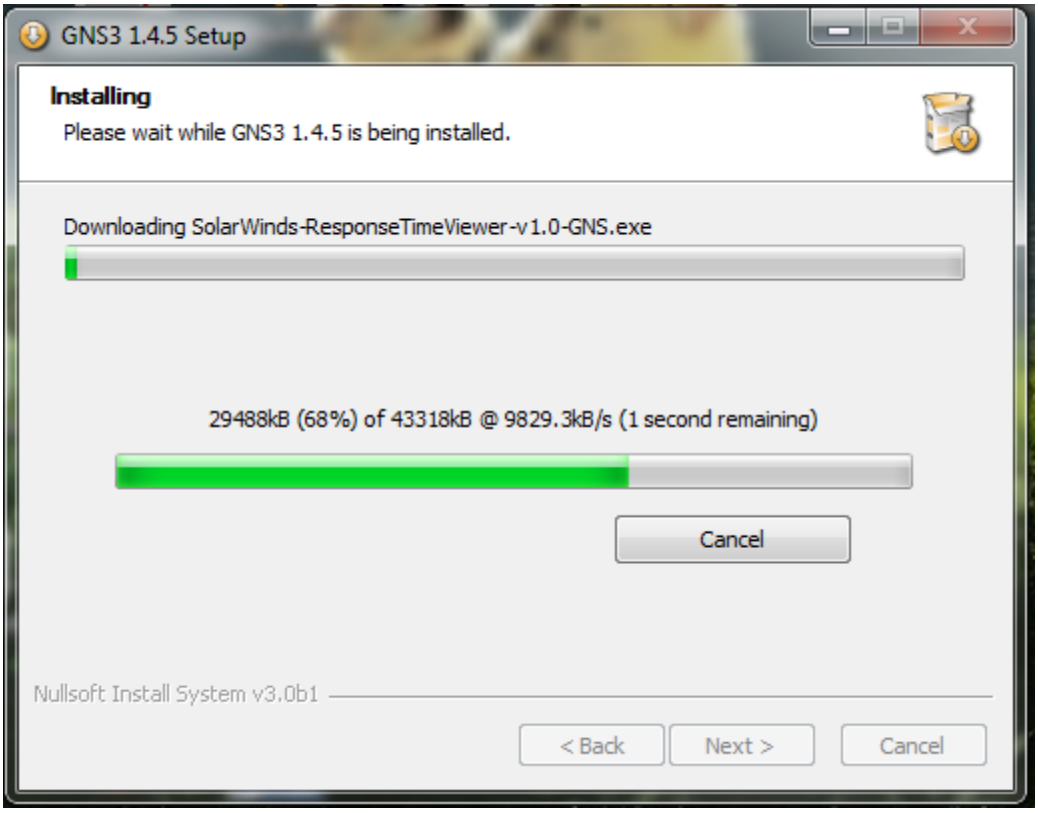

GNS3 1.4.5 Setup
License Agreement
Please review the license terms before installing GNS3 1.4.5.
Press Page Down to see the rest of the agreement.
GNU GENERAL PUBLIC LICENSE
Version 3, 29 June 2007
Copyright (C) 2007 Free Software Foundation, Inc. <http://fsf.org/>
Everyone is permitted to copy and distribute verbatim copies
of this license document, but changing it is not allowed.
Preamble
The GNU General Public License is a free, copyleft license for
software and other kinds of works.
If you accept the terms of the agreement, click I Agree to continue. You must accept the agreement to install GNS3 1.4.5.
Nullsoft Install System v3.0b1
< Back
I Agree
Cancel

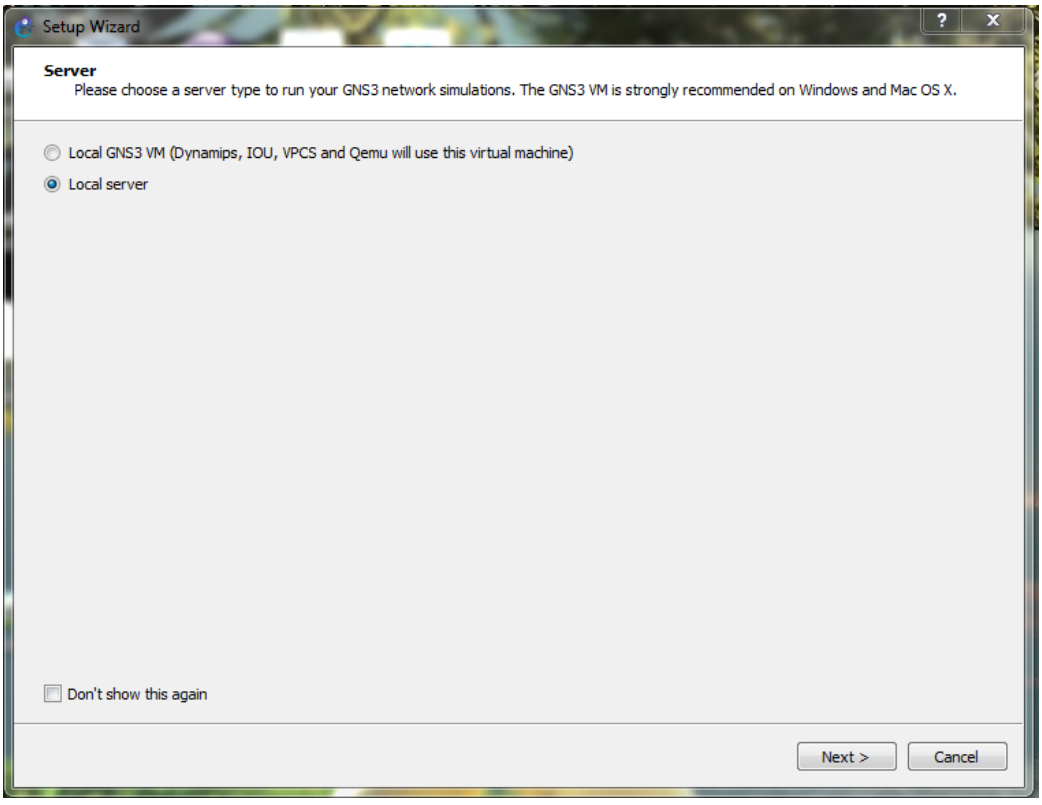

GNS3 1.4.5 Setup
Choose Start Menu Folder
Choose a Start Menu folder for the GNS3 1.4.5 shortcuts.
Select the Start Menu folder in which you would like to create the program's shortcuts. You can also enter a name to create a new folder.
GNS3
Accessories
Administrative Tools
Android Studio
Catalyst Control Center
Cisco
Dropbox
Elaborate Bytes
Emotiv TestBench v1.5.0.3
ExtraPuTTY
Games
Git
Google Drive
Nullsoft Install System v3.0b1
< Back
Next >
Cancel

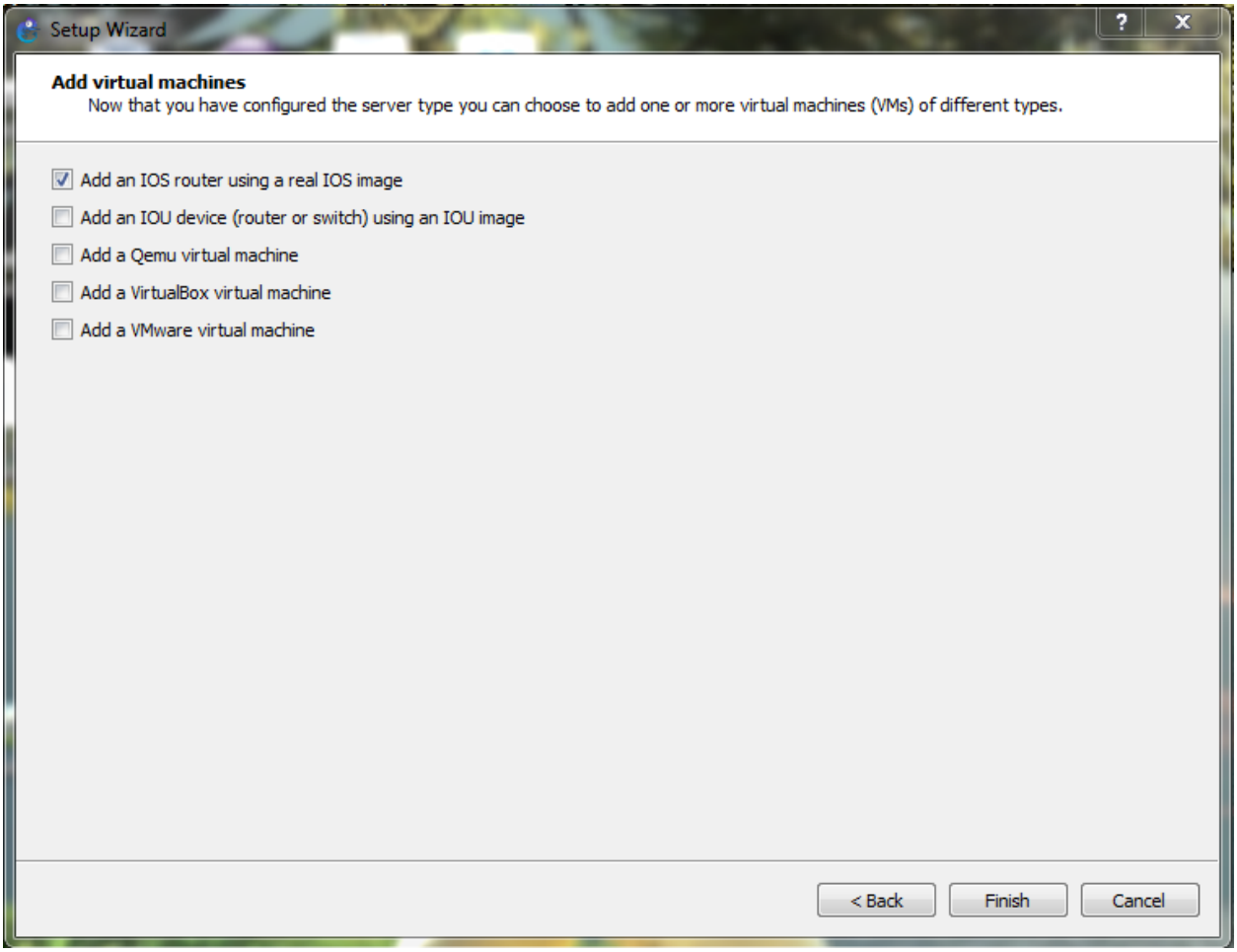


Uncheck Solar Winds

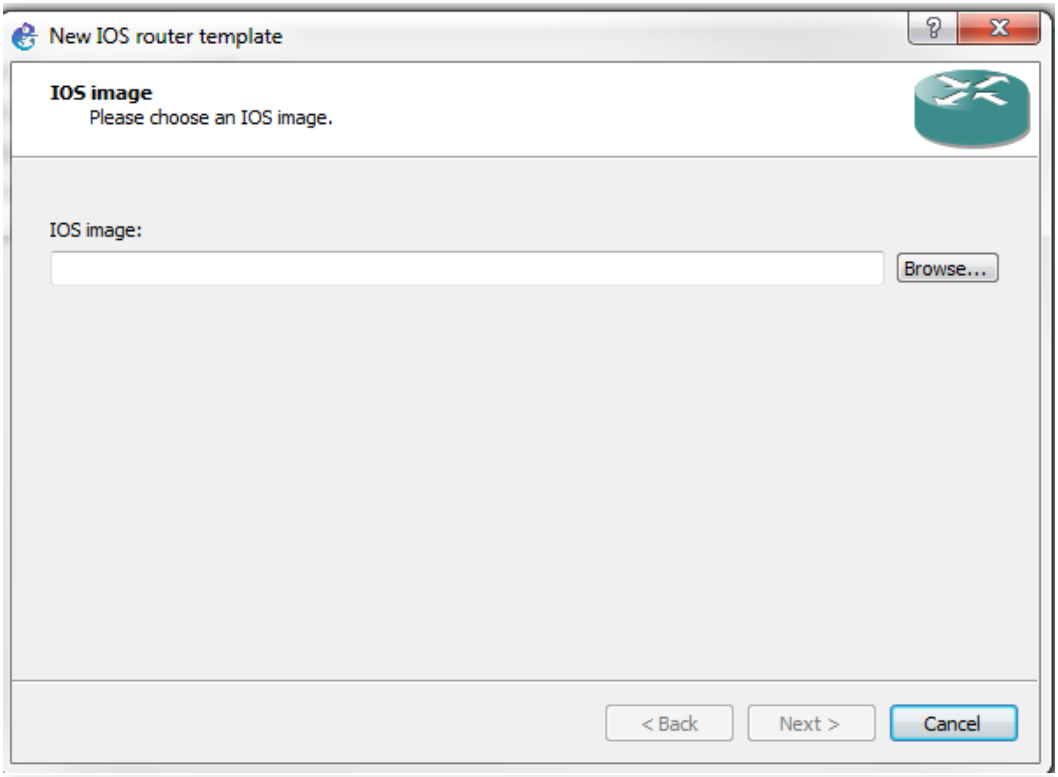


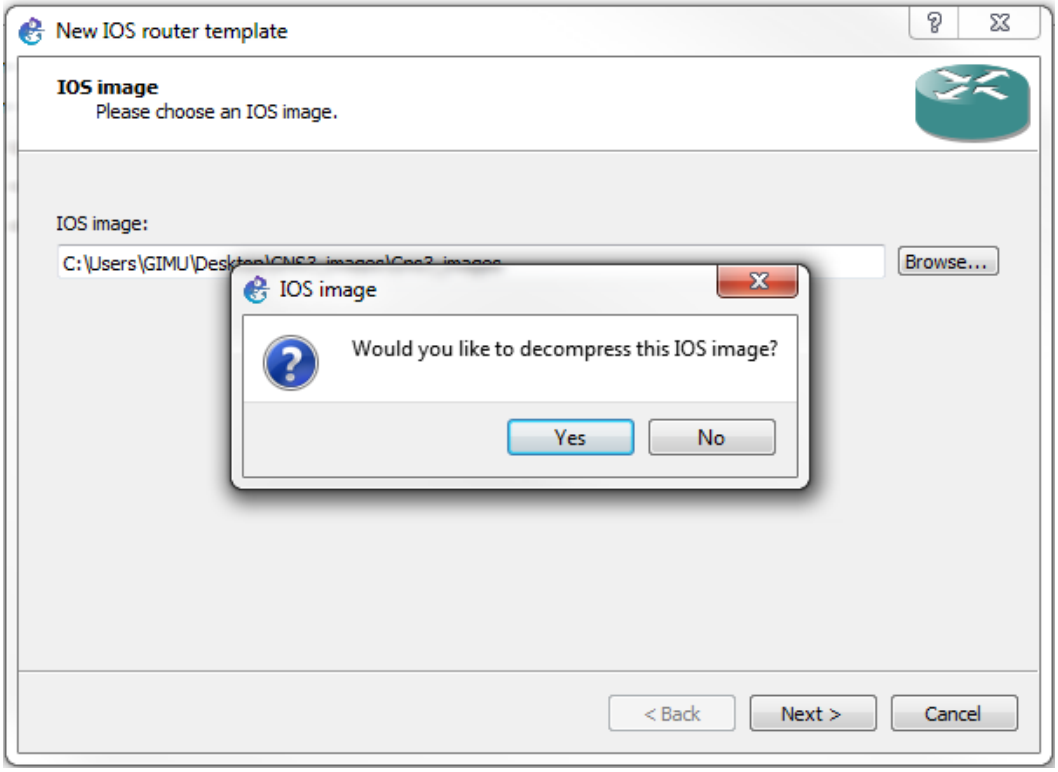

GNS3 1.4.5 Setup
Installing
Please wait while GNS3 1.4.5 is being installed.
Downloading SolarWinds-ResponseTimeViewer-v1.0-GNS.exe
29488kB (68%) of 43318kB @ 9829.3kB/s (1 second remaining)
Cancel
Nullsoft Install System v3.0b1
< Back
Next >
Cancel


Setup Wizard
Server
Please choose a server type to run your GNS3 network simulations. The GNS3 VM is strongly recommended on Windows and Mac OS X.
Local GNS3 VM (Dynamips, IOU, VPCS and Qemu will use this virtual machine)
Local server
Don't show this again
Next >
Cancel

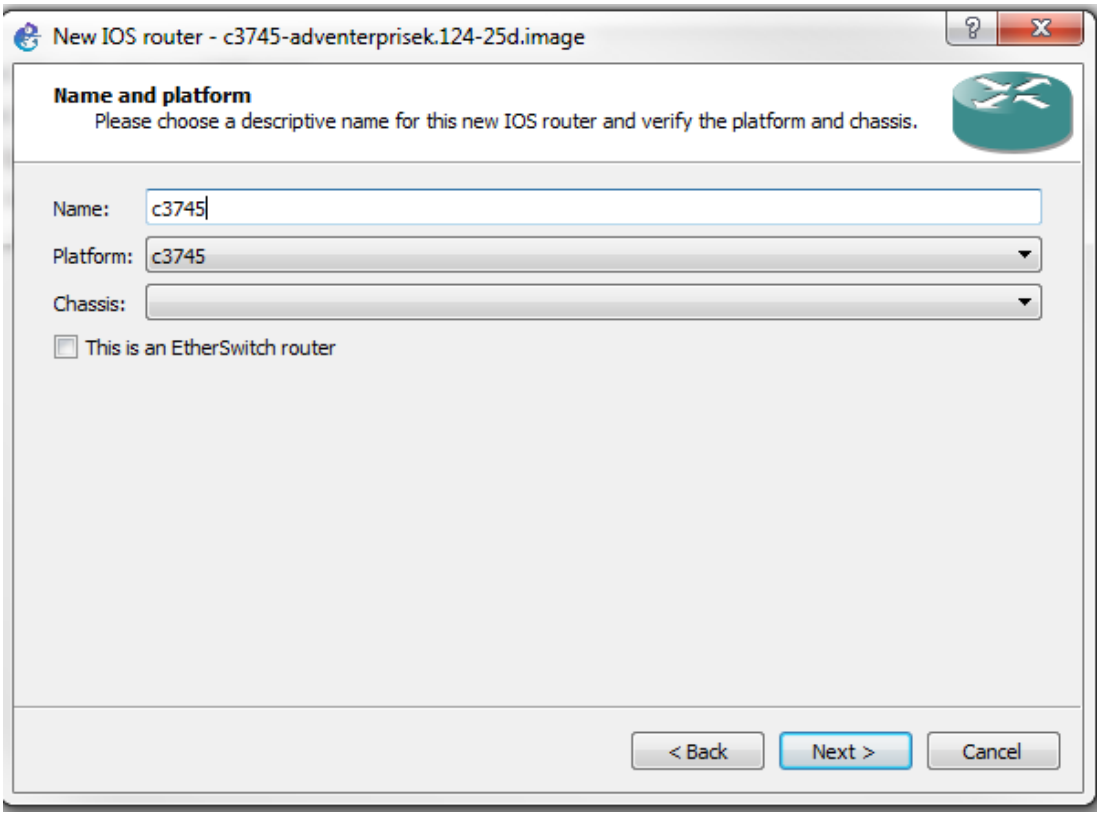

Setup Wizard
Add virtual machines
Now that you have configured the server type you can choose to add one or more virtual machines (VMs) of different types.
Add an IOS router using a real IOS image
Add an IOU device (router or switch) using an IOU image
Add a Qemu virtual machine
Add a VirtualBox virtual machine
Add a VMware virtual machine
< Back
Finish
Cancel

Download the router image file attachment on blackboard (named - c3745) and provide the path of the downloaded file in the IOS Image box below.



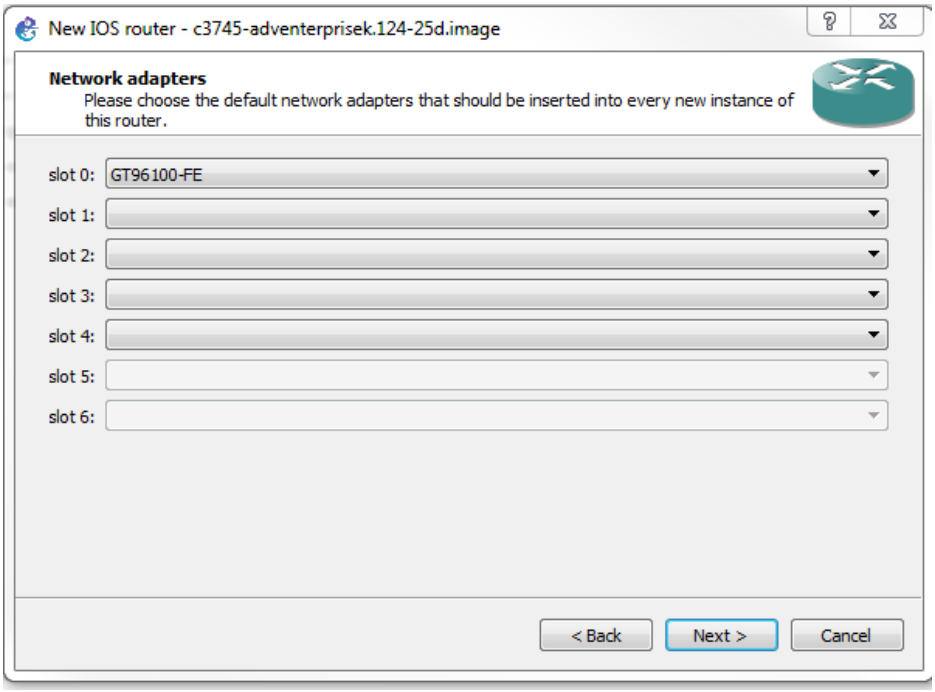


You can choose the 'Name' of the router as you like. (I have chosen simply Router, keep the platform c3745)

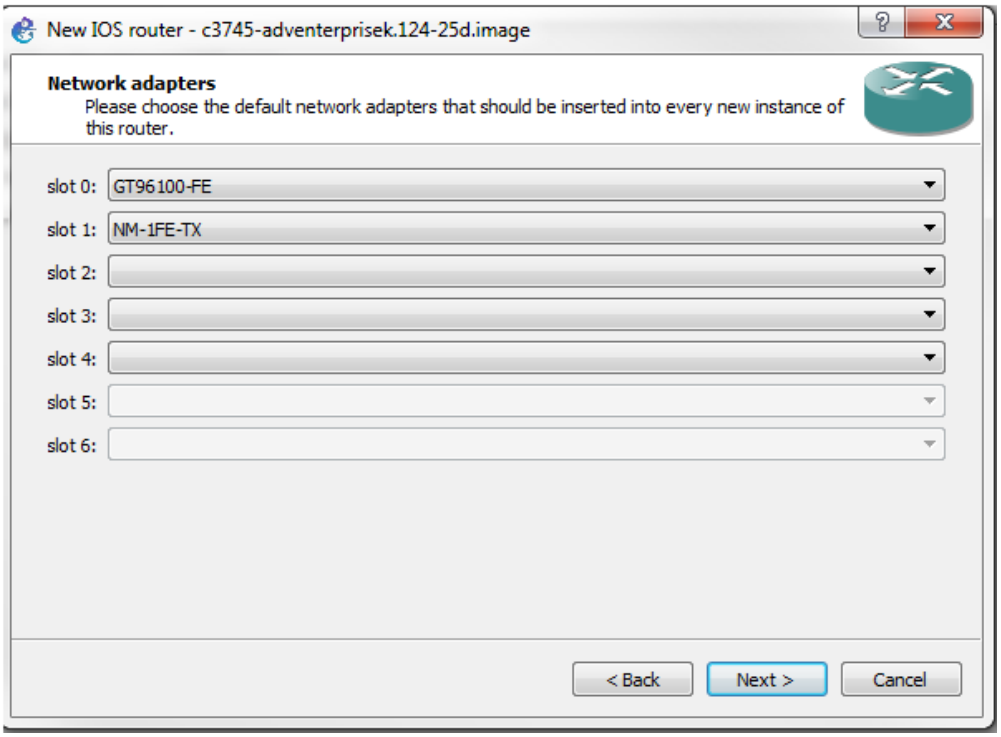


Keep default RAM 256 MB

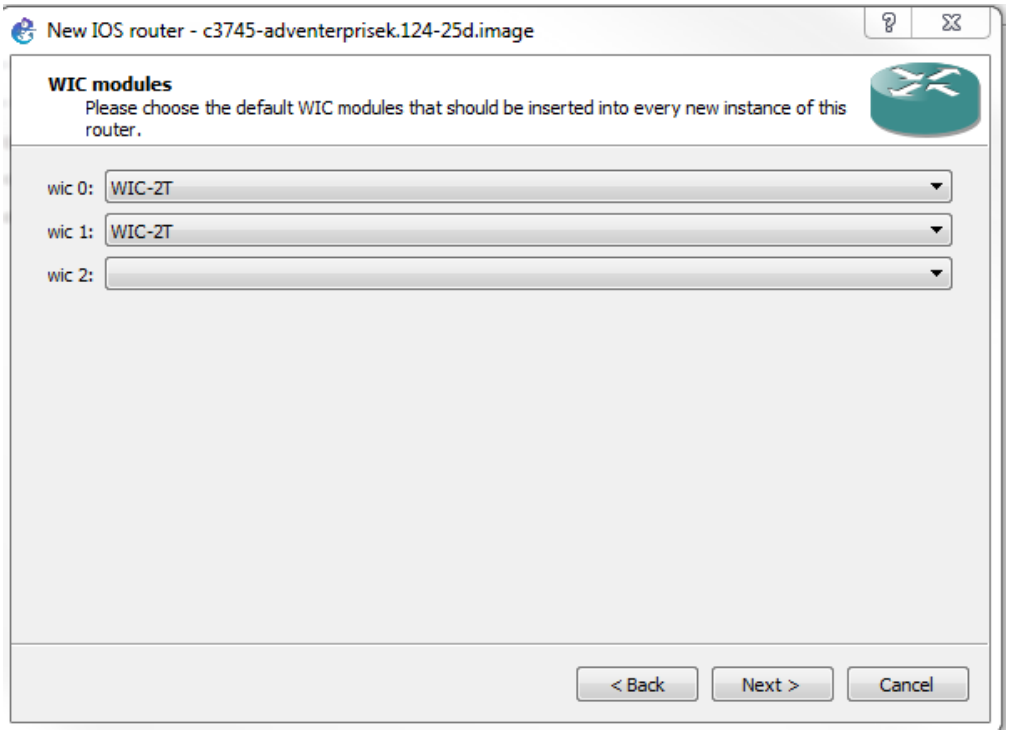
Slot 0 – for Gigabit/Fast Ethernet interfaces



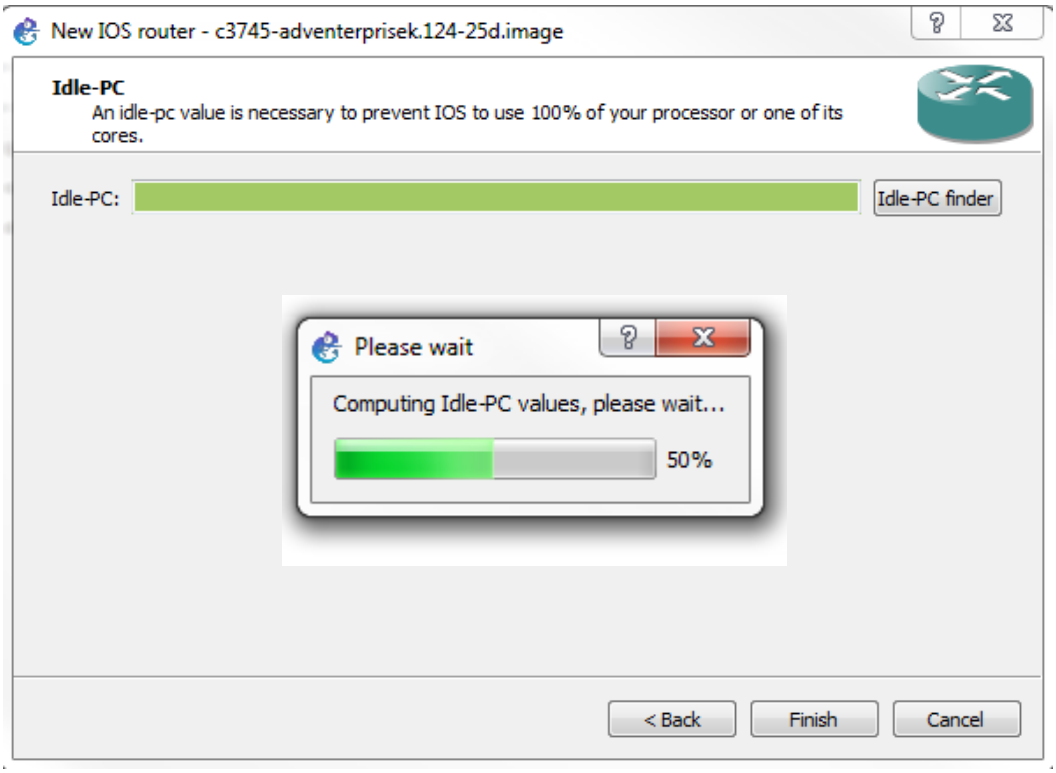
Slot 1- Fast Ethernet interfaces. You can add multiple Ethernet interfaces using these slots.

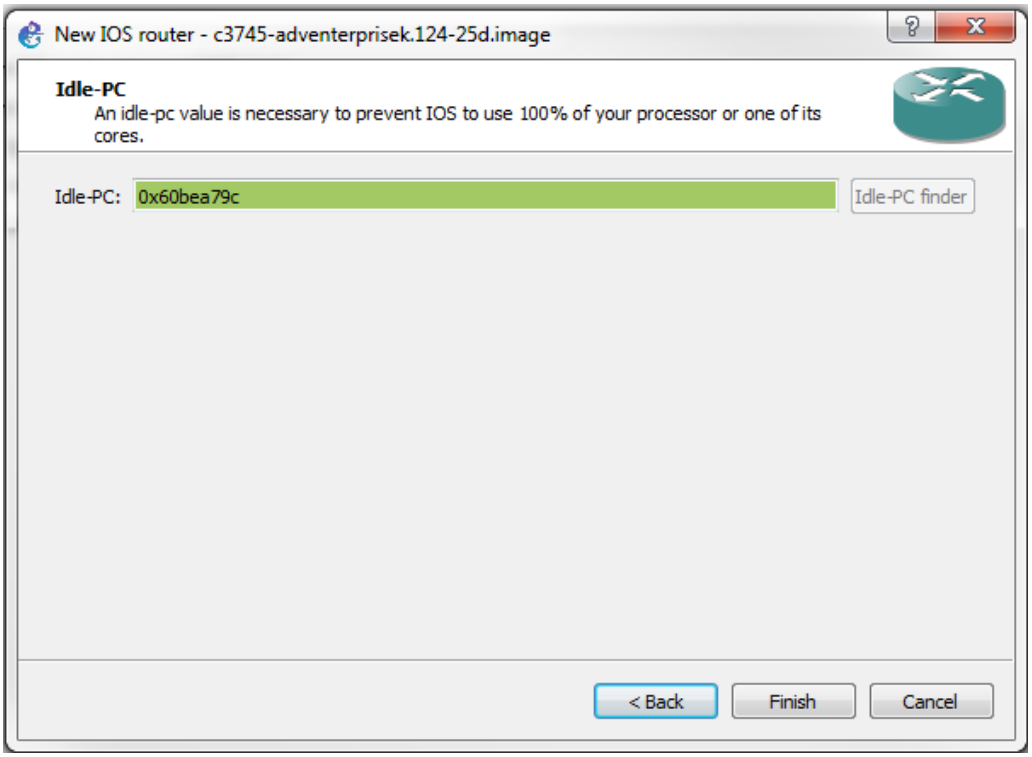


Adding Serial Terminals

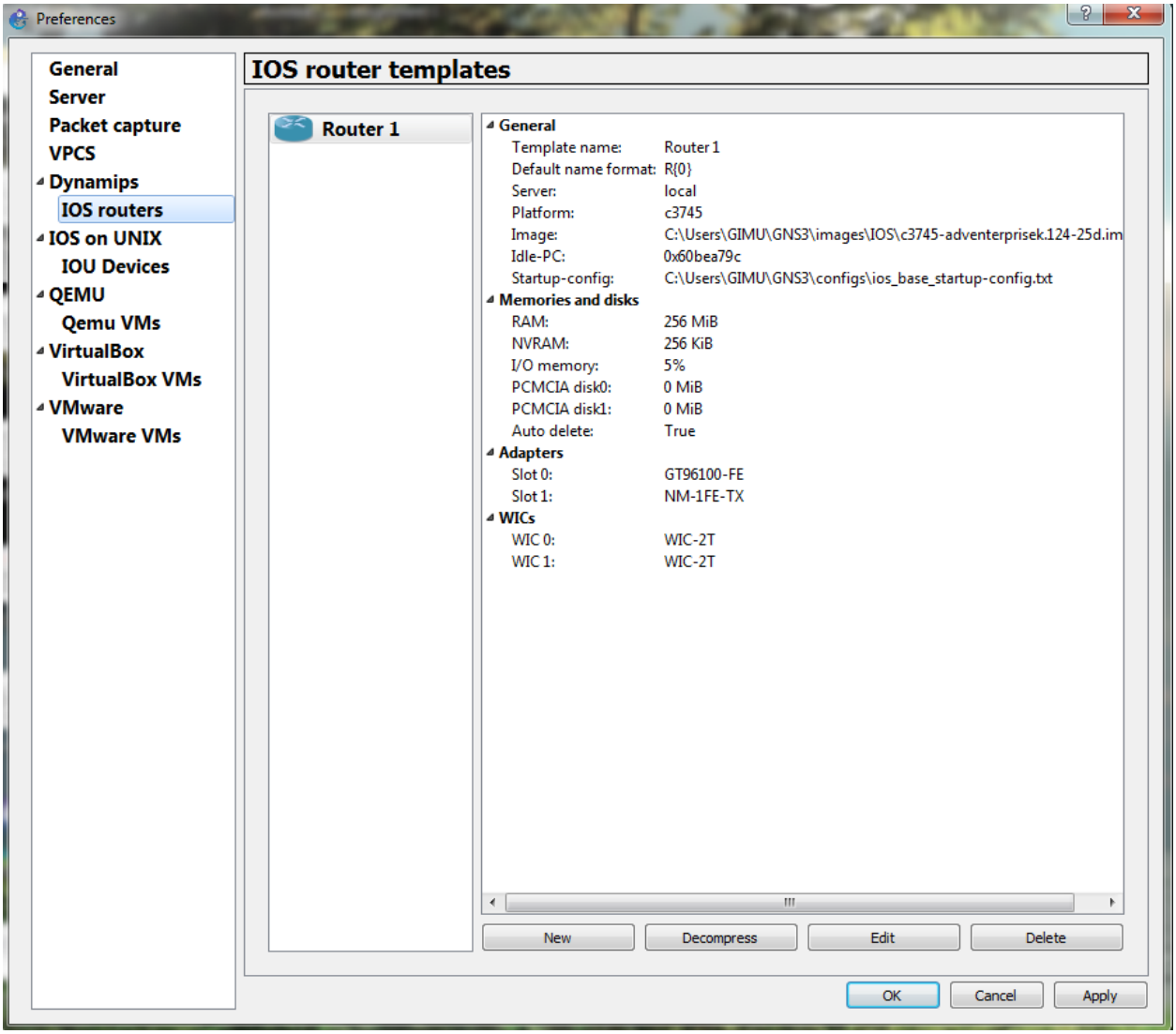


Make sure not to overload your processor, this will calculate the idle time from the system and allot it to GNS3. The process may take some time, be patient!!



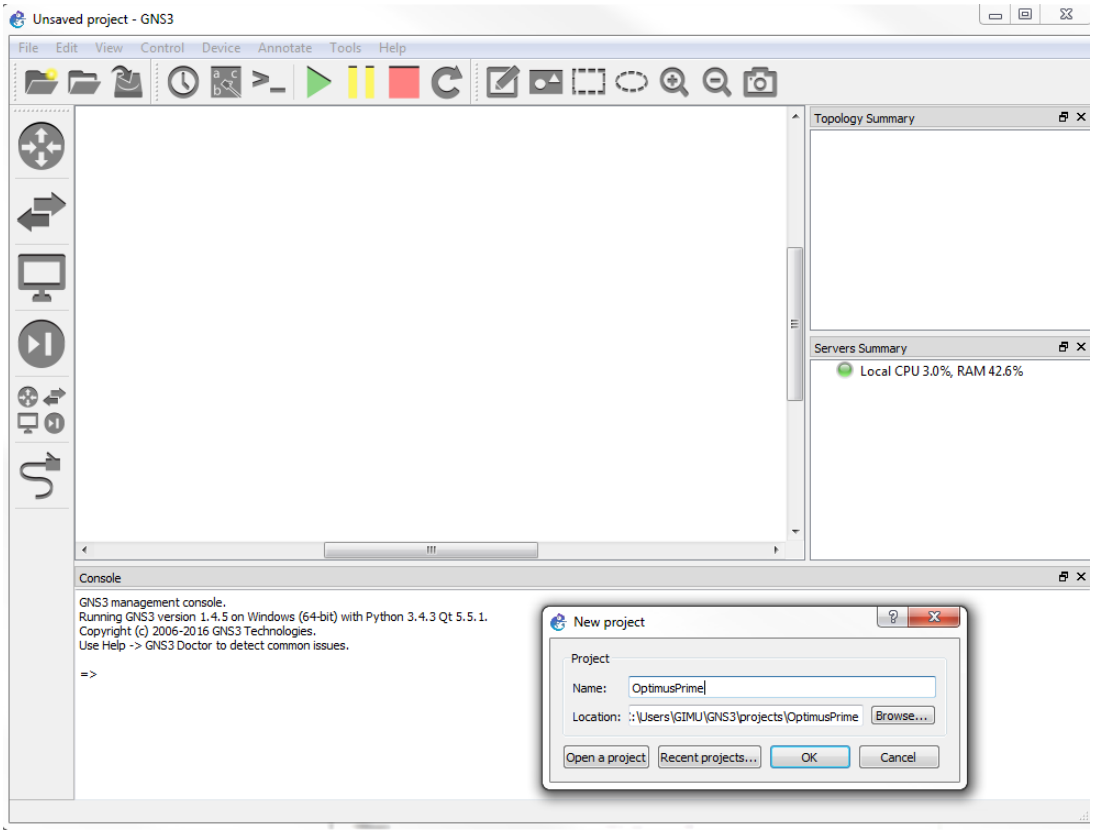


Your router image (Router 1 – I named it, In BLUE) is successfully added!



Finish, Apply and then Ok!

Creating new project!



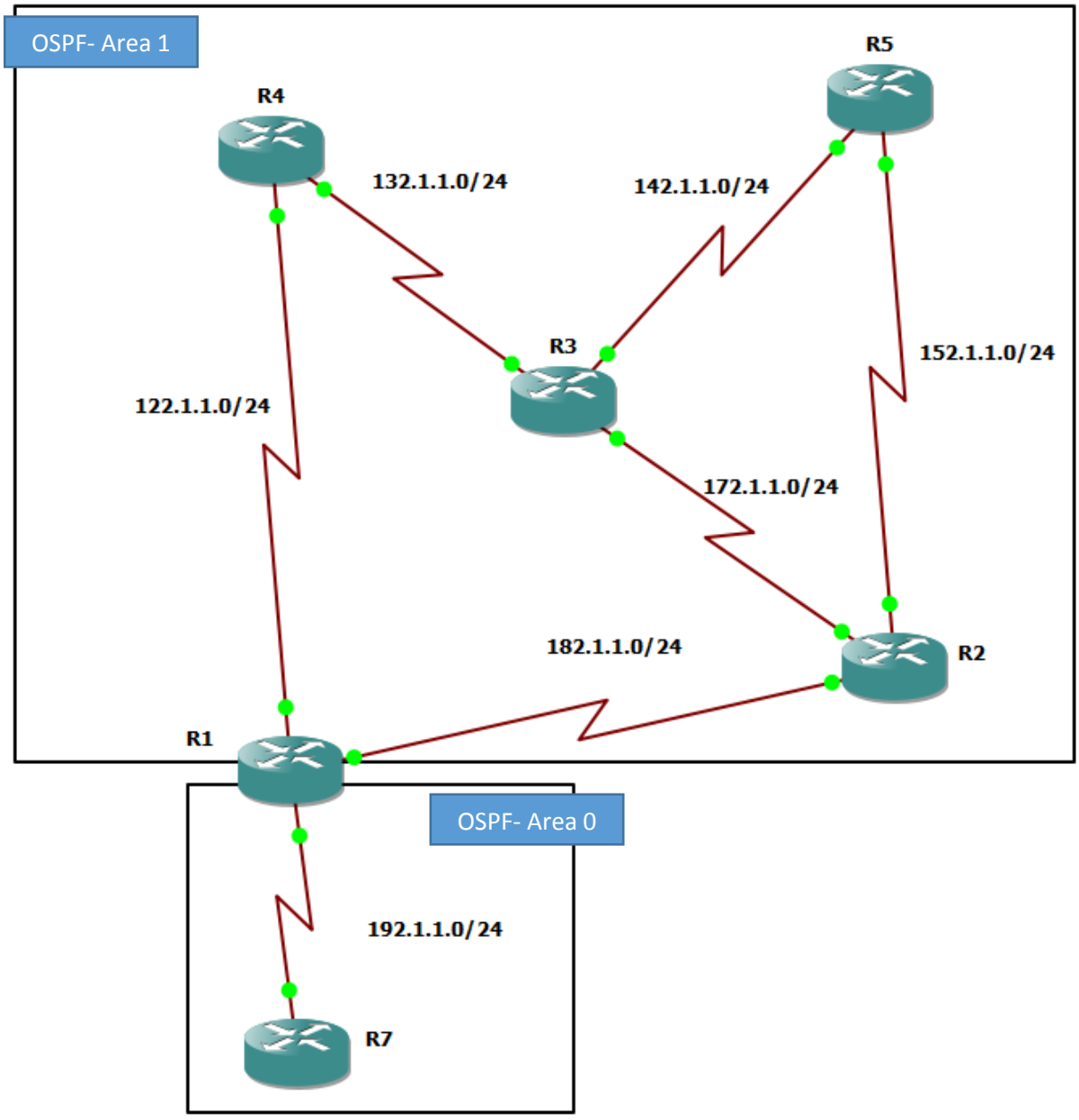
The following links will help you to configure the network.

1. http://istinfo.bk.psu.edu/labs/Network_GNS3_Nohost.pdf
2. http://computernetworkingnotes.com/routing-static-dynamics-rip-ospf-igrp-eigrp/basic-router-configurations.html
3. http://computernetworkingnotes.com/routing-static-dynamics-rip-ospf-igrp-eigrp/ospf-routing-configurations.html **(for OSPF configuration)**

Basically, you need to follow the following commands:

```
R2>enable
R2#configure terminal
R2(config)#interface s 0/0
R2(config-if)#no shutdown
R2(config-if)#ip address 192.168.100.2 255.255.255.252
R2(config-if)#exit
R2(config)#interface fa 0/1
R2(config-if)#no shutdown
R2(config-if)#ip address 192.168.102.1 255.255.255.0
R2(config-if)#exit
R2(config)#exit
R2#copy running-config startup-config
```

Implement the following topology of 6 routers.



Requirements (submit screen shots of the following):

1) Ping request from R7 to every other router

```
R5#ping 152.1.1.2

Type escape sequence to abort.
Sending 5, 100-byte ICMP Echos to 152.1.1.2, timeout is 2 seconds:
!!!!!
Success rate is 100 percent (5/5), round-trip min/avg/max = 1/3/8 ms
R5#
```

2) Traceroute request from R7 to every other router

```
R5#traceroute 182.1.1.1

Type escape sequence to abort.
Tracing the route to 182.1.1.1

  1 152.1.1.2 0 msec 0 msec 4 msec
R5#
```

3) Show ip ospf neighbor of every router

```
R5#show ip ospf neighbor

Neighbor ID     Pri   State           Dead Time   Address         Interface
182.1.1.1         0   FULL/  -        00:00:39    152.1.1.2       Serial0/1
R5#
```

4) Show ip route ospf from every router

```
R5#show ip route ospf
     172.1.0.0/24 is subnetted, 1 subnets
O       172.1.1.0 [110/128] via 152.1.1.2, 00:18:49, Serial0/1
O IA 192.1.1.0/24 [110/192] via 152.1.1.2, 00:18:49, Serial0/1
     182.1.0.0/24 is subnetted, 1 subnets
O       182.1.1.0 [110/128] via 152.1.1.2, 00:18:49, Serial0/1
R5#
```