
IT NE 2006

Configuring GNS3 VM

LAB 5

WEEK - 6

CONTENTS

Week 6 Implementing GSN3 VM

Objective: Import and configure Cisco ASAv with GNS3

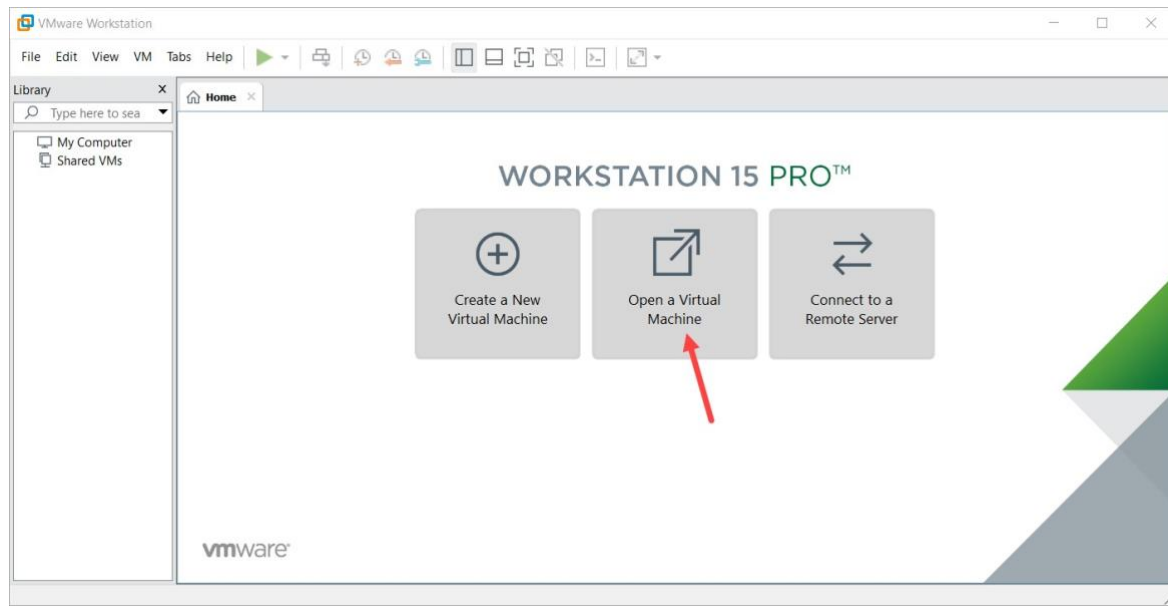
Deploy and configure Cisco ASAv with GNS3 by following instructions in https://youtu.be/GM_VmmkCEag?t=1m47s video.

In this case, we will use GNS3 ASA Template and **Cisco ASA v9.6.2 IOS image \\10.1.2.78\student\$ GNS3**.

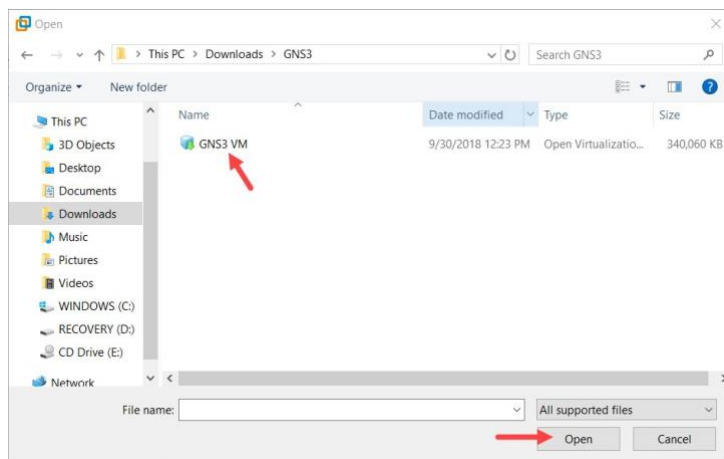
Import GNS3 VM into VMware Workstation

In this section, you will how to import the GNS3 VM into VMware Workstation on your local Windows PC.

In VMware Workstation, click **Open a Virtual Machine**



Navigate to the directory [\\10.20.10.2\\student\\$\\GNS3 V2.1.21](\\10.20.10.2\\student$\\GNS3 V2.1.21) where **GNS3 VM** is located and click **Open** to open the OVA:

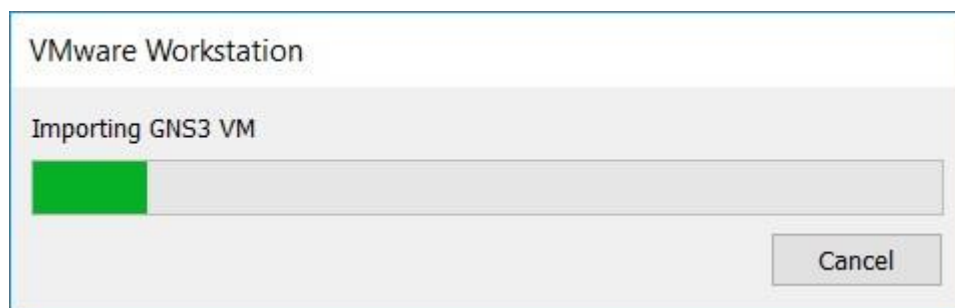


Leave the virtual machine name as GNS3 VM and click Import:

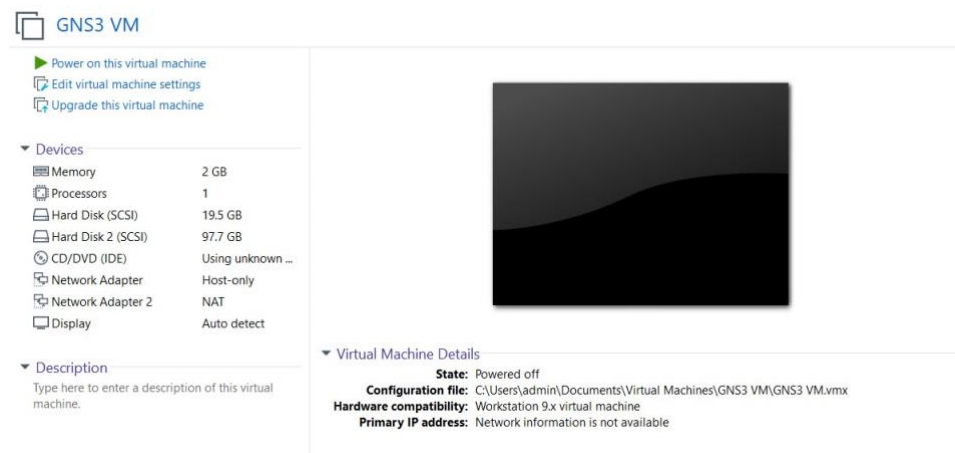


WARNING With VMware Player it's recommended to keep the default location. GNS3 will try to detect VMs outside, but unlike Workstation VMware Player doesn't offer a central database with all VMs location.

VMware Workstation will import the GNS3 VM:



The GNS3 VM will show as available in VMware Workstation. Leave all settings at their defaults:

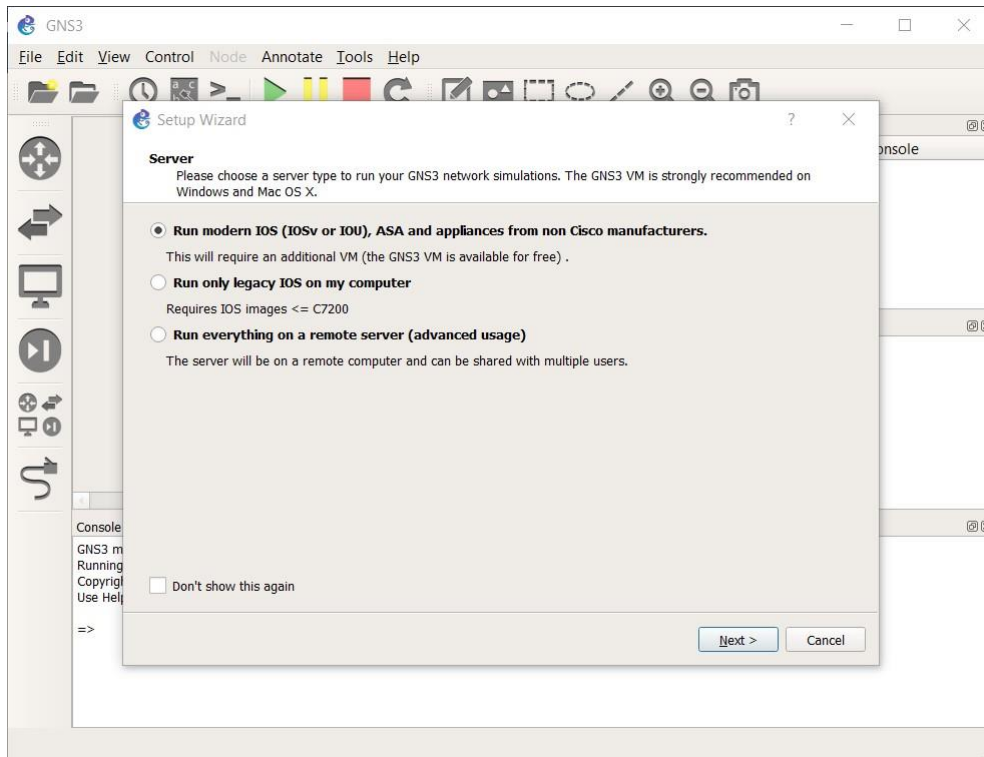


Congratulations! You have successfully imported the GNS3 VM. In the next section, you will integrate GNS3 with the GNS3 VM.

Close GNS3 and Open it again

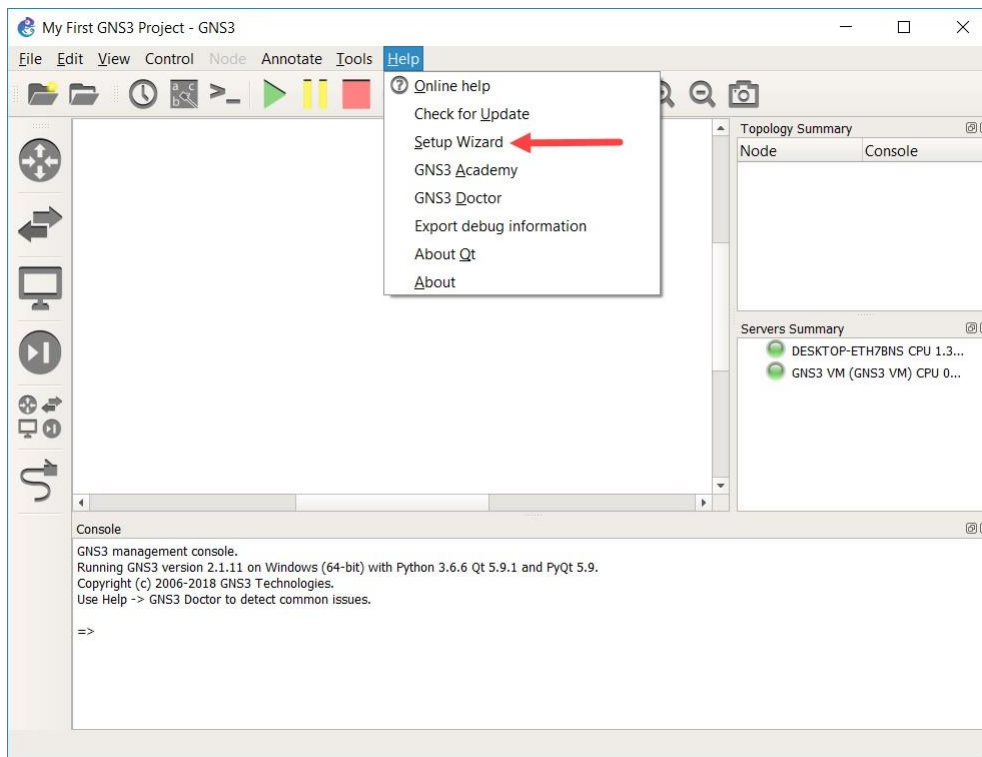
Local GNS3 VM Setup Wizard

The GNS3 Setup Wizard is displayed when GNS3 starts up for the first time. This provides an easy way to initially configure GNS3 options:



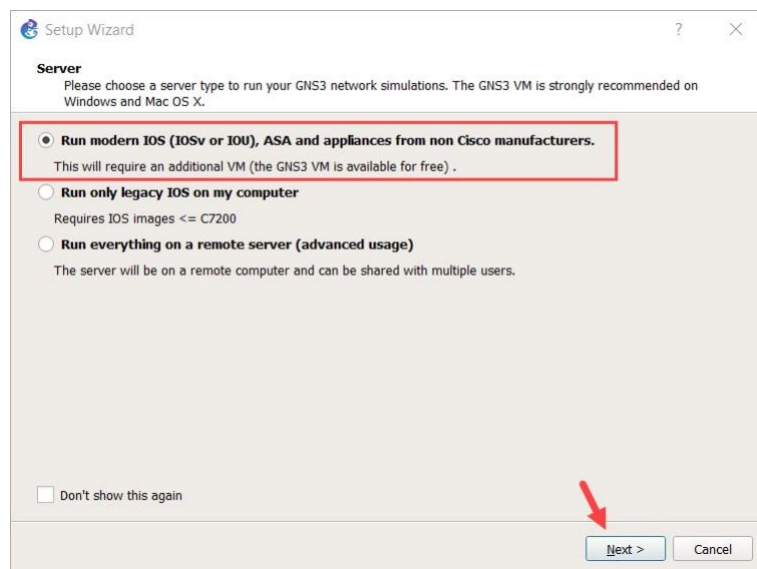
Manually_starting_the_Setup_Wizard

You can also manually start the Setup Wizard at any time by clicking Help->Setup Wizard in the GNS3 software:



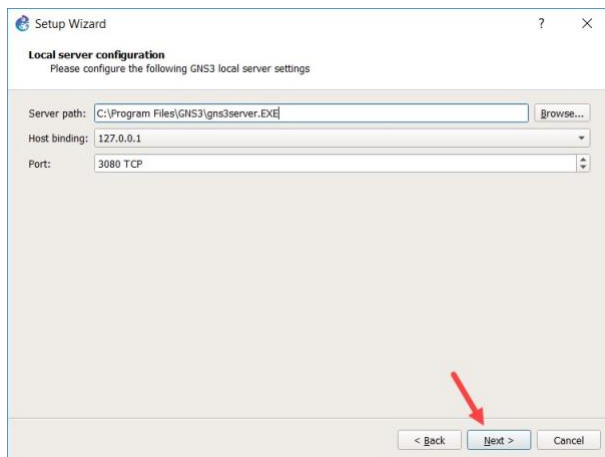
Using the GNS3 Setup Wizard

Select Run Modern IOS (IOSv or IOU), ASA, and appliances from non-Cisco manufacturers in the Wizard and click next >:



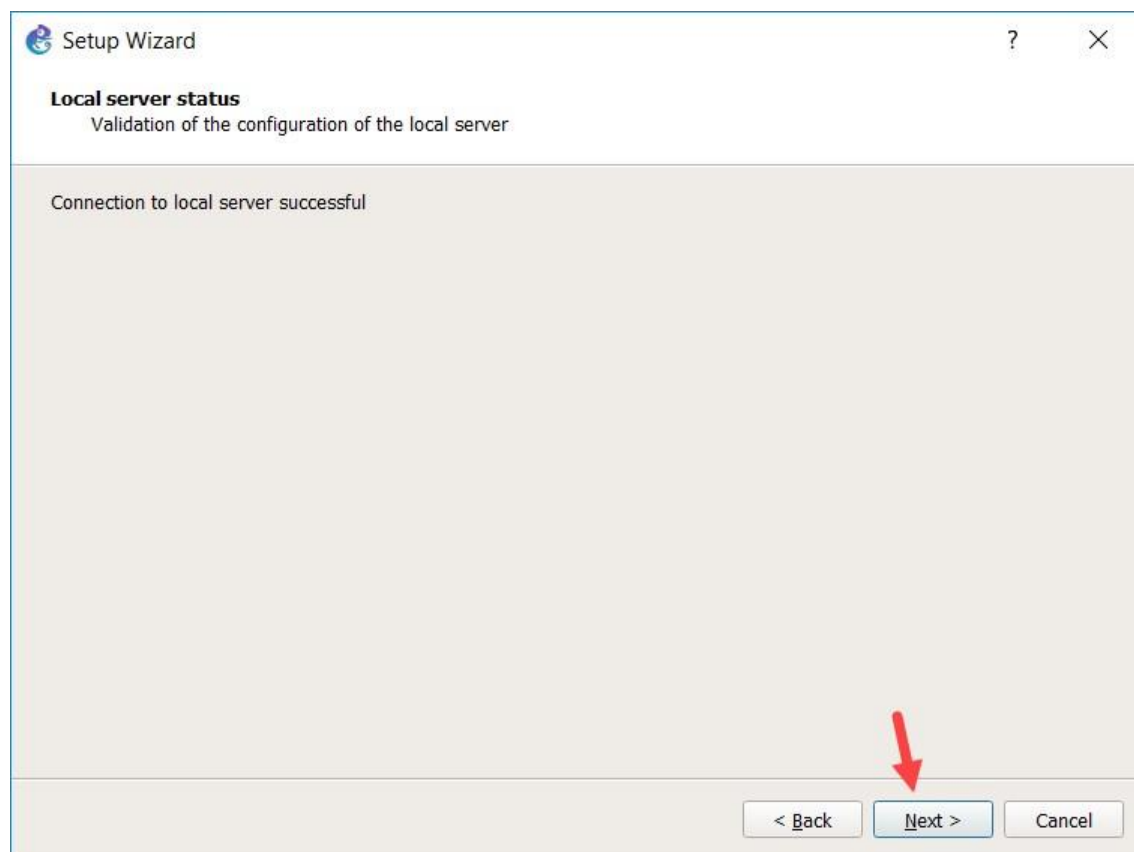
IMPORTANT This guide explains the Local GNS3 VM server configuration.

Even though you'll be using the GNS3-VM to perform the "heavy lifting" of running your VMs/images/containers, it's still necessary to configure the local server settings in GNS3 before proceeding with the remaining process of configuring the GNS3-VM.



Ensure that the path to the gns3server executable is correct (typically C:\Program Files\GNS3" in a default installation), and select a Host binding and Port. Selecting the 127.0.0.1 local loopback address tends to be the most trouble-free option to use as a host binding, but the dropdown menu does contain additional options. Click Next.

A connection validation screen will appear to next:



If successful, click Next. If this connection attempt was unsuccessful for any reason, there possible remedies are to:

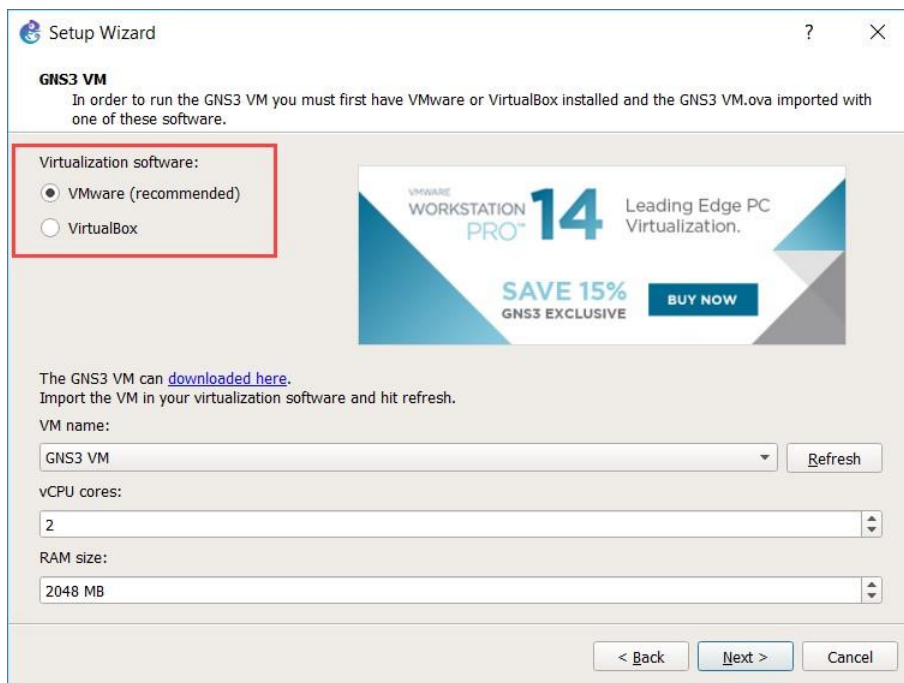
Confirm the path to the gns3server.exe file is correct, and try a different address/port for the host binding

Create exception/whitelist entries in your antivirus suite for the gns3server, ubridge, and dynamips executables (or just the entire GNS3 installation directory, if possible). You'll need to refer to the relevant documentation of the antivirus suite you run, in order to perform this step.

NOTE:

An additional step that may be necessary is to allow the gns3server, ubridge, and dynamips executables through the private side of the Windows Firewall. The default behavior is for these to already be allowed through, but it's well worth double-checking.

The Virtualization software you are going to use needs to be selected. In this example, VMware (recommended) is selected:



The Setup Wizard will detect the presence of the GNS3 VM in VMware Workstation. If the GNS3 VM is not displayed, click the Refresh button and ensure that the VM was imported correctly into VMware Workstation:

Setup Wizard

GNS3 VM

In order to run the GNS3 VM you must first have VMware or VirtualBox installed and the GNS3 VM.ova imported with one of these software.

Virtualization software:

☒ VMware (recommended)

☐ VirtualBox

VMware WORKSTATION PRO 14 Leading Edge PC Virtualization.

SAVE 15% GNS3 EXCLUSIVE BUY NOW

The GNS3 VM can [downloaded here](#).

Import the VM in your virtualization software and hit refresh.

VM name:

GNS3 VM Refresh

vCPU cores:

2

RAM size:

2048 MB

< Back Next > Cancel

Change the CPU to 2 and RAM values to 4096 MB and then click Next > :

Setup Wizard

GNS3 VM

In order to run the GNS3 VM you must first have VMware or VirtualBox installed and the GNS3 VM.ova imported with one of these software.

Virtualization software:

☒ VMware (recommended)

☐ VirtualBox

VMware WORKSTATION PRO 14 Leading Edge PC Virtualization.

SAVE 15% GNS3 EXCLUSIVE BUY NOW

The GNS3 VM can [downloaded here](#).

Import the VM in your virtualization software and hit refresh.

VM name:

GNS3 VM Refresh

vCPU cores:

1

RAM size:

2048 MB

< Back Next > Cancel

After making your allocation choices, click Next > :

The screenshot shows the 'Setup Wizard' window for configuring a GNS3 VM. The title bar includes a question mark and a close button. The main heading is 'GNS3 VM', followed by instructions: 'In order to run the GNS3 VM you must first have VMware or VirtualBox installed and the GNS3 VM.ova imported with one of these software.' Below this, the 'Virtualization software:' section has two radio buttons: 'VMware (recommended)' (selected) and 'VirtualBox'. To the right is a VMware Workstation 14 Pro advertisement. Further down, a link says 'The GNS3 VM can [downloaded here](#). Import the VM in your virtualization software and hit refresh.' The 'VM name:' field is a dropdown menu showing 'GNS3 VM' with a 'Refresh' button. The 'vCPU cores:' field is a spinner set to '1'. The 'RAM size:' field is a spinner set to '2048 MB'. At the bottom right, a red arrow points to the 'Next >' button, with '< Back' and 'Cancel' buttons also visible.

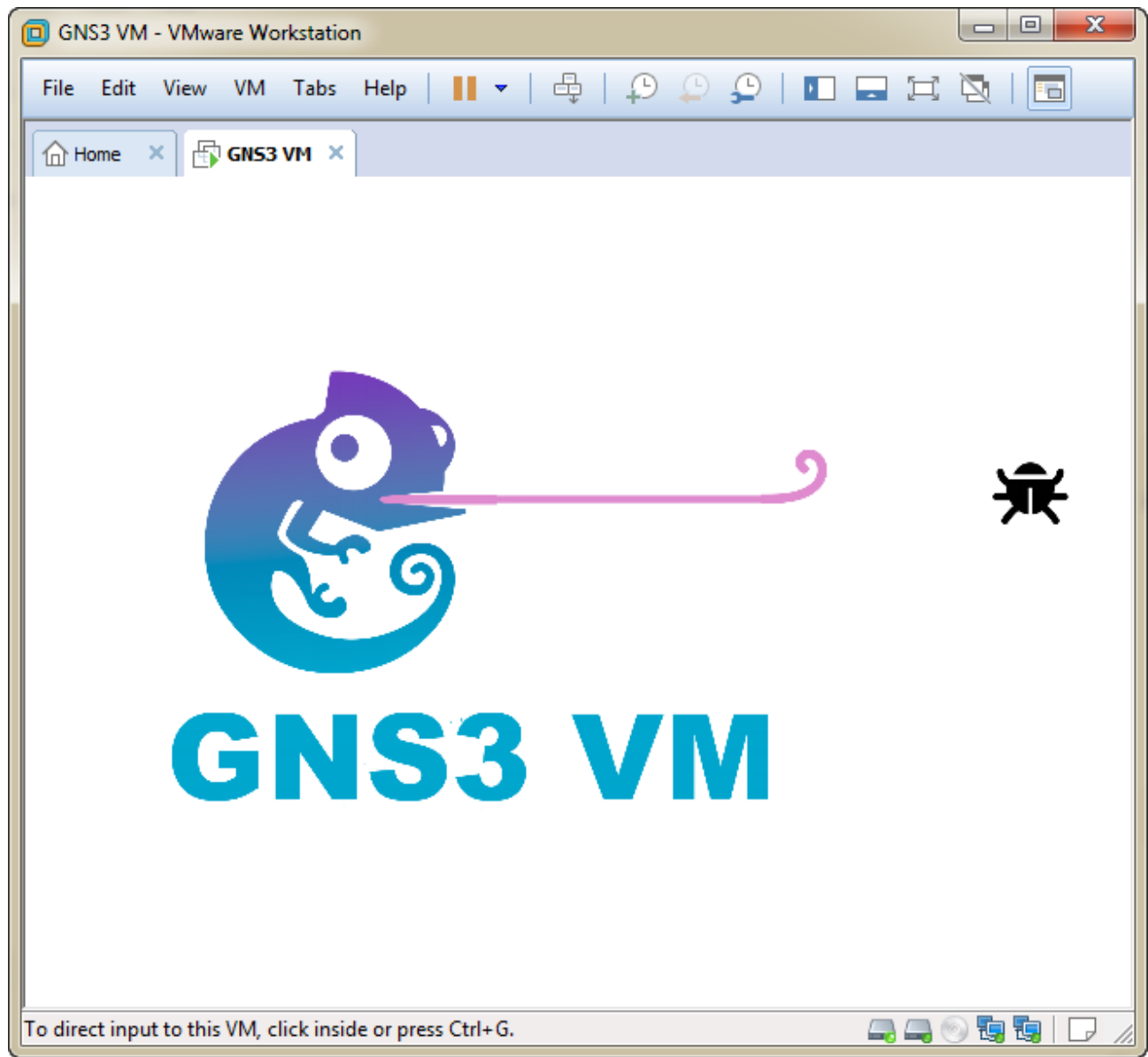
The next page will show a summary of the settings you chose for the GNS3 VM. You may see a pop up saying “Please Wait”. That’s perfectly normal, as it’s due to GNS3 starting the GNS3 VM up:

The screenshot shows the 'Summary' page of the 'Setup Wizard'. The title bar has a question mark and a close button. The heading is 'Summary', with the text 'The server type has been configured, please see the summary of the settings below'. Below this is a table summarizing the configuration:

Server type:	GNS3 Virtual Machine
VM engine:	Vmware
VM name:	GNS3 VM
VM vCPUs:	2
VM RAM:	2048 MB

At the bottom right, there are three buttons: '< Back', 'Finish', and 'Cancel'.

VMware view of GNS3 VM starting up:



Once booted successfully, the IP address of the GNS3 VM will be displayed:

GNS3 2.1.11

GNS3 version: 2.1.11
VM version: 0.10.14
KVM support available: True

IP: 192.168.182.129

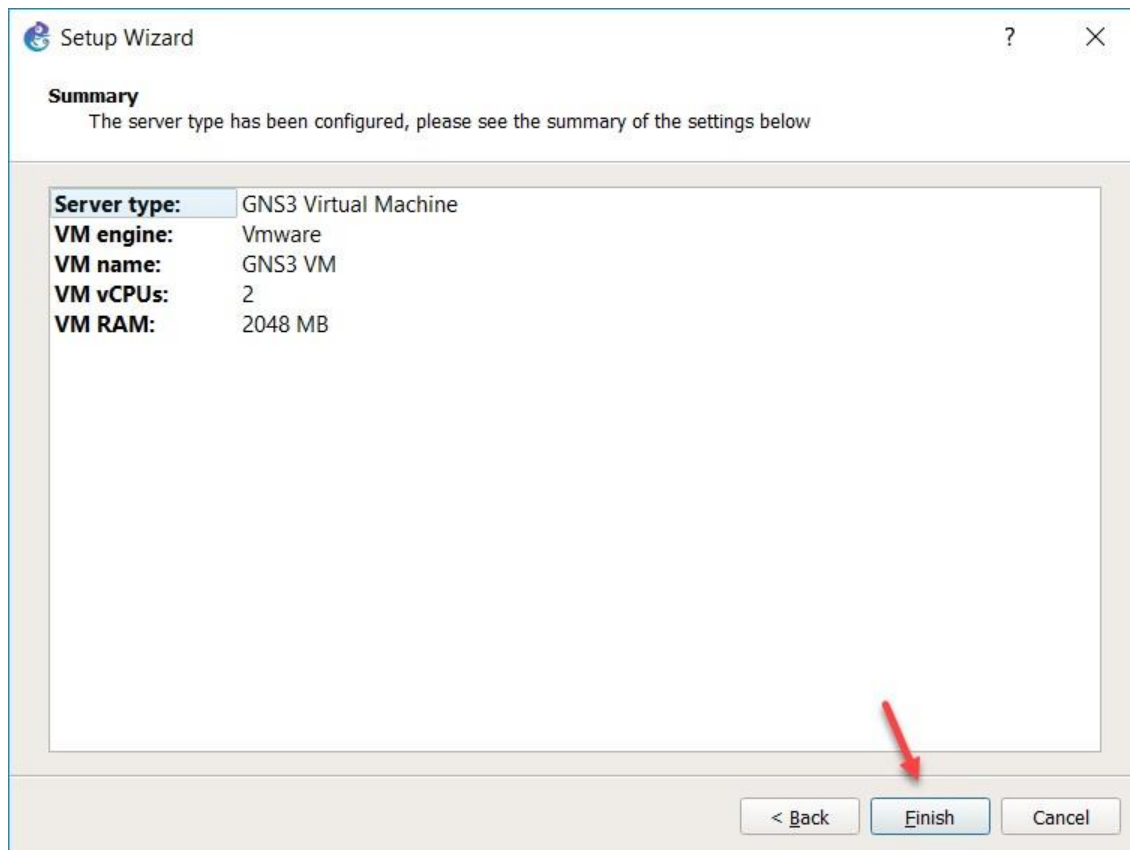
To log in using SSH:
ssh gns3@192.168.182.129
Password: gns3

Images and projects are located in /opt/gns3

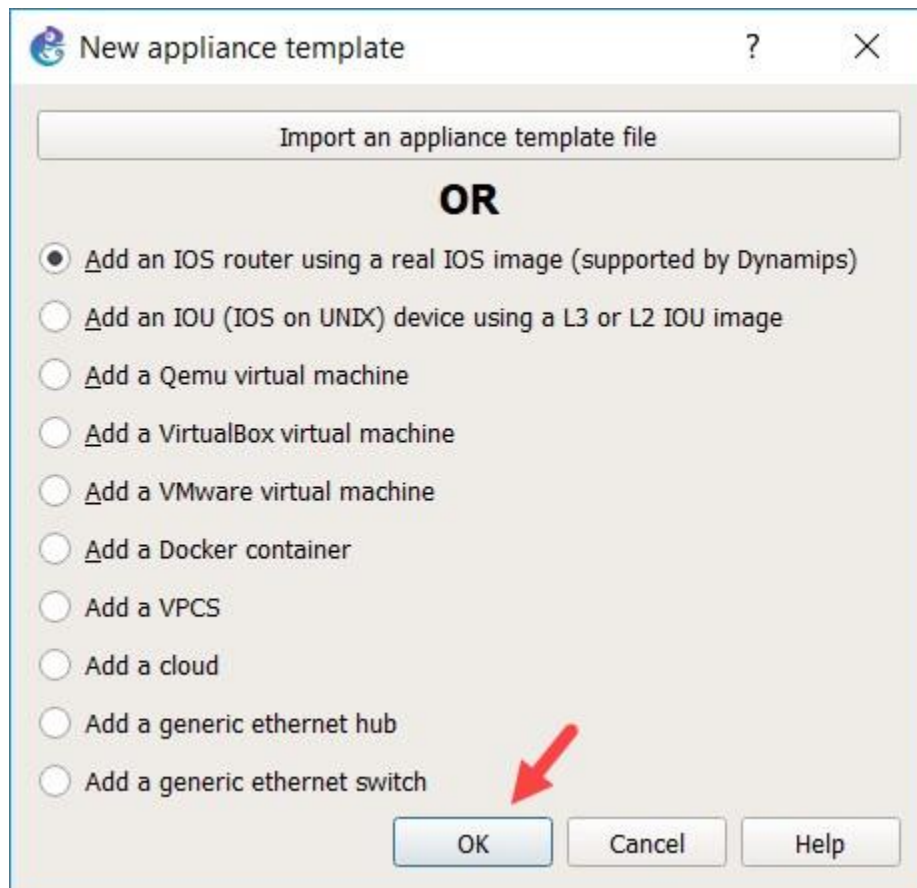
Release channel: 2.1

< OK >

Once the GNS3-VM has been loaded, you can click Finish on the summary page in the GNS3 Setup Wizard to continue:

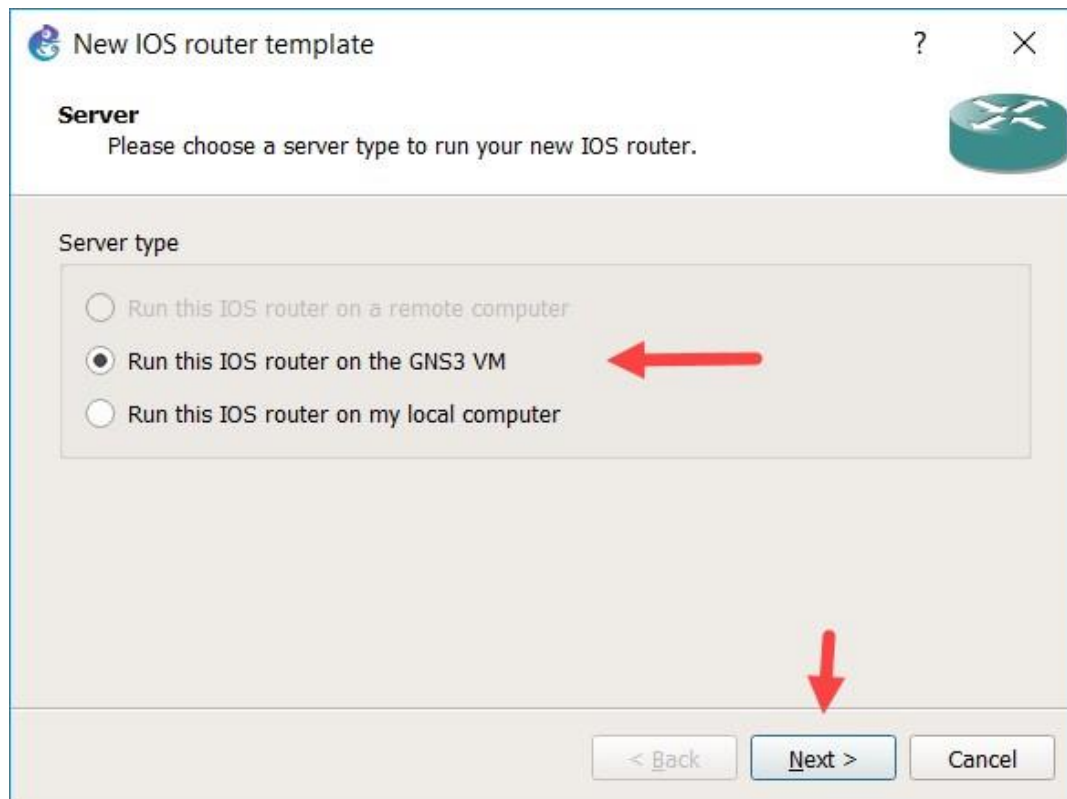


GNS3 will now display the following **New Appliance Template** window, which lists the various virtual device types you can use. None of them are selected by default, but this guide will use the “**Add an IOS router using a real IOS image (supported by Dynamips)**” option. For all other options, see other guides on the GNS3 website.

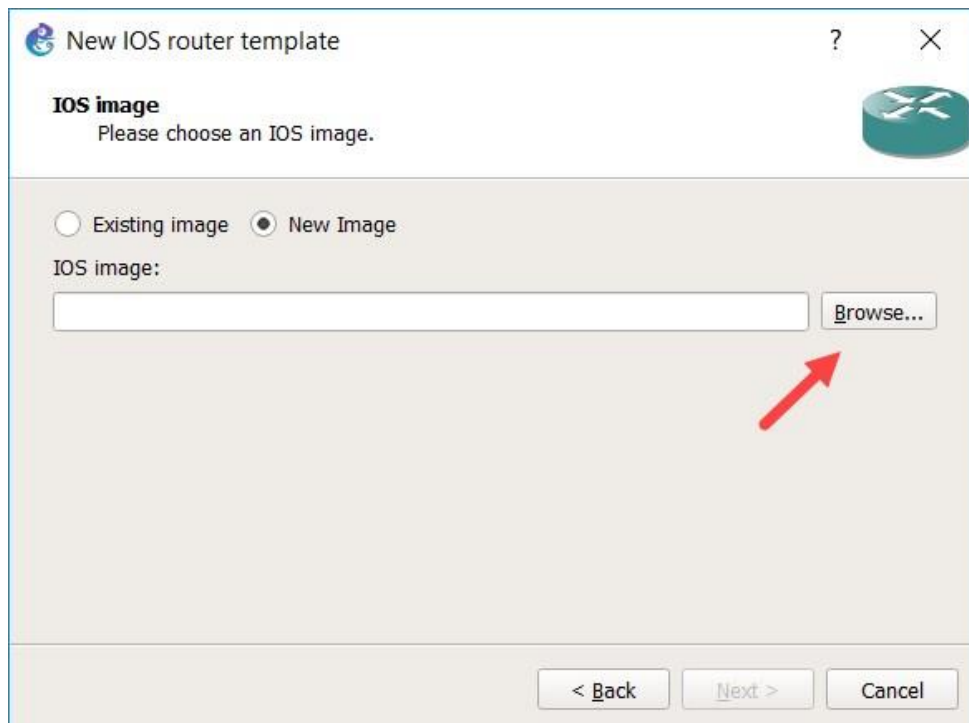


Click **OK**.

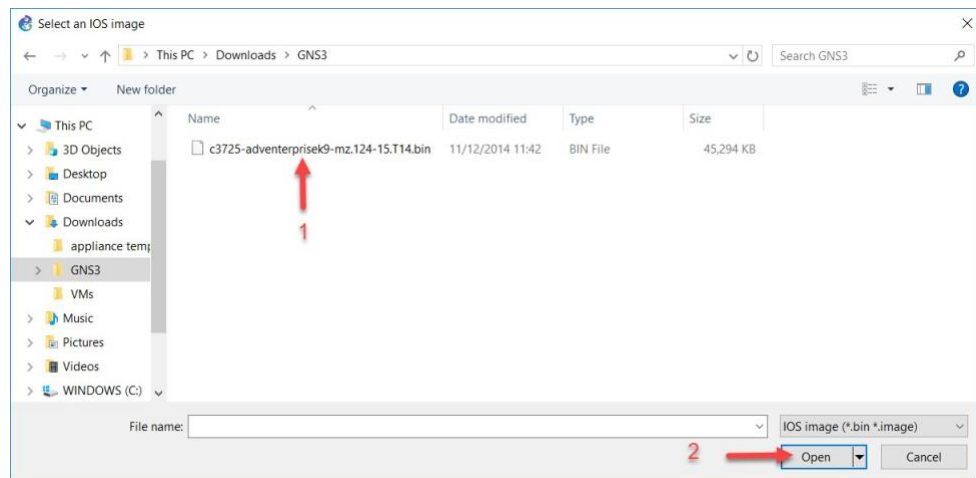
In the **New IOS router template** window, select **Run the IOS router on the GNS3 VM** and click **Next >** :



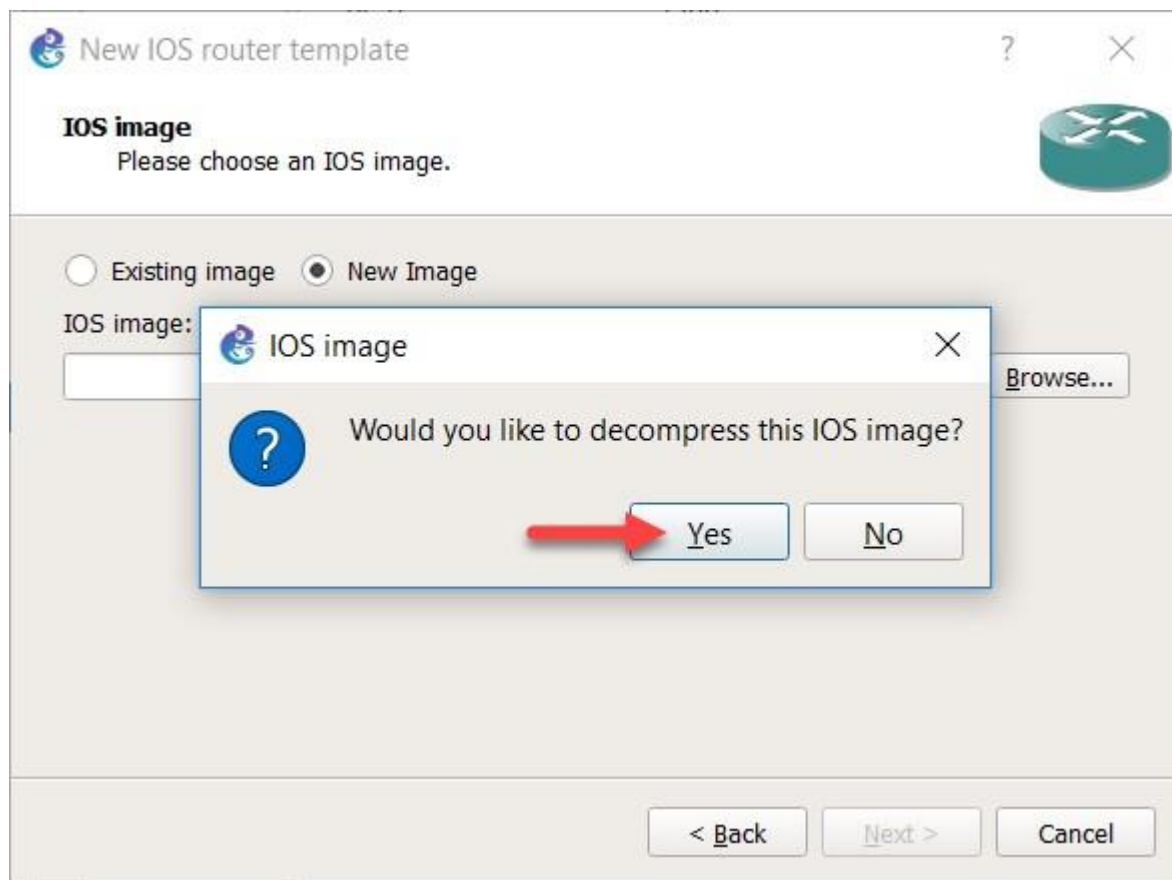
The **New IOS router template** window displays. Click **Browse...** to find a local IOS image on your computer:



Browse to the folder [\\10.20.10.2\\student\\$\\GNS3\\GNS3 IOS Images\\](\\10.20.10.2\\student$\\GNS3\\GNS3 IOS Images\\) Cisco IOS images, select **c3725adventerprisek9-mz124-15** image and click **Open**:

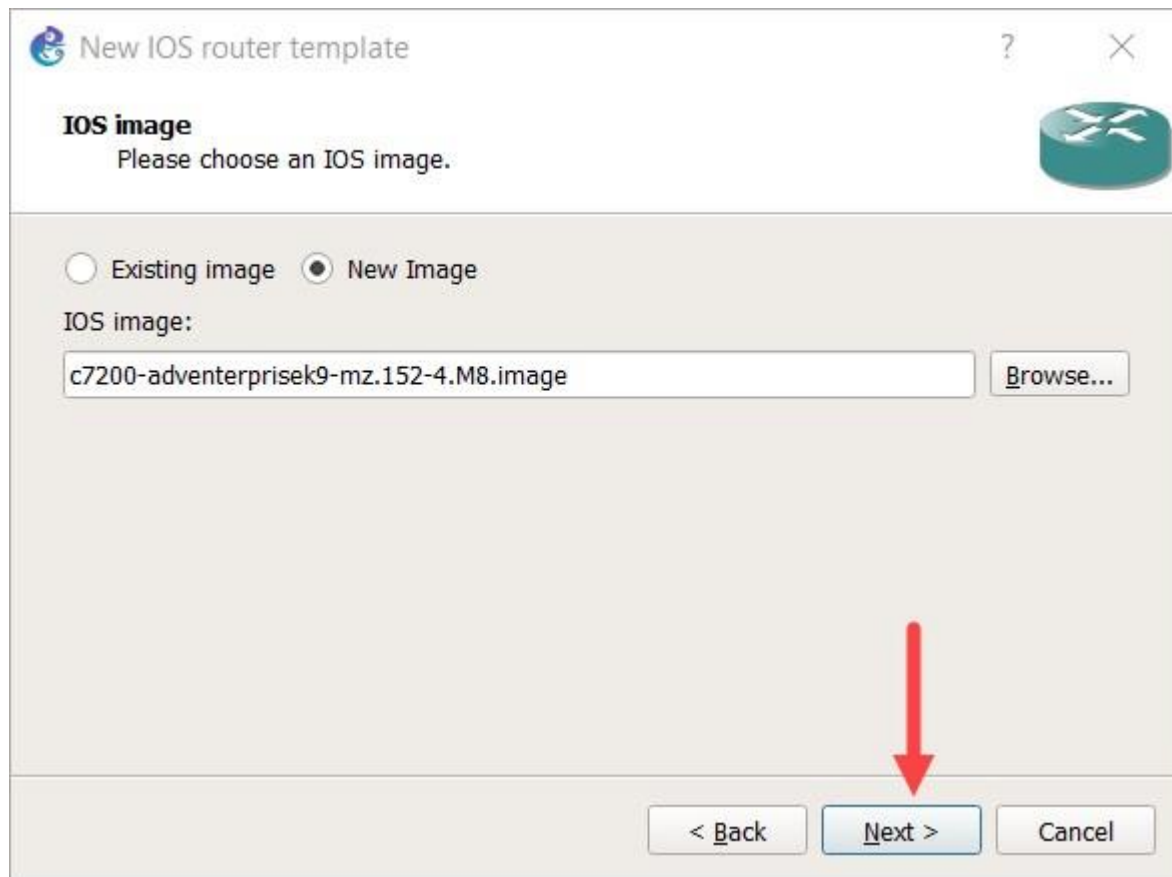


GNS3 can decompress IOS images to allow for quicker booting of routers in your GNS3 topologies. This is recommended for a better user experience. Click **Yes** to uncompress the image:



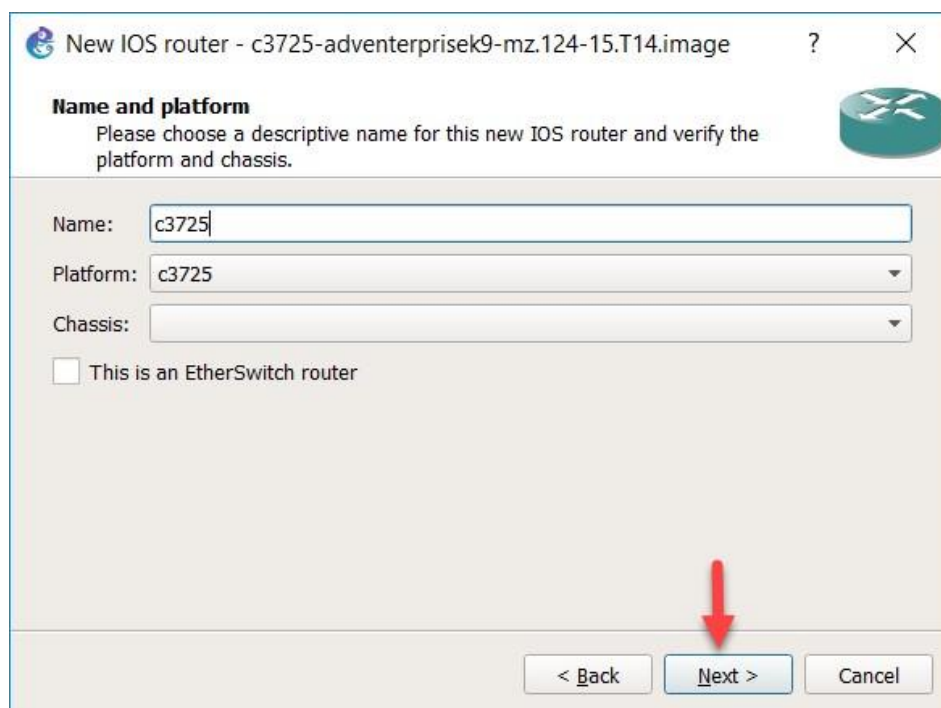
The image is automatically uploaded to the GNS3 VM (this may take a few moments, depending on the speed of your PC, and the size of the image/VM).

The uploaded image is shown. Click **Next >** to continue the setup:



The dialog box is titled "New IOS router template" and contains a Cisco router icon. The main heading is "IOS image" with the instruction "Please choose an IOS image." Below this, there are two radio buttons: "Existing image" and "New Image", with "New Image" selected. A text field labeled "IOS image:" contains the value "c7200-adventerprisek9-mz.152-4.M8.image", followed by a "Browse..." button. At the bottom, there are three buttons: "< Back", "Next >", and "Cancel". A red arrow points to the "Next >" button.

The Name and platform window displays. Confirm the **Platform** selection, and configure the router **Name** as **c3725-S000-VM** and click **Next >** :



The dialog box is titled "New IOS router - c3725-adventerprisek9-mz.124-15.T14.image" and contains a Cisco router icon. The main heading is "Name and platform" with the instruction "Please choose a descriptive name for this new IOS router and verify the platform and chassis." Below this, there are three text fields: "Name:" with the value "c3725", "Platform:" with the value "c3725", and "Chassis:" which is empty. There is a checkbox labeled "This is an EtherSwitch router" which is unchecked. At the bottom, there are three buttons: "< Back", "Next >", and "Cancel". A red arrow points to the "Next >" button.

A Default RAM setting is displayed. It is **important** that you check your Router's minimum memory requirements using the Cisco website. Click the **Check for minimum and maximum RAM requirement** option:

New IOS router - c3725-adventerprisek9-mz.124-15.T14.image ? X

Memory
Please check the amount of memory (RAM) that you allocate to IOS. Too much or not enough RAM could prevent IOS from starting.

Default RAM: 128 MiB

[Check for minimum and maximum RAM requirement](#)

< Back Next > Cancel

Set the Default RAM value to the value recommended by the Cisco Feature Navigator (yours may be different to the screenshot) and click **Next >** :

New IOS router - c3725-adventerprisek9-mz.124-15.T14.image ? X

Memory
Please check the amount of memory (RAM) that you allocate to IOS. Too much or not enough RAM could prevent IOS from starting.

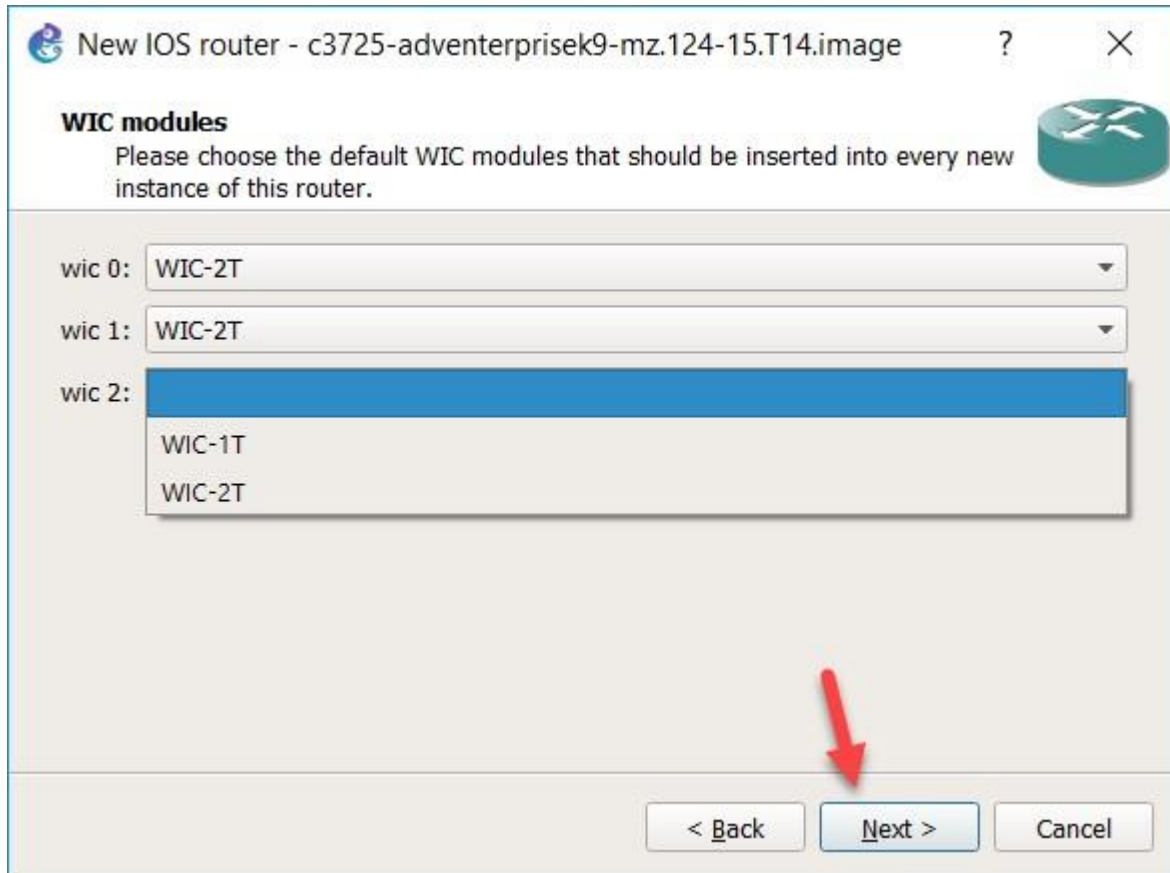
Default RAM: 256 MiB

[Check for minimum and maximum RAM requirement](#)

< Back Next > Cancel

Select your preferred Network adapters. This is device dependant. With this c3725 image, Leave as default Click **Next >** :

WIC modules can now be added. Again, it's device dependent on whether WIC slots are available, select only 1 WIC-2T in slot 2. Once completed, click **Next >** :



New IOS router - c3725-adventerprisek9-mz.124-15.T14.image

WIC modules
Please choose the default WIC modules that should be inserted into every new instance of this router.

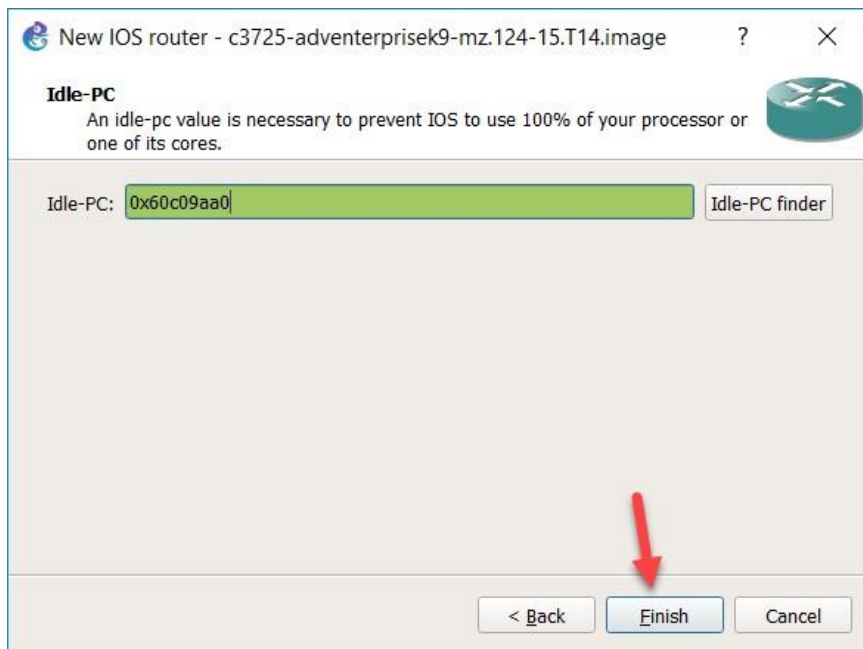
wic 0: WIC-2T

wic 1: WIC-2T

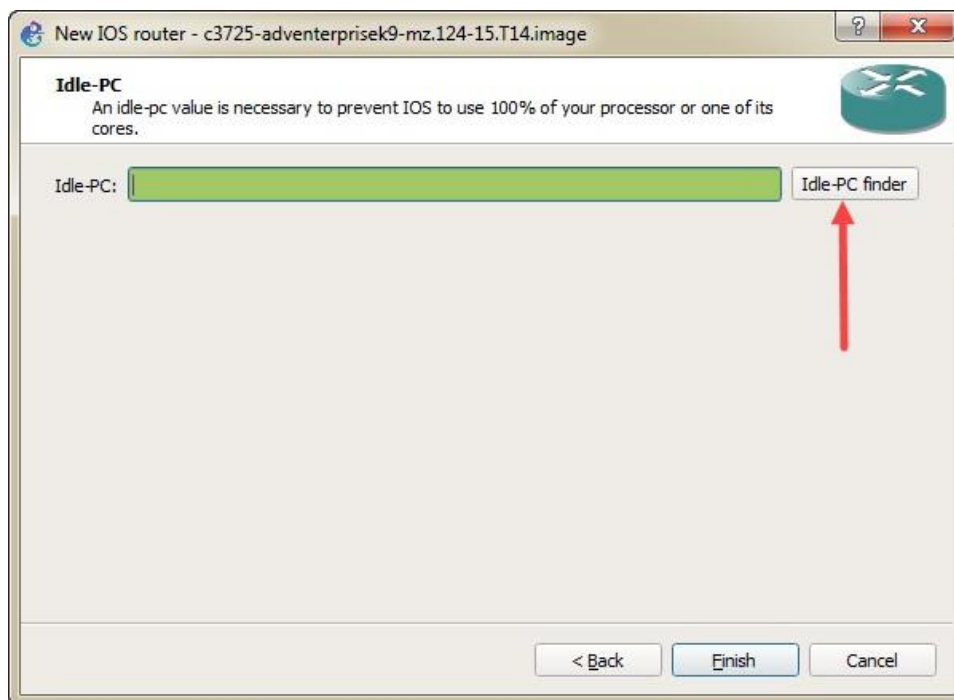
wic 2: WIC-1T
WIC-2T

< Back Next > Cancel

It is important for optimum GNS3 performance that an **Idle-PC** value be selected. If a green Idle-PC value is NOT shown then click the **Idle-PC finder** button to find an Idle-PC value. This c3725 happens to already have an optimum idle-pc value predefined, so it's OK to click Finish:

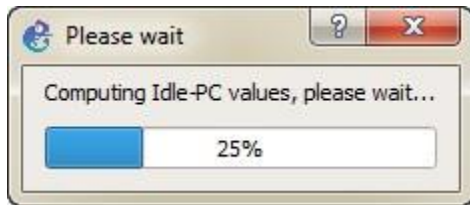


If your device does NOT have an idle-pc value predefined, click the Idle-pc finder button in the upper right to initiate that process:



It is important for optimum GNS3 performance that an **Idle-PC** value be selected. If a green Idle-PC value is NOT shown then click the **Idle-PC finder** button to find an Idle-PC value:

If you selected the Idle-PC finder button (only necessary if no value was detected automatically), GNS3 will calculate a value:



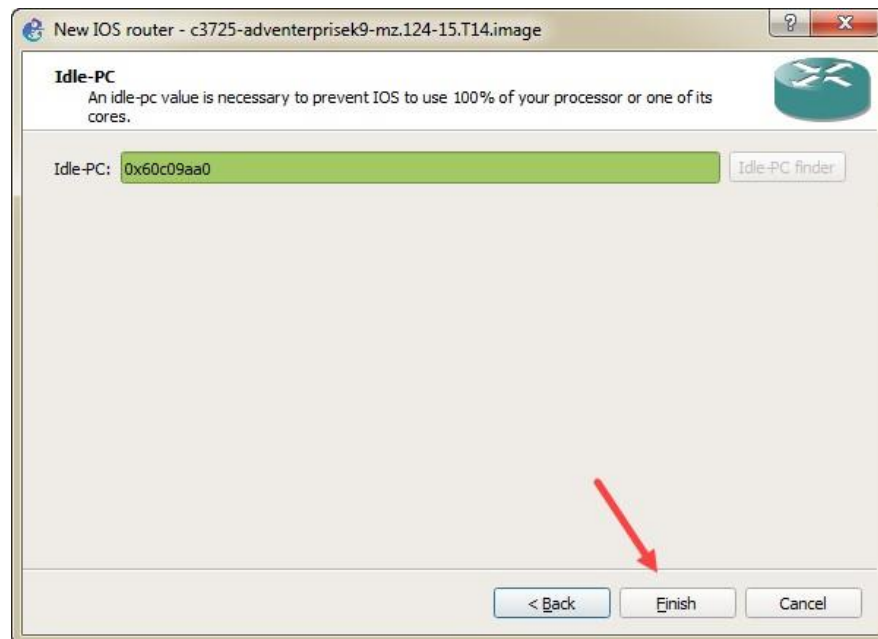
An Idle-PC value is displayed. Click OK to complete:



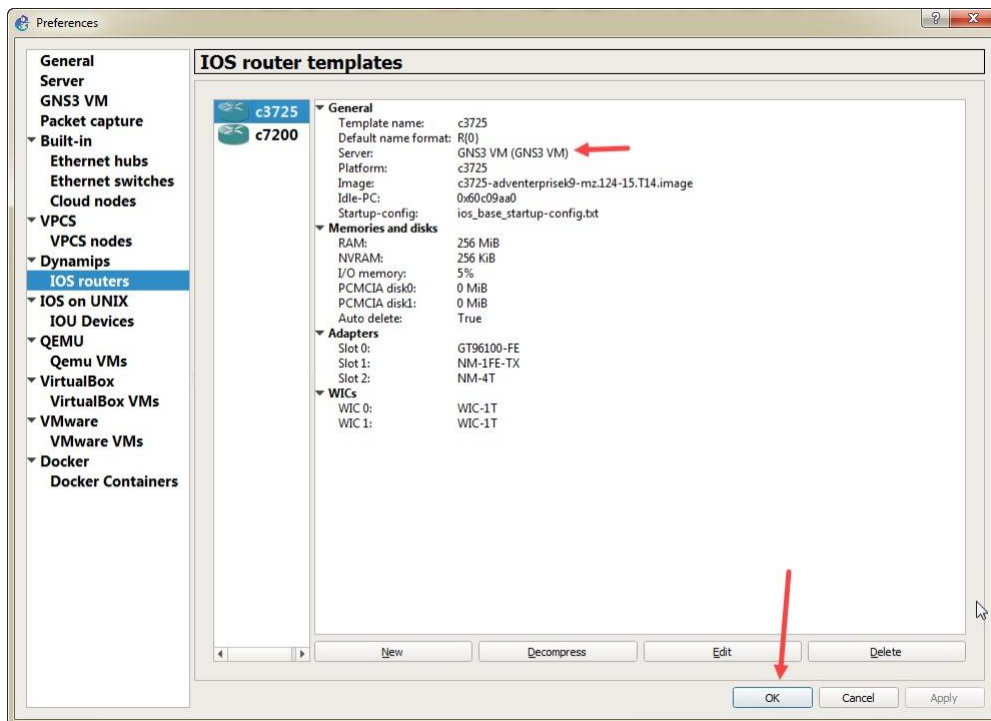
IMPORTANT

If no Idle-PC value is displayed, try clicking the Idle-PC finder button again. You may also need to reboot your computer and try again if no value is found.

Click **Finish** to complete the GNS3 Setup Wizard:



The **Preferences** window displays showing the settings you have configured through the Setup Wizard. Click **OK** to complete the process:



Add a switch device using same procedure, first import template [\\10.20.10.2\\student\\$\\GNS3\\cisco-iosvl2.gns3a](\\10.20.10.2\\student$\\GNS3\\cisco-iosvl2.gns3a) , import switch image [\\10.20.10.2\\student\\$\\GNS3\\vios_12-adventerprisek9-m.vmdk.SSA.152-4.0.55.E](\\10.20.10.2\\student$\\GNS3\\vios_12-adventerprisek9-m.vmdk.SSA.152-4.0.55.E)