FIT3031 - Lab Environment setup for **Windows**

The instructions on this document are **ONLY** for Windows laptops with **AMD64** (x86-64) processors. Windows laptops with ARM processors are currently not supported.

To confirm your laptop has an AMD64 processor, Open PowerShell on your Windows laptop and run the below command. You see the output as **AMD64.**

```
$env:PROCESSOR_ARCHITECTURE
```

Step 1. Download the required files

Use the following link to download the below files to your Windows.
https://drive.google.com/drive/folders/13gphGm1OAZpENMnz6I84-NjynSGKfvRU?usp=sharing

1. VMware Workstation Pro setup file (VMware-workstation-full-17.6.3)[**OR** download the latest version directly from VMWare here. Requires sign-up.]*
2. Wireshark setup file (Wireshark-4.4.8-x64.exe) [**OR** download the latest version directly from Wiredshark here.]*
3. GNS3 setup file (GNS3-2.2.54-all-in-one-regular.exe) [You **MUST** use the provided version of GNS3]**
4. Virtual Disk 1 (gns3vm-disk1.vmdk)
5. Virtual Disk 2 (gns3vm-disk2.vmdk)

*You can either download from the provided Google Drive location or directly from the vendor's website.

**You MUST use the provided version of GNS3 Client.

Follow the 4 steps below to complete the environment setup.

Step 2. VMware Workstation Pro Setup

Install VMware Workstation Pro using the download setup file.

Step 3. GNS3 Setup

Install GNS3 using the provided setup file. You MUST use the same version of GNS3. If you have an older or a later version than GNS3 2.2.54, you have to remove it and install the provided version.

Step 4. GNS3 VM Setup using VMware

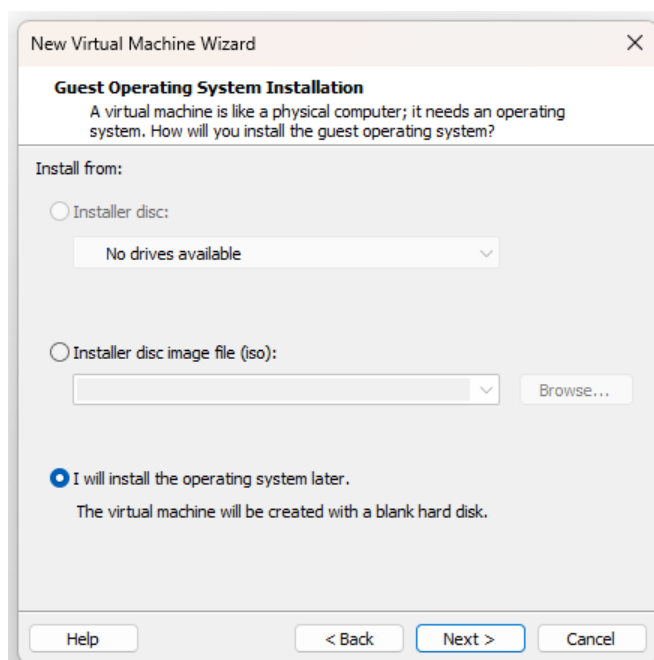Open VMware Workstation and create a new VM with the provided VMDK files using the following steps.

Step 4.1
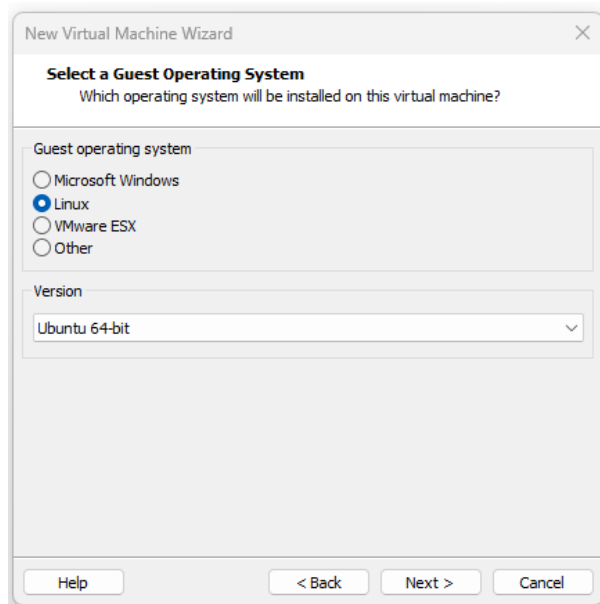Open VMware Workstation > in **File** menu select **New Virtual Machine.** Select **Custom** and Click **Next** twice**.**
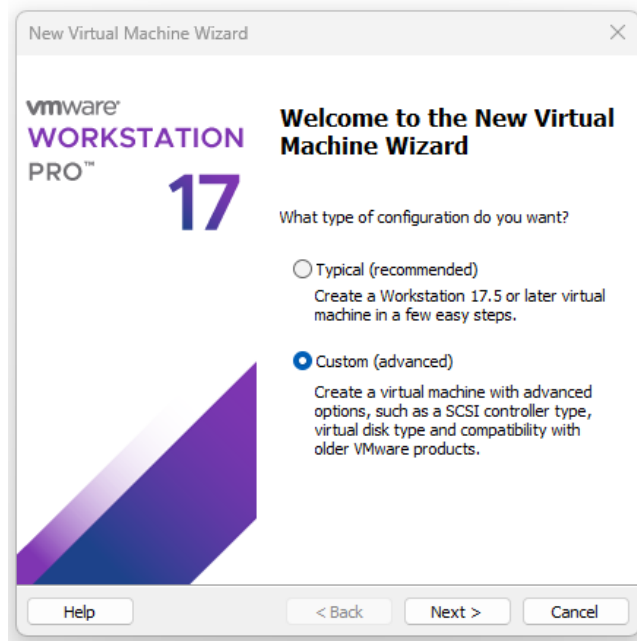
Step 4.2
Select '**I will install the operating system later'** and click **Next.**

Step 4.3
Select **Ubuntu 64-bit** as the Operating System

Step 4.4
Set a name for the Virtual machine (ex:NetSecVM) and click **Next**.

Step 4.5
In the next few steps select the configurations.
- Number of processors: 2 (minimum)
- Memory: 4096MB (minimum)
- Network Type: Use network address translation (NAT)
- I/O Controller types: LSI Logic (Recommended)
- Disk Type: SCSI (Recommended)
- Select a Disk: Use an existing virtual disk
- Select an Existing Disk: Select **gns3vm-disk1.vmdk** file. Select **'Keep Existing Format'** if prompted and Select Finish.

DO NOT start the VM yet.

Step 4.6

Adding the second Hard Disk.

Right click on the created virtual machine name from the Library and select Settings from the context menu. From the settings menu select the **'Add'** button to add a new hardware.

From the add hardware wizard, set the configurations as below:
- Hardware type: Hard Disk
- Disk Type: SCSI (Recommended)
- Select a Disk: Use an existing virtual disk
- Select an Existing Disk: Select **gns3vm-disk2.vmdk** file. Select **'Keep Existing Format'** if prompted and Select Finish.

Step 4.7

Start the VM. Once started the VM should show the below screen. Take a note of the IP. (ex: 192.168.20.128).
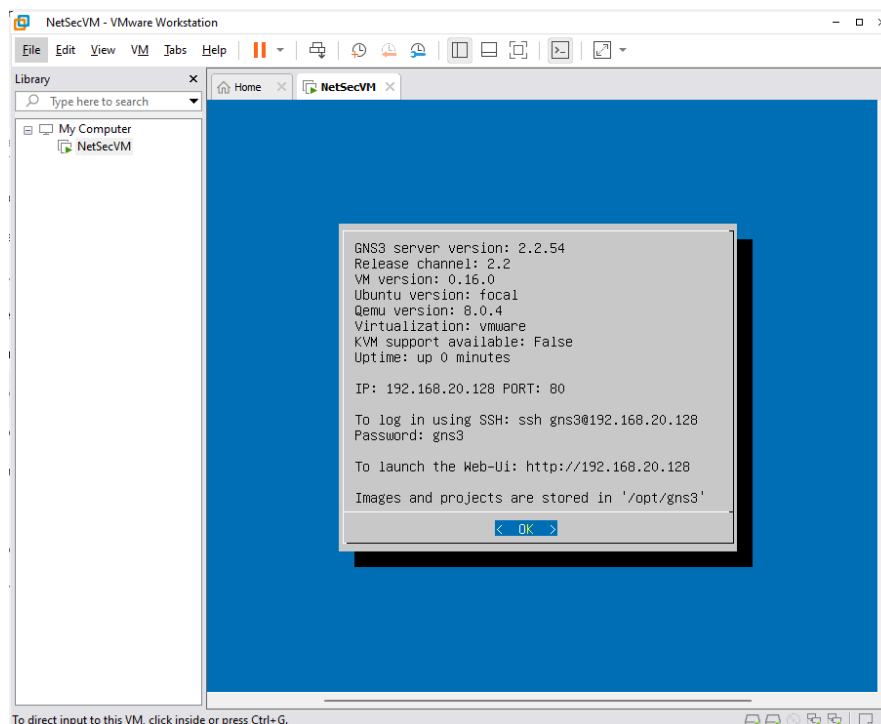
We don't directly work on the GNS3 VM. But the VM has to be running for the GNS3 application on the host Windows OS to work.

Step 4.8

**GNS3 Configuration on the host Windows OS**

Open GNS3 on your host device and configure it to connect to the GNS3 VM running in VMware using the following steps.

Open GNS3 application installed on your Windows.

From **Edit** menu, Select **Preferences** > Select **Server** from the list > Untick **Enable local server** > Change the **Host** to the IP address of the GNS3 VM > Rest of the configurations should be as shown in the below screenshot > Set both the **User** and **Password** to 'gns3' > Click **OK.**
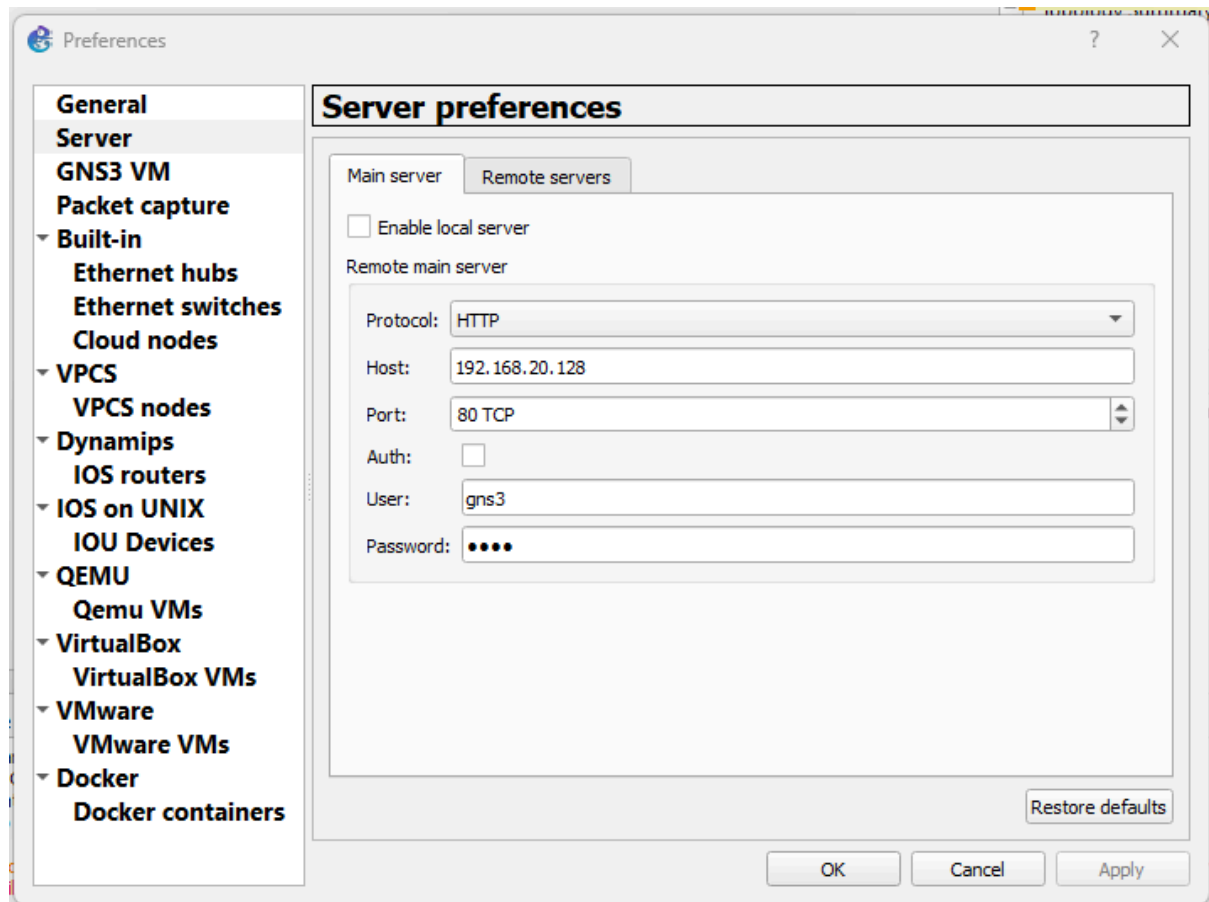
You should now see GNS3 is connected to the GNS3 VM. If your GNS3's **Servers Summary** pane looks like below, you have successfully completed the lab environment setup.
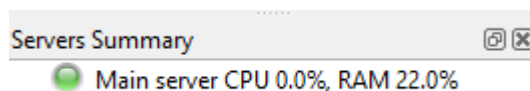
Appendix.

How to access GNS3 VM Shell:

You will need to access the shell of the GNS3 VM for various tasks throughout the unit. To access the shell, select **Shell** from the menu, then press **Enter**

*You cannot directly copy text to GNS3 shell from your Windows host machine. If you want to do that you have to SSH to the VM from your Windows Terminal using the below command on your Windows terminal. (Password: gns3)

```
ssh gns3@<gns3 VM IP address>
ex: ssh gns3@192.168.101.130
```
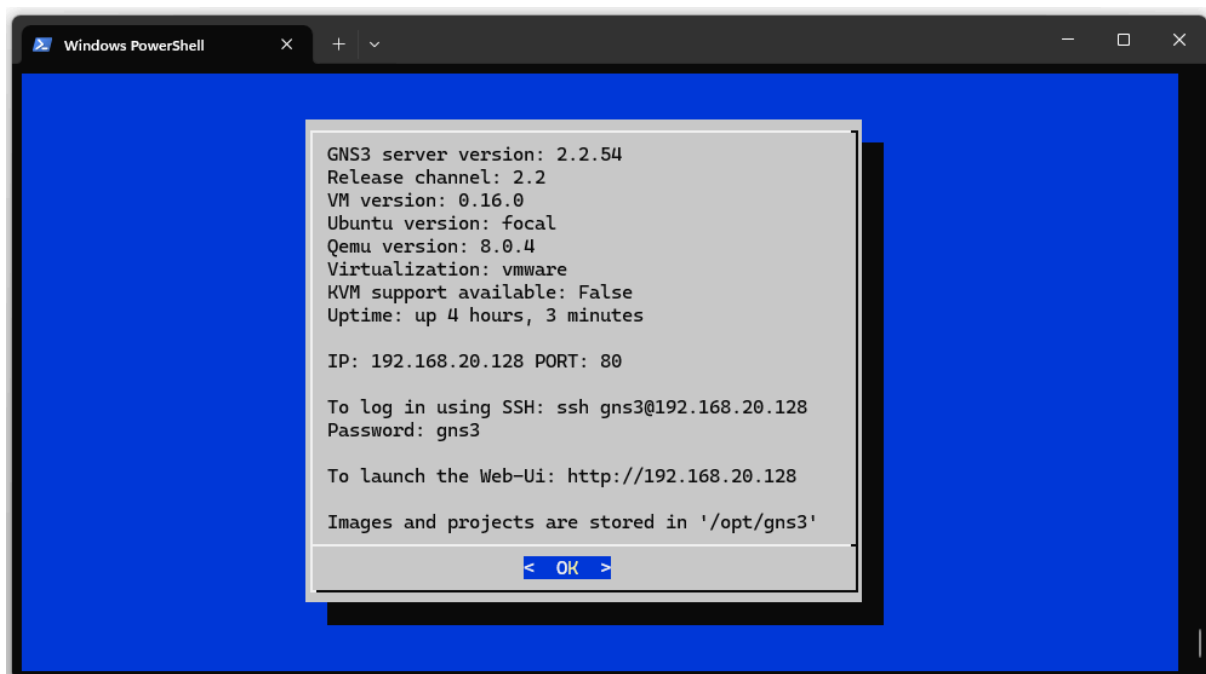
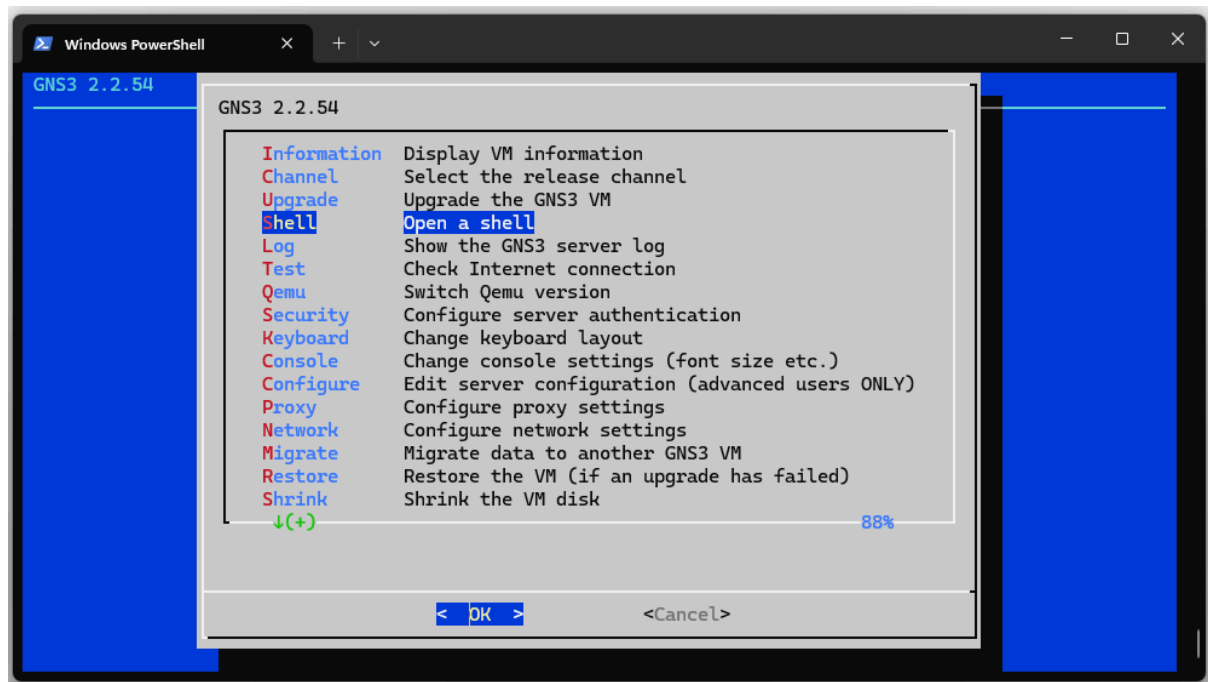Follow the instructions below to access the Shell.

Figure: Select OK

Figure: Select Shell from the menu

How to shut down GNS3 VM:

You can shutdown the GNS3 VM directly from VMware Workstation **Virtual Machine** menu or by selecting **Shutdown** option from the VM menu.