

## Simulator:

If you are planning to take the CCNA, CCNP, or CCIE certification exams, you need to make sure that you prepare for them properly. When you are studying for these tests, you should use network simulators and make sure that you are choosing the right ones.

Simulator is software that simulates a network topology. The network devices in this software are not real and are designed only to help the students understand how networks work. If you are going to pursue the CCNA, CCNP, or CCIE certifications, you will need to find the right network simulator.

## GNS3:

Graphical Network Simulator-3 is a network software emulator first released in 2008. It allows the combination of virtual and real devices, used to simulate complex networks. GNS3 is used by hundreds of thousands of network engineers worldwide to emulate, configure, test and troubleshoot virtual and real networks. GNS3 allows you to run a small topology consisting of only a few devices on your laptop, to those that have many devices hosted on multiple servers or even hosted in the cloud. GNS3 is open source, free software that you can download. It is actively developed and supported and has a growing community of over 800,000 members. GNS3 has allowed network engineers to virtualize real hardware devices for over 10 years. Originally only emulating Cisco devices using software called Dynamips, GNS3 has now evolved and supports many devices from multiple network vendors including Cisco virtual switches, Cisco ASAs, Brocade vRouters, Cumulus Linux switches, Docker instances, HPE VSRs, multiple Linux appliances and many others.

<https://gns3.com/marketplace/appliances>

ITEM	REQUIREMENT
Processor	2 or more Logical cores
Virtualization	Virtualization extensions required. You may need to enable this via your computer's BIOS.
Memory	4 GB RAM
Storage	1GB available space (Windows Installation is < 200MB).
Additional Notes	You may need additional storage for your operating system and device images.



## EVE NG:

Emulated Virtual Environment – Next Generation (EVE-NG) is a multi-vendor virtual network simulator that, similar to VIRL. They offer a free Community Edition as well as a Professional Edition. EVE-NG was evaluated using version 2.0.3-95 in a virtual machine with 16GB of memory and 4 vCPUs. The Community Edition of EVE-NG is completely free, and more than enough to prepare for the CCNP. There are two big differences between the Community Edition and the Professional Edition of EVE-NG: The Community Edition has a 63-node limit per lab which is even enough for the CCIE. EVE-NG is a network emulator which allows you to import various devices into a virtual topology that you can configure.

EVE is an excellent Network Virtual Environment Tool & Software. It is one of the favorite Emulated Virtual Environment for Network, Security and DevOps Professionals. Using EVE, you can emulate almost every kind of Network or Security Appliance and build, plan, configure, and test your complex network scenarios in a completely risk-free virtual environment in your machine.



## Packet Tracer:

Packet Tracer is Cisco's visual simulation tool that simulates network topologies comprised of Cisco routers, switches, firewalls, and more. Packet Tracer was originally designed as an educational aid for Cisco's Networking Academy (better known as NetAcad) but is an excellent simulator for anyone pursuing an entry-level Cisco certification, such as the CCENT or CCNA R&S. There is absolutely no cost associated with using Cisco's Packet Tracer. It is completely free to download and use. The only requirement is that you create and log into Packet Tracer with a Cisco Networking Academy account, which is free to create.



## VIRL:

VIRL is short for Virtual Internet Routing Lab, and it is a virtual network simulator that is intended for the individuals as well as the organizations. VIRL is very similar to Cisco Modeling Labs and it operates similar to GNS3 when it comes to the client/server model.



## Boson NetSim:

Boson NetSim is another network emulator that simulates Cisco routers and switches. Boson is essentially an IT training organization that is known for its Cisco certification preparation process. Every lab that you find in Boson NetSim is of high quality and is specifically designed for the Cisco certification exams. Each lab comes with detailed instructions that allow the candidates know what exactly needs to be done.



## PNETLab:

PNETLab (Packet Network Emulator Tool Lab) is a platform that allows you to download and share labs with the community. It includes PNETLab Box and PNETLab store. It is the most powerful tool to create, share and practice Networking Lab with multi-vendors. In fact, it's just like Cisco EVE Similar simulators. It needs to be installed in a virtual machine, the loading process is EVE It's exactly the same.

