

Leeds Technical Design Lab

End Device Guide

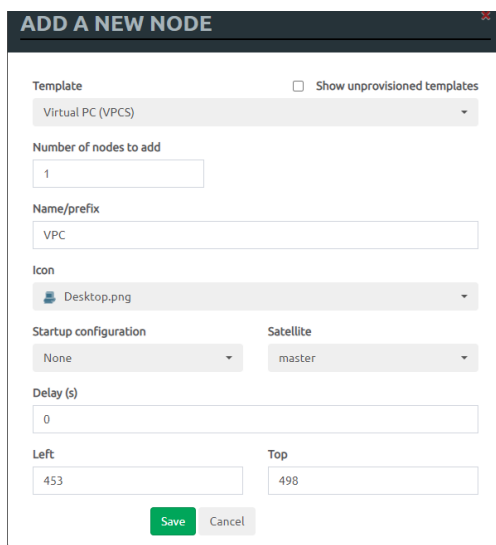
1. Virtual PC (VPCS)

Overview

VPC is a lightweight device that can be used to test network connectivity. If you require a device for basic network verification, this device is very effective.

Note: The config will be lost if you power off the node unless you type save.

Template: Virtual PC (VPCS)



ADD A NEW NODE

Template ☐ Show unprovisioned templates

Virtual PC (VPCS)

Number of nodes to add

1

Name/prefix

VPC

Icon

Desktop.png

Startup configuration

None

Satellite

master

Delay (s)

0

Left

453

Top

498

Save Cancel

Usage

- Obtain an IP address via DHCP

Ip dhcp

- Statically assign an IP address. *ip* followed by the host IP address, subnet mask (CIDR notation supported) and default gateway

ip 10.0.0.1/24 10.0.0.254

```
VPCS>
VPCS> ip 10.0.0.2/24 10.0.0.1
Checking for duplicate address...
VPCS : 10.0.0.2 255.255.255.0 gateway 10.0.0.1
VPCS> █
```

- Show configuration of VPC

Show

- Save configuration of VPC

Save

- Trace route

Trace 1.1.1.1

2. Cisco Router.....

Another alternative to a VPC is to use a Cisco router to act as an end device. When adding it, you can change the icon to PC. Cisco router is a larger node and not as quick as a VPC.

Template: Cisco IOS router (CML or IOL)

The screenshot shows a configuration interface with the following fields and options:

- Template:** A dropdown menu set to "Cisco vIOS Router (CML)". To its right is a checkbox labeled "Show unprovisioned templates".
- Number of nodes to add:** A text input field containing the number "1".
- Image:** A dropdown menu set to "vios-15.6.1".
- Name/prefix:** A text input field containing "vIOS".
- Icon:** A dropdown menu currently showing "Desktop4.png". Below it, a list of other icons is visible: "Desktop.png", "Desktop2.png", "Desktop3.png", "Desktop_Win.png", and "Desktop4.png" (which is highlighted).

Within global configuration mode type
 Router(config)# No ip routing

```
Router(config)# ip default-gateway 10.0.0.254
```

Go into the interface you'd like to configure

```
Router(config)# interface Gi0/0
```

```
Router(config-if)# ip address 10.0.0.1 255.255.255.0
```

```
Router(config-if)# no shut
```

```
Router# ping x.x.x.x
```

```
Router# traceroute x.x.x.x
```

3. Dockers

3.1 General – Set Docker IP Address:

Step 1: Add the node to the topology and make sure the DHCP option is disabled.

Step 2: On the left sidebar menu, open Startup-config and select your device.

Step 3: Use the example syntax below to set the ip for your Docker node. Make sure you are using the exact syntax for your static IP

Set ip address and Default route

```
ip addr add 10.100.100.103/24 dev eth0 || true
```

```
ip route add default via 10.100.100.1 || true
```

Set DNS server

```
cat > /etc/resolv.conf << EOF
```

```
nameserver 8.8.8.8
```

```
EOF
```

Step 4. Click the save button

Step 5. Click the slider so it goes green, see figure below:

STARTUP-CONFIGS

Config Set
Default ▾

R1	OFF	<div> <div> </div> <div> </div> </div> <pre> # Set ip address and Default route ip addr add 10.100.100.103/24 dev eth0 true ip route add default via 10.100.100.1 true # Set DNS server cat > /etc/resolv.conf << EOF nameserver 8.8.8.8 EOF </pre>
R2	OFF	
Switch	OFF	
VPC	⚡ ON	
Docker	⚡ ON	

Save
Cancel

3.2 Firefox

The Firefox docker is very useful if you need to configure other nodes in your topology using a web interface. The Firefox node is lightweight and easy to configure. Please note the firefox node does have Java so does not support ASDM.

Template: Docker.io

Image: eve-firefox:latest

Template ☐ Show unprovisioned templates

Docker.io

Number of nodes to add **Image**

1 eve-firefox:latest

Name/prefix

Docker

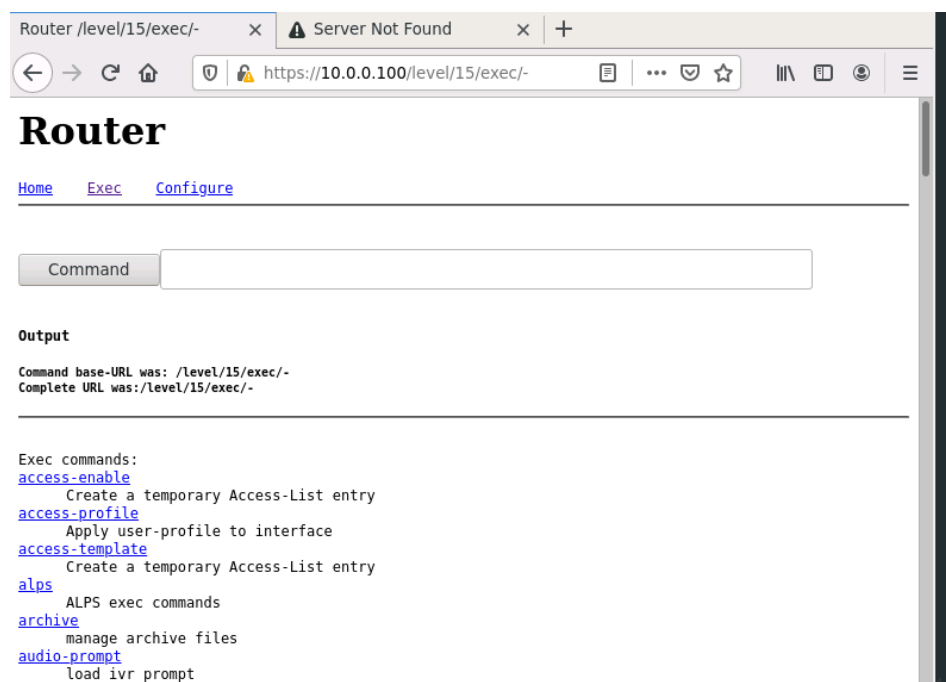
Icon

Server.png

CPU **RAM (MB)**

Before you power on the docker, follow the docker IP address setup in section 3.1.

Then simply type in the IP address / name of the server you want to access via HTTP/s

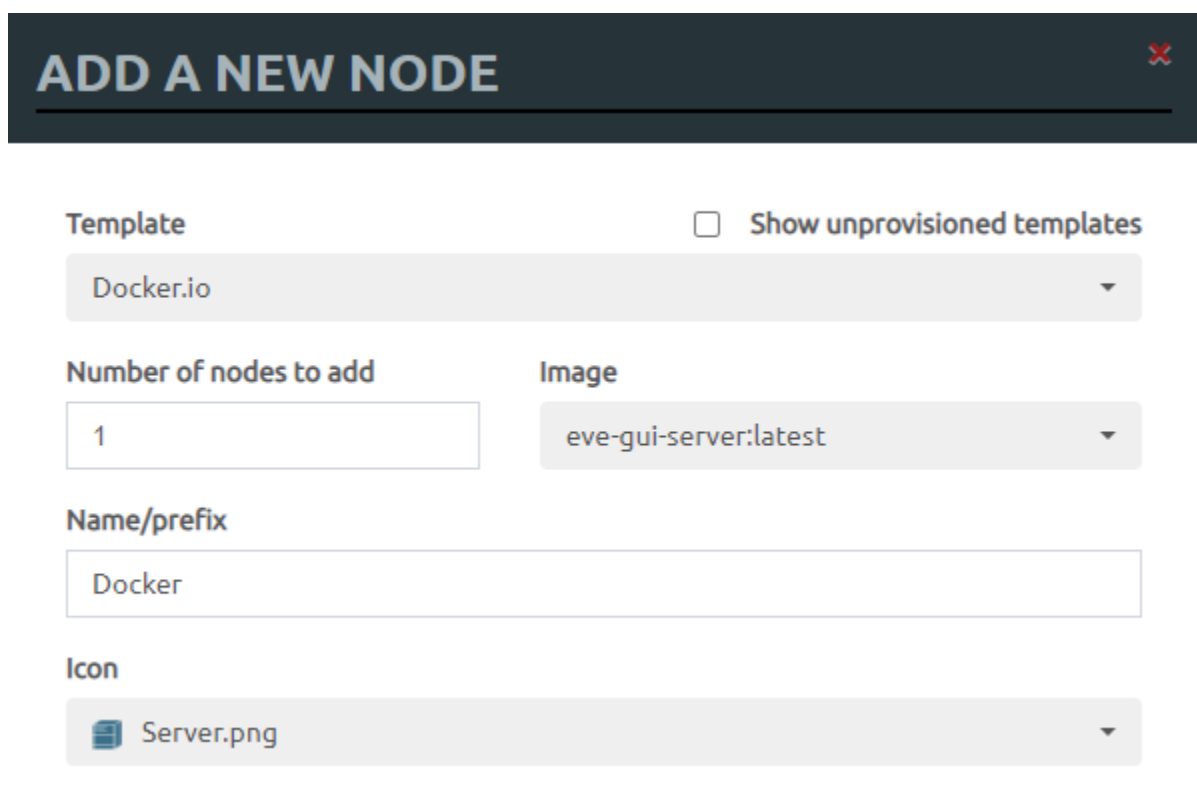


3.3 EVE-NG Server - Docker

EVE-NG docker is a lightweight Linux docker. It contains a range of useful tools such as Java (useful for Cisco ASDM), Python, Ansible, Firefox, BASH and an RDP/SSH tool

Template: Docker.io

Image: eve-gui-server:latest



ADD A NEW NODE

Template ☐ Show unprovisioned templates

Docker.io

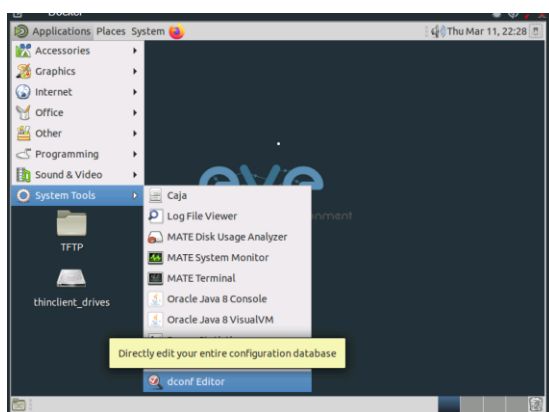
Number of nodes to add: 1

Image: eve-gui-server:latest

Name/prefix: Docker

Icon: Server.png

Before you power on the docker, follow the docker IP address setup in section 3.1.



Use the MATE terminal to access bash, from here you can ping, ssh, download additional tools.

To access ASDM open Firefox within the docker and go to `https://<ip>/admin/public.jnlp`

3.4 Kali Linux – Docker

Kali Linux is a Debian-derived Linux distribution designed for digital forensics and penetration testing. It is maintained and funded by Offensive Security.

Template: Docker.io

Image: eve-kali-large : latest

The screenshot shows the Proxmox VE web interface for configuring a new container. The 'Template' dropdown is set to 'Docker.io'. The 'Number of nodes to add' is 1. The 'Image' dropdown is set to 'eve-kali-large:latest'. The 'Name/prefix' text box contains 'Docker'. The 'Icon' dropdown shows 'Server.png'. The 'CPU' is set to 1 and 'RAM (MB)' is set to 1024. The 'Enable DHCP on Eth0' checkbox is unchecked.

Template		<input type="checkbox"/> Show unprovisioned templates
Docker.io		
Number of nodes to add	Image	
1	eve-kali-large:latest	
Name/prefix		
Docker		
Icon		
Server.png		
CPU	RAM (MB)	
1	1024	
Enable DHCP on Eth0		<input type="checkbox"/>

Before you power on the docker, follow the docker IP address setup in section 3.1.

3.4 Docker – TACACS+ and RADIUS Server

Template: Docker.io

Image: adosztal/aaa:latest

This appliance provides RADIUS and TACACS+ services with preconfigured users and groups

Before you power on the docker, follow the docker IP address setup in section 3.1.



3.5 Docker – Traffic Generator for Network Engineers

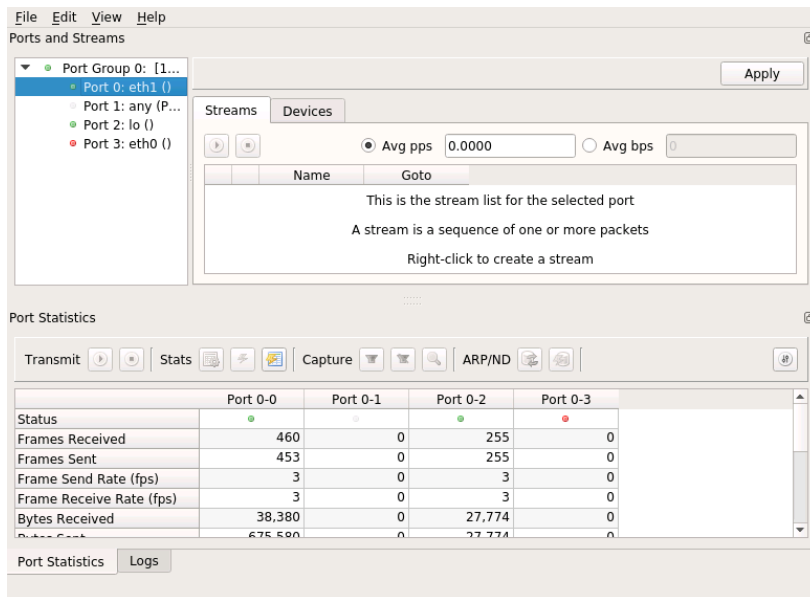
Whether you are testing circuit bandwidth, storm control, L2/L3 forwarding, QOS, load balancing, SD WAN application policies, multicast snooping or any of the other myriad things a network engineer does during his day, you need to test with traffic - *in lab or production*.

Template: Docker.io

Image: ostinato :latest

Before you power on the docker, follow the docker IP address setup in section 3.1.

Then run tests using the inbuilt GUI



3.5 Windows Server

NOTE: before you run windows server please make sure a more light weight docker could not do the job.

Windows server should not be used for ping tests as it is very hardware intensive; instead use a VPC.

Reasons such as require AD (Active Directory) to link in with your network would be a valid reason.

3.6 Windows 7

NOTE: before you run windows 7 node please make sure a more light weight docker could not do the job.

Windows 7 should not be used for ping tests as it is very hardware intensive; instead use a VPC.