# Getting Started with the SCDemoVM Service Container Application

This is a KVM Virtual Machine based on Fedora Cloud packaged for installation on a Cisco ISR 4000 Series router running IOS XE release 3.17. This VM should also work on release 16.x and on CSR1Kv and ASR1K platforms but has not been extensively tesed.

## System Requirements

Platform: ISR 4321, 4331, 4351, 4431 and 4451
Software: IOS-XE 3.17 or later
Memory: 8GB or 16GB
Flash: 16GB or 32GB (No flash is required, but Flash must be 2 x DRAM in a supported system.)
Storage: At least 20GB of available HD or SSD storage. This is typically an MSATA 50GB or 200GB module in an ISR 4300 Series or a NIM-SSD with at least 1 200GB drive in any ISR 4000 Series.

## VM Details

IP Address:
Gateway:
Username/Password: root/root
VNC Password: cisco123

## Installing SCDemoVM

4451x# virtual-service install name SCDemoVM package bootflash:SCDemoVM.ova

## Router Configuration

!

interface VirtualPortGroup0

 ip address 10.1.1.1 255.255.255.0

 ip nat inside

!

virtual-service

 signing level unsigned

!

virtual-service SCDemoVM

 vnic gateway VirtualPortGroup0

 activate

!

monitor session 1 type erspan-source

 source interface Gi0/0/0

 destination

 erspan-id 1

 mtu 1464

 ip address 10.1.1.2

 origin ip address 10.1.1.1

!

## Connecting to the SCDemoVM Console

4451x# virtual-service connect name SCDemo console

Escape back to the router with ^c^c^c (CTRL-C 3 times).

## **Wireshark**

Note: By default the only traffic you will see from the VM is traffic going to and from the VM (typically VNC traffic). You will need to configure ERSPAN on the host router to see live traffic from the network. You can then filter out local/VNC traffic within Wireshark. Router configuration is shown above.

Starting Wireshark: Icon on the desktop or wireshark & in a terminal window.

## **iPerf / JPerf**

IPerf is a useful open-source traffic generation tool often used to verify the condition of a WAN connection. JPerf is a java-based GUI for iPerf useful for demo purposes.

### iPerf Server

Because iPerf is a client/server application, you will also need iPerf to be running on a target machine to connect to. IPerf also does not work well across NAT so make sure that you’re able to maintain addressing between the client and the server.

Starting iPerf Server on SCDemoVM: iperf.sh &
Note: You almost certainly want to run the server on a different machine. This command is just shown as an example in case you have two SCDemoVM instances.

### iPerf Client

IPerf Client can be run in either CLI or GUI (JPerf) mode in the SCDemoVM.

Starting a TCP Test (CLI): iperf –c [server IP]

Starting a UDP Test (CLI): iperf –c [server IP] -u

Starting the JPerf GUI: /root/jperf-2.0.2/jperf.sh &

[Information on installing and using iPerf in general.](http://blog.creativeitp.com/posts-and-articles/networking/measuring-network-performance-with-iperf/)

[Information on installing and using iPerf in Windows.](http://www.iperfwindows.com/ordering.html)

## **Minecraft**

Minecraft server is provided in the demo VM to show what is possible as well as to provide an application that really taxes the resources of the VM on generally requires the router to allocate more free CPU resources to the application that it has reserved. It shows the power and flexibility of Service Containers plus it’s just fun and cool to run a Minecraft server on your router.

### Starting Minecraft on SCDemoVM

cd minecraft
java –Xmx1024M –Xms1024M –jar minecraft\_server.1.9.jar &

### Connecting with Minecraft Desktop Client

You will need to have a licensed version of the Minecraft desktop client in order to connect to any Minecraft server.

You will most likely have a newer version of the client than the version running on the SCDemoVM Server.

1. On the Minecraft Launcher screen, click the Edit Profile button.
2. In the “Use version” drop down, select “release 1.9”.
3. Select “Save Profile”

Once that’s taken care of, you can play Minecraft just like any other online server.

1. From the Minecraft Launcher, select “Play” then select “Multiplayer.”
2. On the Multiplayer screen, select “Add Server”.
3. Enter the IP address of the SCDemo VM and click “Done.” Minecraft works fine with a static NAT translation as long as TCP port 25565 is translated.
4. You should now see an entry for your server with a green status and ICMP response time. Double-click on that entry to start your game!