



Port Forwarding (VirtualBox / VMware Player)

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Port Forwarding in VM brief intro

- ❑ NAT Mode
 - ❑ With the NAT network type, your host operating system performs **Network Address Translation**.
 - ❑ The virtual machine (Guest OS) looks like sharing your Host computer's IP address from the external network.
 - ❑ Guest OS won't receive any incoming traffic unless you set port forwarding rules for it.

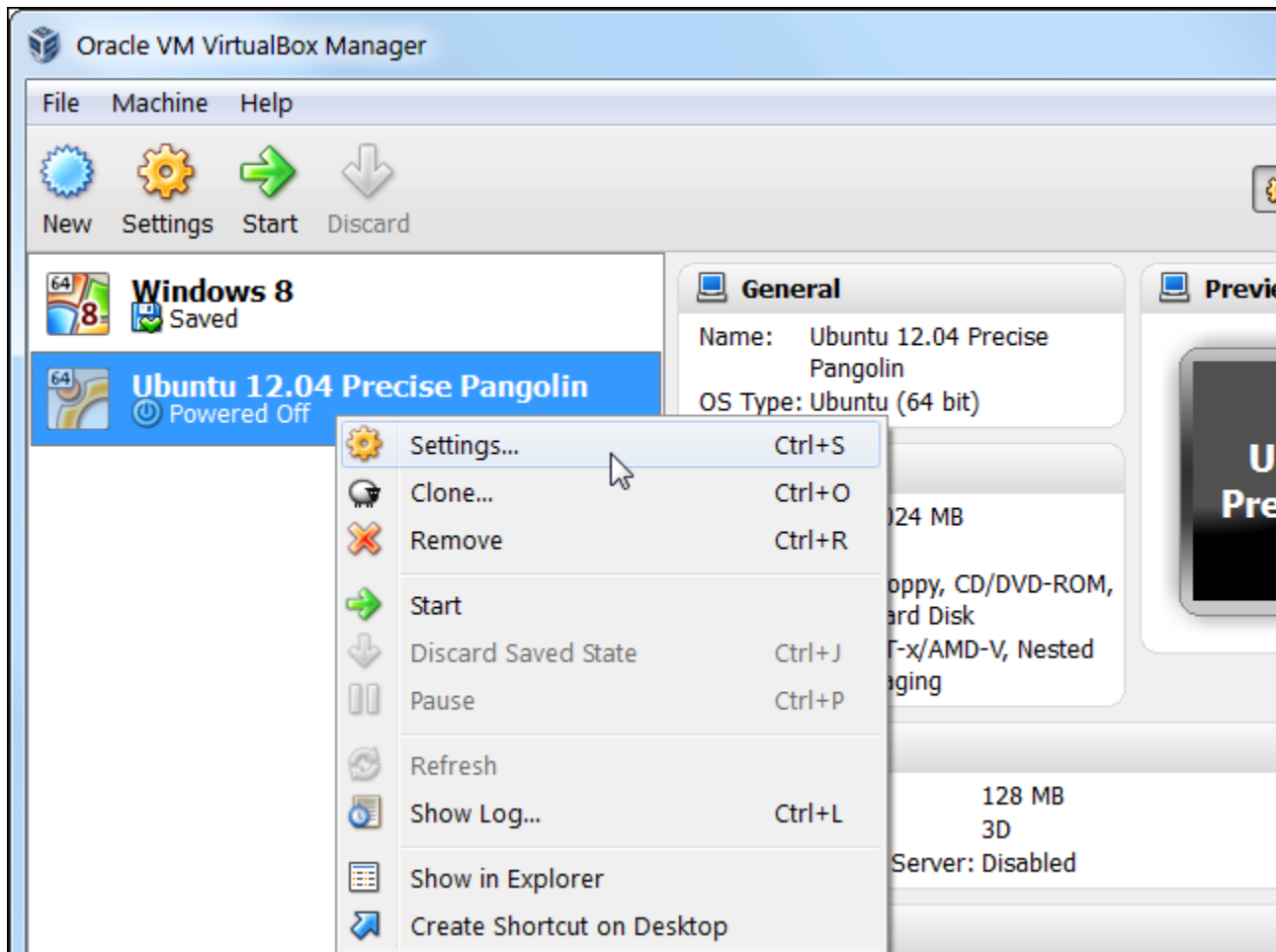
VirtualBox

- ❑ Recommended
- ❑ Have Free version for
 - ❑ Windows
 - ❑ GNU/Linux
 - ❑ FreeBSD
 - ❑ Mac
- ❑ Simple Setting than VMware Player

Port Forwarding (VirtualBox)

NAT Mode

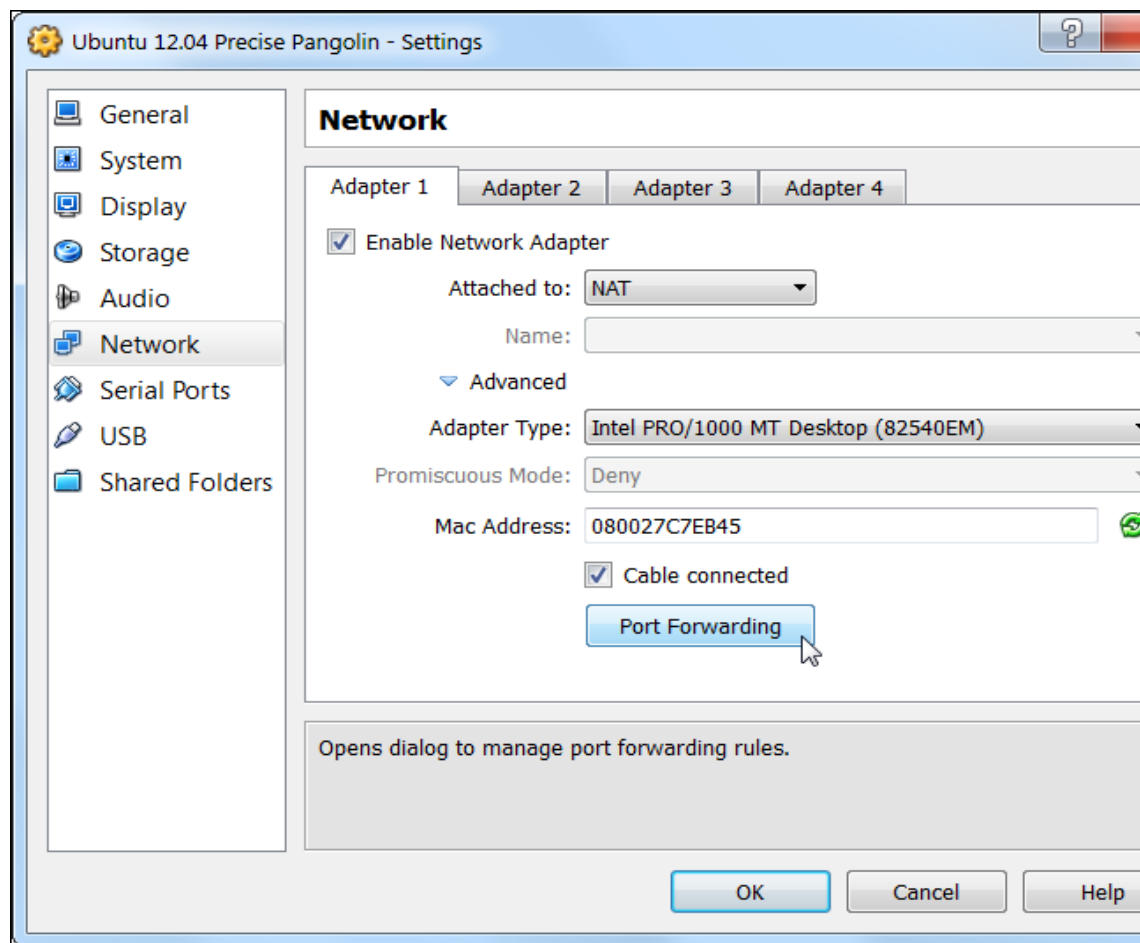
- ❑ Choose your VM => right click => Settings.



Port Forwarding (VirtualBox)

NAT Mode

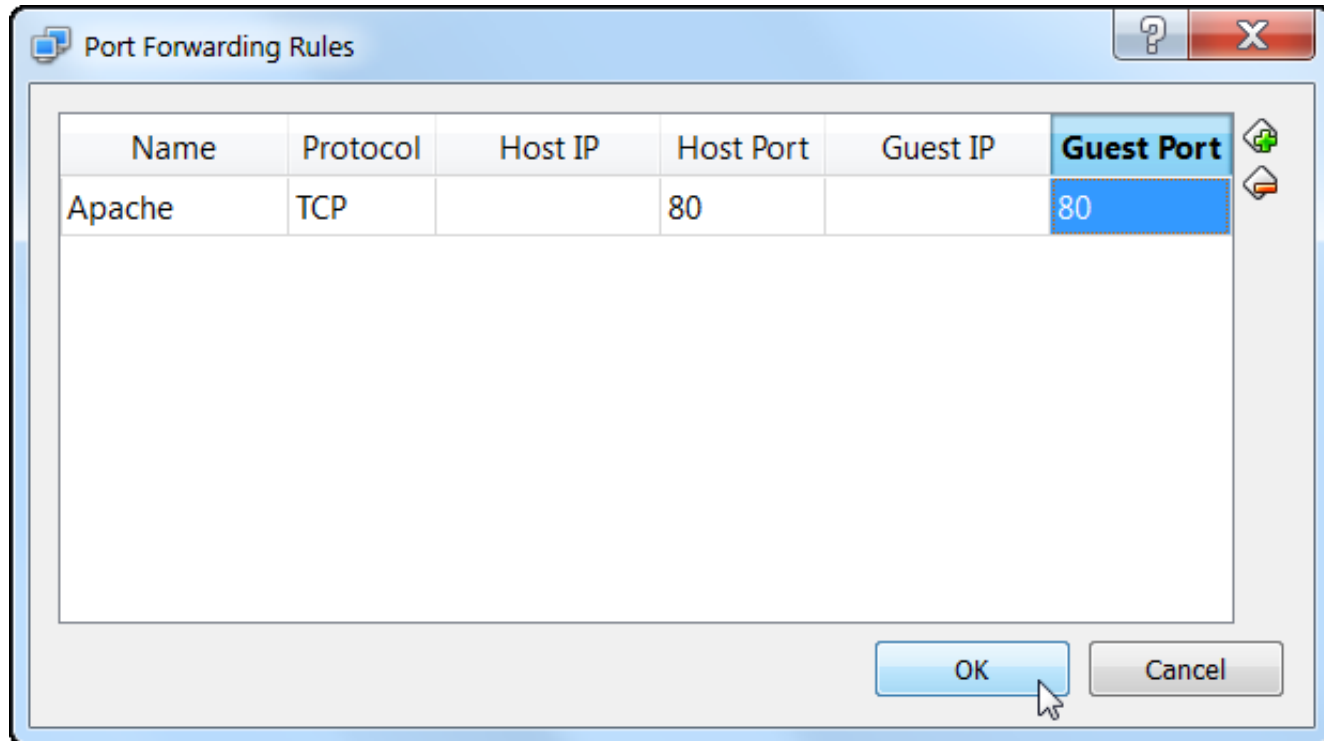
- ❑ Network => Check Network Adapter => NAT
- ❑ Advanced => Check Cable Connected => Port Forwarding



Port Forwarding (VirtualBox)

NAT Mode

- ❑ Set forwarding port for your VM.
 - ❑ TCP 22 Port for SSH
 - ❑ ``$ less /etc/services`` for more TCP/UDP ports info



VMware Player

- ❑ Have Free version for
 - ❑ Windows
 - ❑ GNU/Linux
- ❑ VMware Fusion for Mac (need \$\$\$)
- ❑ No supported version for FreeBSD
- ❑ Port Forwarding setting is a little complicated than

Port Forwarding (VMware Player)

NAT Mode

- ❑ For Windows
 - ❑ VMware Player Networking Options
 - ❑ <http://ideasboxs.wordpress.com/2014/01/07/vmware-player-networking-options/>
- ❑ For GNU/Linux
 - ❑ Find about “vmware-netcfg” command with your distro.
 - ❑ Port Forwarding on Arch Linux and VMPlayer with a NAT connection
 - ❑ <http://dale.io/2013/02/26/port-forwarding-with-arch-and-vmplayer.html>

Appendix

- ❑ Network address translation - Wikipedia
 - ❑ [http://en.wikipedia.org/wiki/Network address translation](http://en.wikipedia.org/wiki/Network_address_translation)
- ❑ VirtualBox Manual - Chapter 6. Virtual networking
 - ❑ <http://www.virtualbox.org/manual/ch06.html>
 - ❑ Bridged Mode
 - ❑ If you have another available public IP in the same subnet as your host OS.
- ❑ List of TCP and UDP port numbers - Wikipedia
 - ❑ [http://en.wikipedia.org/wiki/List of TCP and UDP port numbers](http://en.wikipedia.org/wiki/List_of_TCP_and_UDP_port_numbers)
- ❑ FreeBSD Handbook - Ch 22.2. FreeBSD as a Guest OS
 - ❑ <https://www.freebsd.org/doc/handbook/virtualization-guest.html>

References

- ❑ VIRTUALBOX, NAT, AND PORT FORWARDING
 - ❑ <http://maazanjum.com/2014/04/09/virtualbox-nat-and-port-forwarding/>
- ❑ How to Forward Ports to a Virtual Machine and Use It as a Server
 - ❑ <http://www.howtogeek.com/122641/how-to-forward-ports-to-a-virtual-machine-and-use-it-as-a-server/>
- ❑ VirtualBox lab: Port Forwarding
 - ❑ <https://nsrc.org/workshops/2014/sanog23-virtualization/raw-attachment/wiki/Agenda/ex-virtualbox-portforward-ssh.htm>
- ❑ VMware Player vs. VirtualBox: feature comparison
 - ❑ <http://unix.stackexchange.com/questions/39075/vmware-player-on-linux-bridge-networking>