

Connecting to a Virtual Machine

Frank Walsh

Virtual Machine

- From a Network prospective, a VM is the same as any other physical device on the LAN.
- Sometimes no access to physical Host
 - Cannot interact with it physically
 - No keyboard/mouse/screen
- Need Remote access Technology...



Remote Connection Technologies

- Remote Desktop
 - RDP (Remote Desktop Connection)
 - Virtual Network Computing (VNC)
- Terminal Emulation
 - Telnet
 - Secure Shell(SSH)

Server (:port): 127.0.0.1:5901

User name:

Password:

Add Delete

Connect

This is your password
on telnet and FTP:

vu1n3rab13

Secure Shell(SSH)

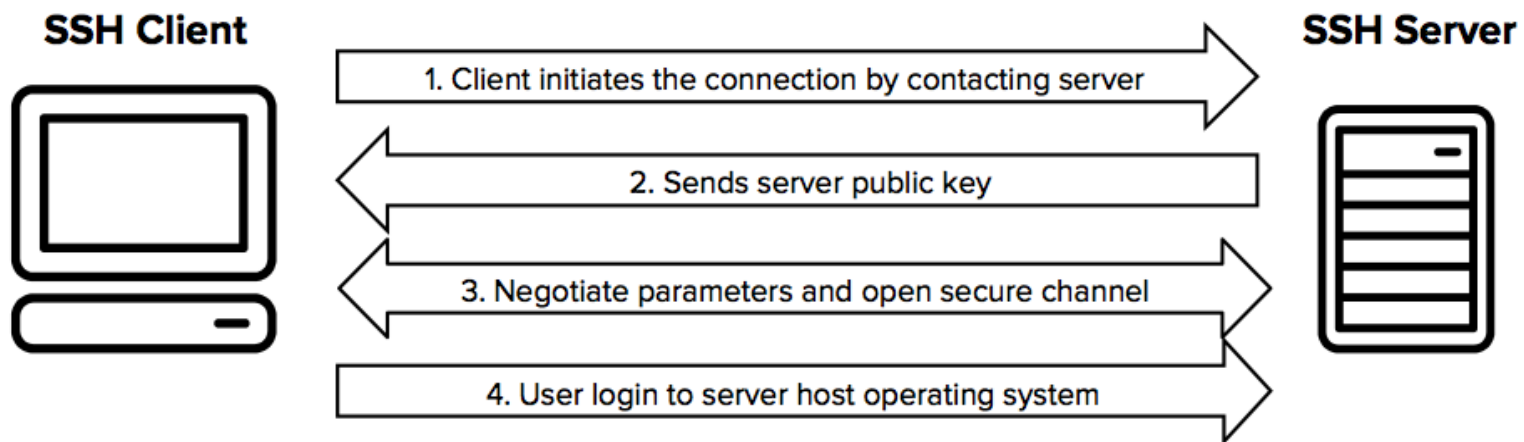
- "SSH is a protocol for secure remote login and other secure network services over an insecure network." – RFC 4251
- Can create a secure channel between two connected devices
 - On your LAN, WAN, Cloud...
- Several implementations. OpenSSH included in most Operating Systems:

Name ▾	Mac OS X ↕	Mac OS classic ↕	Windows ↕	Cygwin ↕	BSD ↕	Linux ↕	Solaris ↕	Java ↕	OpenVMS ↕	z/OS ↕	AmigaOS ↕	AIX ↕	HPUX ↕	iOS: iPhone, ^[Note 1] iPod Touch ↕	webOS ↕	Android ↕
OpenSSH	Included	No	Partial ^[Note 4]	Included	Included	Included ^[Note 5]	Yes	No	Yes	Yes	Yes	Yes ^[Note 6]	Included	Yes ^[Note 7]	Yes ^[Note 2]	Partial

https://en.wikipedia.org/wiki/Comparison_of_SSH_servers

Connecting to Remote VM using Secure Shell

- You need an SSH Client
- Machine you're connecting to needs to be running a SSH server, usually listening on port 22.



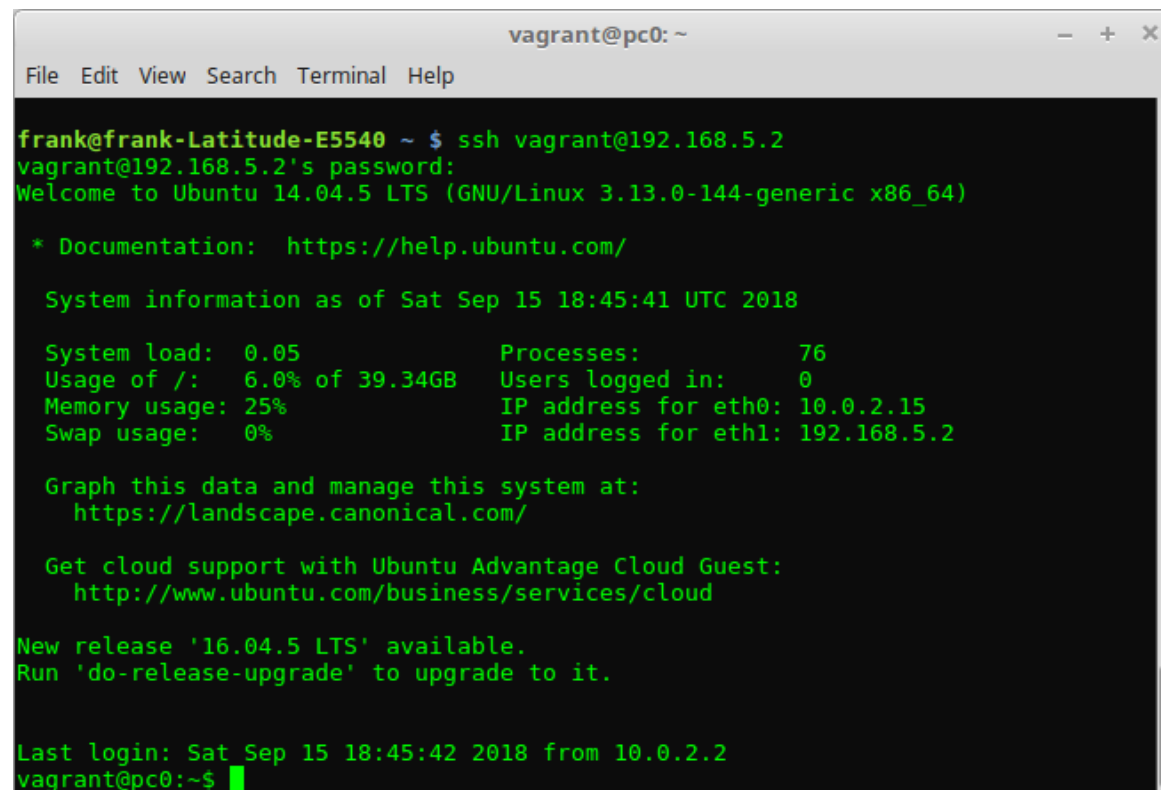
Connecting using Windows

- You'll need a SSH client
- Putty is great!
 - <https://www.putty.org/>



Connecting using OSx/Linux

- It's baked into the OS
- Can kick it off from command line
 - `$ ssh vagrant@pc0`
- Might get a warning relating to "authenticity of host"
- Can proceed if your sure of remote machine
- When you're finished type exit.

A terminal window titled 'vagrant@pc0: ~' with a menu bar (File, Edit, View, Search, Terminal, Help). The terminal shows a successful SSH connection to a Vagrant VM. The user 'frank' on host 'frank-Latitude-E5540' runs 'ssh vagrant@192.168.5.2'. The VM is Ubuntu 14.04.5 LTS. The terminal displays system information, including system load, memory usage, and IP addresses for eth0 and eth1. The terminal ends with the prompt 'vagrant@pc0:~\$' and a cursor.

```
vagrant@pc0: ~  
File Edit View Search Terminal Help  
frank@frank-Latitude-E5540 ~ $ ssh vagrant@192.168.5.2  
vagrant@192.168.5.2's password:  
Welcome to Ubuntu 14.04.5 LTS (GNU/Linux 3.13.0-144-generic x86_64)  
  
* Documentation:  https://help.ubuntu.com/  
  
System information as of Sat Sep 15 18:45:41 UTC 2018  
  
System load:  0.05                Processes:           76  
Usage of /:   6.0% of 39.34GB      Users logged in:    0  
Memory usage: 25%                IP address for eth0: 10.0.2.15  
Swap usage:   0%                 IP address for eth1: 192.168.5.2  
  
Graph this data and manage this system at:  
https://landscape.canonical.com/  
  
Get cloud support with Ubuntu Advantage Cloud Guest:  
http://www.ubuntu.com/business/services/cloud  
  
New release '16.04.5 LTS' available.  
Run 'do-release-upgrade' to upgrade to it.  
  
Last login: Sat Sep 15 18:45:42 2018 from 10.0.2.2  
vagrant@pc0:~$
```