

## System Administration 2:

### Reference:

- [1] <http://www.jaredlog.com/?p=1484>
- [2] <http://www.howtogeek.com/117635/how-to-install-kvm-and-create-virtual-machines-on-ubuntu/>
- [3] <https://blog.gtwang.org/linux/linux-ssh-public-key-authentication/>
- [4] <http://serverfault.com/questions/364895/virsh-vm-console-does-not-show-any-output>
- [5] <http://unix.stackexchange.com/questions/196658/ubuntu-14-server-edition-how-to-boot-into-single-user-mode>

Guest operating system: Ubuntu 12.04 32-bit

```
#sudo apt-get install qemu-kvm libvirt-bin ubuntu-vm-builder bridge-  
utils virt-viewer virt-manager bridge-utils  
#sudo adduser $user_name libvirtd  
#sudo adduser $user_name kvm  
#sudo reboot
```

#### 1.a

```
#sudo cp /etc/init/tty1.conf /etc/init/ttyS0.conf  
#sudo vim ttyS0.conf  
Change the line:  
Exec /sbin/getty -8 115200 ttyS0 xterm  
#sudo vim /etc/default/grub  
Comment out GRUB_HIDDEN_TIMEOUT and GRUB_HIDDEN_TIMEOUT_QUIET  
GRUB_CMDLINE_LINUX_DEFAULT="console=tty0 console=ttyS0"  
GRUB_TERMINAL="serial console"  
#sudo update-grub2
```

#### 1.b

Select the boot entry at the GRUB menu  
Press "e" to edit the boot commands  
Append a line "linux /boot/vmlinuz-3.13.0-32-generic ... .. console=ttyS0" with  
"single"  
Press "F10" to boot using these kernel options

#### 1.c

No need to do any thing.

1.d

No need to do any thing. The color can be shown directly

1.e

```
#eval '/usr/bin/resize'
```

2.

```
#vim /etc/network/interfaces
```

```
auto lo
```

```
iface lo inet loopback
```

```
auto eth0
```

```
iface eth0 inet manual
```

```
auto br0
```

```
iface br0 inet static
```

```
    address 192.168.0.100
```

```
    network 192.168.0.0
```

```
    netmask 255.255.255.0
```

```
    broadcast 192.168.0.255
```

```
    gateway 192.168.0.1
```

```
    dns-nameservers 8.8.8.8 8.8.4.4
```

```
    bridge_ports eth0
```

```
    bridge_fd 9
```

```
    bridge_hello 2
```

```
    bridge_maxage 12
```

```
    bridge_stp off
```

```
#sudo reboot
```

Set the guest os to bridged network in “Virtual Machine Manager”

3.

No change has to be done for supporting “virsh setmem” command

```
virsh # setmem test 1000000

virsh # dominfo test
Id:          1
Name:        test
UUID:        3068ca53-6a37-564c-7491-6bf01464983e
OS Type:     hvm
State:        running
CPU(s):       4
CPU time:     65.8s
Max memory:   1031168 kB
Used memory:  1000000 kB
```

4.

To install openssh-server on my guest Ubuntu os:

```
#sudo apt-get install openssh-server
```

on the host os:

```
#mkdir -p ~/.ssh
```

```
#chmod 700 ~/.ssh
```

```
#ssh-keygen
```

```
#ssh-copy-id user_name@guest_os
```

5.

Set the guest os to bridge network in “Virtual Machine Manager”

```
#sudo apt-get install apache2
```

```
#vim /var/www/index.html
```

```
<html>
```

```
<body>
```

```
<h1>Hello World</h1>
```

```
</body>
```

```
</html>
```