

- 系统安装

系统盘40G[]最小化安装

全部分配给/; 不要boot[]swap分区

root密码: 123456

创建系统磁盘40G

```
qemu-img create -f qcow2 CentOS_6.8_64.qcow2 40G
```

```
[root@localhost CentOS_6.8_64]# qemu-img create -f qcow2 CentOS_6.8_64.qcow2 40G
Formatting 'CentOS_6.8_64.qcow2', fmt=qcow2 size=42949672960 encryption=off cluster_size=65536 lazy_refcounts=off
[root@localhost CentOS_6.8_64]#
```

生成xml模板文件

```
<domain type = 'kvm'>
<name>CentOS_6.8_64</name> #虚拟机名称
<memory unit='MiB'>4096</memory> #内存
<currentMemory unit='MiB'>4096</currentMemory>
<vcpu current='4'>64</vcpu> #cpu
<os> #x86_64位操作系
  <type arch = 'x86_64' machine = 'pc'>hvm</type>
统
<boot dev = 'cdrom' /> #第一引导CDROM
<boot dev = 'hd' /> #第二引导磁盘
</os>
<features>
  <acpi/>
  <apic/>
  <pae/>
</features>
<cpu mode='host-passthrough' check='none' />
<clock offset = 'localtime' />
<on_poweroff>destroy</on_poweroff>
<on_reboot>restart</on_reboot>
<on_crash>destroy</on_crash>
<devices>
  <emulator>/usr/libexec/qemu-kvm</emulator>
  <disk type = 'file' device = 'disk'>
    <driver name = 'qemu' type = 'qcow2' />
    <source file = '/home/kvm/template/CentOS_6.8_64/CentOS_6.8_64.qcow2' />#
系统磁盘路径
    <target dev = 'vda' bus = 'virtio' /> #虚拟机磁
盘vda[]总线类型virtio
  </disk>

  <disk type = 'file' device = 'cdrom'>
    <driver name = 'qemu' type = 'raw' />
<source file = '/home/kvm/iso/CentOS-6.8-x86_64-bin-DVD1.iso' /> #系统镜像
    <target dev = 'vdb' bus = 'ide' />
```

```

<readonly/>
</disk>

<interface type = 'bridge'>
<source bridge = 'br0'/>
<model type='virtio'/>
<filterref filter='template_firewall_out'>                                #网络过滤器
</filterref>
</interface>

<interface type = 'bridge'>
<source bridge = 'br1'/>
<model type='virtio'/>
<filterref filter='template_firewall_in'>                                #网络过滤器
</filterref>
</interface>
<channel type='unix'>
    <target type='virtio' name='org.qemu.guest_agent.0'/>
</channel>
<input type = 'tablet' bus='usb'/>
<input type = 'mouse' bus = 'ps2'/>
<graphics type = 'vnc' port = '-1' autoport='yes' listen='0.0.0.0'
passwd='123456' keymap='en-us' />
</devices>
</domain>

```

根据实际情况修改以上配置后定义虚拟机

```

[root@localhost CentOS_6.8_64]# virsh define sys.xml
Domain CentOS_6.8_64 defined from sys.xml

[root@localhost CentOS_6.8_64]# virsh start CentOS_6.8_64
Domain CentOS_6.8_64 started

```

即可进入开始安装界面，系统安装完成后关机，将cdrom boot引导关闭，否则会又进入系统安装。

- 系统配置

更换yum源(根据需要修改)

添加epel源

只保留CentOS-Base.repo[]epel.repo两个文件

升级系统: yum update -y

安装软件:

```

yum install -y bash-completion nscd sysstat vim wget parted ntp nload iftop
lrzsz dmidcode ntpdate screen gcc gcc-c++ openssl-devel openssl-server eject
parted

```

卸载软件:

```
yum remove exim4 appport lxcfs lxc lsd mdadm
```

安装qemu-guest-agent

```
yum install qemu-guest-agent
```

centos6.5#

```
service qemu-ga start && chkconfig qemu-ga on
```

centos7.0#

```
systemctl start qemu-guest-agent && chkconfig qemu-guest-agent on
```

验证是否安装并配置成功，在宿主机中执行

```
virsh qemu-agent-command CentOS_6.8_64 '{"execute":"guest-info"}
```

```
[root@localhost ~]# virsh qemu-agent-command CentOS_6.8_64 '{"execute":"guest-info"}'
{"return":{"version":"0.12.1","supported_commands":[{"enabled":true,"name":"guest-set-user-password"},{"enabled":true,"name":"guest-set-vcpus"},{"enabled":true,"name":"guest-get-vcpus"},{"enabled":true,"name":"guest-network-get-interfaces"},{"enabled":true,"name":"guest-suspend-hybrid"},{"enabled":true,"name":"guest-suspend-ran"},{"enabled":true,"name":"guest-suspend-disk"},{"enabled":true,"name":"guest-fstrim"},{"enabled":true,"name":"guest-xfreeze-thaw"},{"enabled":true,"name":"guest-xfreeze-freeze"},{"enabled":true,"name":"guest-xfreeze-status"},{"enabled":false,"name":"guest-file-flush"},{"enabled":false,"name":"guest-file-seek"},{"enabled":false,"name":"guest-file-write"},{"enabled":false,"name":"guest-file-read"},{"enabled":false,"name":"guest-file-open"},{"enabled":true,"name":"guest-shutdown"},{"enabled":true,"name":"guest-info"},{"enabled":true,"name":"guest-set-time"},{"enabled":true,"name":"guest-get-time"},{"enabled":true,"name":"guest-ping"},{"enabled":true,"name":"guest-sync"},{"enabled":true,"name":"guest-sync-donotwait"}]}
```

关闭selinux[]

```
vim /etc/sysconfig/selinux
SELINUX=disabled
```

关闭UTC时钟:

```
vim /etc/sysconfig/clock
UTC=false
```

配置sshd[]添加两条参数:

```
vim /etc/ssh/sshd_config
UseDNS no
AddressFamily inet
```

修改内核配置文件，添加以下参数:

```
vim /etc/sysctl.conf
vm.swappiness = 0
net.ipv4.neigh.default.gc_stale_time=120
net.ipv4.conf.all.rp_filter=0
net.ipv4.conf.default.rp_filter=0
net.ipv4.conf.default.arp_announce = 2
net.ipv4.conf.lo.arp_announce=2
net.ipv4.conf.all.arp_announce=2
net.ipv4.tcp_max_tw_buckets = 5000
net.ipv4.tcp_syncookies = 1
net.ipv4.tcp_max_syn_backlog = 1024
net.ipv4.tcp_synack_retries = 2
net.ipv6.conf.all.disable_ipv6 = 1
net.ipv6.conf.default.disable_ipv6 = 1
net.ipv6.conf.lo.disable_ipv6 = 1
```

服务优化:

关闭开机自启服务 iptables ip6tables NetworkManager postfix

```
chkconfig iptables off
```

添加开机自启服务 ntpd

```
chkconfig ntpd on
```

编辑/etc/rc.local 添加以下参数(CentOS5/6 需要,CentOS7 不需要添加):

```
vim /etc/rc.local  
>/etc/udev/rules.d/70-persistent-net.rules
```

编辑/etc/fstab 修改/目录挂载点为/dev/vda1 如有uuid则删掉改行

```
vim /etc/fstab  
/dev/vda1 / ext4 defaults 1 1
```

安装自动化脚本

脚本下载地址: https://download.apayun.com/zkeys/server/linux_auto.zip

将脚本解压, 例如压缩包存放位置为root目录下, 解压到root目录

```
unzip /root/linux_auto.zip -d /root/
```

添加执行权限

```
chmod +x /root/*.sh
```

执行脚本


```
sh /root/install.sh
```

删除文件

```
rm -rf /root/vminit.sh
```

执行后, 查看/etc/rc.local指向的实际文件是否有执行权限, 没有的需要添加上: 如下图所示 /etc/rc.local 的真实文件路径为/etc/rc.d/rc.local 那么就需要将/etc/rc.d/rc.local文件添加上可执行权限。

```
chmod +x /etc/rc.d/rc.local
```



```
[root@bYMBStest ~]# ll /etc/rc.local  
lrwxrwxrwx. 1 root root 13 Sep 14 2017 /etc/rc.local -> rc.d/rc.local  
[root@bYMBStest ~]# ll /etc/rc.d/rc.local  
-rwxr-xr-x 1 root root 701 Sep 27 10:59 /etc/rc.d/rc.local  
[root@bYMBStest ~]#
```

清理网卡配置参数

系统网卡配置文件请删除UUID和HWADDR参数, 否则会导致自动化配置时重新生成新的网卡配置文件 (例如: 原外网网卡文件为eth0 存在UUID和HWADDR参数时, 会重新生成eth2文件来表示外网网卡配置文件, 原eth0文件配置不修改)

```
[root@localhost network-scripts]# cat ifcfg-eth0
NAME=eth0
DEVICE=eth0
ONBOOT=yes
TYPE=Ethernet
BOOTPROTO=static
PEERDNS=no
[root@localhost network-scripts]# cat ifcfg-eth1
NAME=eth1
DEVICE=eth1
ONBOOT=yes
TYPE=Ethernet
BOOTPROTO=static
PEERDNS=no
[root@localhost network-scripts]# _
```

清除日志、关机

```
cd /var/log
>btmp ;>dmesg;>messages ;>lastlog;>secure ;>wtmp
rm -f /etc/udev/rules.d/70-persistent-net.rules
history -c && history -w && poweroff
```

磁盘文件压缩

```
qemu-img convert -c -O qcow2 /dev/shm/src.qcow2 /home/soft/kvm/dst.qcow2
```