

KVM 构建及管理、virsh 控制工具、镜像管理、虚拟机快建技术

服务端（真机）

1. 安装 httpd，重启 httpd 服务

```
[root@room05pc33 桌面]# rpm -q httpd  
httpd-2.4.6-40.el7.x86_64  
[root@room05pc33 桌面]# systemctl restart httpd
```

2. 利用 httpd 服务共享光盘内容

```
[root@room05pc33 桌面]# mount /ISO/rhel-server-7.2-x86_64-dvd.iso /mnt  
mount: /dev/loop0 写保护，将以只读方式挂载  
[root@room05pc33 桌面]# ls /mnt  
addons  EULA  images  LiveOS  Packages  repodata  
RPM- GPG- KEY- redhat- release  
EFI      GPL  isolinux  media.repo  release-notes  RPM- GPG- KEY-  
redhat- beta  TRANS. TBL  
[root@room05pc33 桌面]# mkdir /var/www/html/rhel7  
[root@room05pc33 桌面]# cp -r /mnt/* /var/www/html/rhel7  
[root@room05pc33 桌面]# ls /var/www/html/rhel7  
addons  isolinux  repodata  
EFI      LiveOS      RPM- GPG- KEY- redhat- beta  
EULA     media.repo  RPM- GPG- KEY- redhat- release  
GPL      Packages    TRANS. TBL  
images  release-notes  
[root@room05pc33 桌面]# firefox 127.0.0.1/rhel7
```

客户端：虚拟机 nsd

1. 配置虚拟机 nsd 的 IP 地址

```
[root@localhost 桌面]# nmcli connection modify eth0 ipv4.method manual ipv4.addresses 192.168.4.168/24 connection.autoconnect yes  
[root@localhost 桌面]# nmcli connection up eth0  
成功激活的连接 (D- Bus 激活路径: /org/freedesktop/NetworkManager/ActiveConnection/3)
```

2. 虚拟机的网络类型必须 private1

3. 虚拟机 nsd 测试

```
[root@localhost 桌面]# firefox 192.168.4.254/rhel7
```

4. 书写客户端文件

```
[root@localhost 桌面]# rm -rf /etc/yum.repos.d/*  
[root@localhost 桌面]# vim /etc/yum.repos.d/dvd.repo  
  
[dvd]  
name=rhel7  
baseurl=http://192.168.4.254/rhel7  
enabled=1  
gpgcheck=0
```

```
[root@localhost 桌面]# yum repolist ←
```

已加载插件：langpacks, product-id, search-disabled-repos, subscription-manager

This system is not registered to Red Hat Subscription Management. You can use subscription-manager to register.

源标识	源名称	大小	状态
dvd	rhel7	4.1 kB	00:00
(1/2): dvd/group_gz		136 kB	00:00
(2/2): dvd/primary_db		3.6 MB	00:00

repolist: 4,620

安装虚拟化服务平台

```
[root@localhost 桌面]# yum group list hidden | less ← 查看
[root@localhost 桌面]# yum -y group install Virtualization\
Virtualization Client      Virtualization Platform
Virtualization Hypervisor  Virtualization Tools
[root@localhost 桌面]# yum -y group install Virtualization\ Client Virtualiza
tion\ Platform Virtualization\ Hypervisor Virtualization\ Tools
```

用 Tab 键!!

```
[root@localhost 桌面]# virt-manager ← 显示虚拟系统管理器
```

命令行管理虚拟机

```
[root@room05pc33 桌面]# virsh list ← 显示虚拟机
```

Id	名称	状态
12	rhel7.1	running
16	classroom	running
17	desktop	running
18	server	running

```
[root@room05pc33 桌面]# virsh destroy rhel7.1 ←
```

域 rhel7.1 被删除

```
[root@room05pc33 桌面]# virsh start rhel7.1 ←
```

域 rhel7.1 已开始

```
[root@room05pc33 桌面]# virsh list --all ←
```

Id	名称	状态
16	classroom	running
17	desktop	running
18	server	running
19	rhel7.1	running
-	win2008	关闭

```
[root@room05pc33 桌面]# virsh autostart rhel7.1
```

域 rhel7.1 标记为自动开始


```

<domain type='kvm'>
  <name>rhel7.1</name>
  <uuid>a07a40e0-4a4a-4de1-ab94-767eb143ade9</uuid>
  <memory unit='KiB'>1048576</memory>
  <currentMemory unit='KiB'>1048576</currentMemory>
  <vcpu placement='static'>1</vcpu>
</domain>

<domain type='kvm'>
  <name>test01</name>
  <memory unit='KiB'>1048576</memory>
  <currentMemory unit='KiB'>1048576</currentMemory>
  <vcpu placement='static'>1</vcpu>

  <devices>
    <emulator>/usr/libexec/qemu-kvm</emulator>
    <disk type='file' device='disk'>
      <driver name='qemu' type='qcow2' />
      <source file='/var/lib/libvirt/images/rhel7.1.qcow2' />
      <target dev='vda' bus='virtio' />
      <address type='pci' domain='0x0000' bus='0x00' slot='0x07' />
    </disk>
    <disk type='file' device='disk'>
      <driver name='qemu' type='qcow2' />
      <source file='/var/lib/libvirt/images/test01.qcow2' />
      <target dev='vda' bus='virtio' />
      <address type='pci' domain='0x0000' bus='0x00' slot='0x07' />
    </disk>
    <interface type='network'>
      <mac address='52:54:00:d2:1d:0e' />
      <source network='private1' />
      <model type='virtio' />
      <address type='pci' domain='0x0000' bus='0x00' slot='0x03' />
    </interface>
  </devices>
</domain>

<interface type='network'>
  <source network='private1' />
  <model type='virtio' />
  <address type='pci' domain='0x0000' bus='0x00' slot='0x03' />
</interface>

```

删除了 UUID

删除了 MAC 地址

3. 导入虚拟机

```
[root@room05pc33 qemu]# virsh define /etc/libvirt/qemu/test01.xml
```

定义域 test01 (从 /etc/libvirt/qemu/test01.xml)

```
[root@room05pc33 qemu]# virsh list --all
```

Id	名称	状态
16	classroom	running
17	desktop	running
18	server	running
19	rhel7.1	running
-	test01	关闭
-	win2008	关闭

```
[root@room05pc33 qemu]# virsh start test01
```

域 test01 已开始

搭建教学环境

```
[root@room5pc01 桌面]# clone-vm7
Enter VM number: 10
Creating Virtual Machine disk image..... [ OK]
Defining new virtual machine..... [ OK]
[root@room5pc01 桌面]# clone-vm7
Enter VM number: 11
Creating Virtual Machine disk image..... [ OK]
Defining new virtual machine..... [ OK]
```

分别给两个克隆的虚拟机配置 IP，分别为 **192.168.4.7** 和 **192.168.4.207**

真机上远程管理两台虚拟机

分别给两个虚拟机设置永久主机名，分别为 **svr7.tedu.cn** 和 **pc207.tedu.cn**

将 **SELinux** 永久设置成 **permissive**

将防火墙设置成 **trusted**

搭建 **yum**

```
[root@localhost ~]# vim /etc/hostname
[root@localhost ~]# hostname
pc207.tedu.cn
[root@localhost ~]# vim /etc/selinux/config
[root@localhost ~]# reboot
```

```
[ dvd]
name=rhel7
baseurl=http://192.168.4.254/rhel7
enabled=1
gpgcheck=0
```