搭建多系统pxe服务器

#环境：centos7.4虚拟机一台，连接到private1虚拟网络，关闭防火墙、SELinux，清空iptables规则，搭建好yum

#实现：可以体从centos7和rhel8双系统引导

#pxe服务器信息：主机名pxe.tedu.cn、IP地址192.168.4.1

#配置

#搭建dhcp服务器

1、搭建dns服务

[root@pxe ~]# yum -y install bind bind-chroot

[root@pxe ~]# vim /etc/named.conf

[root@pxe ~]# cat /etc/named.conf

options {

directory "/var/named";

};

zone "tedu.cn" IN {

type master;

file "tedu.cn.zone";

};

zone "4.168.192.in-addr.arpa" IN {

type master;

file "192.168.4.arpa";

};

[root@pxe ~]# named-checkconf /etc/named.conf

[root@pxe ~]# cd /var/named/

[root@pxe named]# cp -p named.localhost tedu.cn.zone

[root@pxe named]# cp -p named.localhost 192.168.4.arpa

[root@pxe named]# vim tedu.cn.zone

[root@pxe named]# cat tedu.cn.zone

$TTL 1D

@ IN SOA @ rname.invalid. (

0 ; serial

1D ; refresh

1H ; retry

1W ; expire

3H ) ; minimum

NS pxe

pxe A 192.168.4.5

ftp A 192.168.4.254

$GENERATE 100-200 pc$ IN A 192.168.4.$

[root@pxe named]# vim 192.168.4.arpa

[root@pxe named]# cat 192.168.4.arpa

$TTL 1D

@ IN SOA @ rname.invalid. (

0 ; serial

1D ; refresh

1H ; retry

1W ; expire

3H ) ; minimum

NS pxe.tedu.cn.

5 PTR pxe.tedu.cn.

$GENERATE 100-200 $ IN PTR pc$.tedu.cn.

[root@pxe named]# systemctl restart named

#验证正反向解析

[root@pxe named]# echo "nameserver 192.168.4.1" > /etc/resolv.conf

[root@pxe named]# nslookup pc150.tedu.cn

Server: 192.168.4.1

Address: 192.168.4.1#53

Name: pc150.tedu.cn

Address: 192.168.4.150

[root@pxe named]# nslookup 192.168.4.150

Server: 192.168.4.1

Address: 192.168.4.1#53

150.4.168.192.in-addr.arpa name = pc150.tedu.cn.

[root@pxe named]# cd

[root@pxe ~]# systemctl enable named

2、搭建dhcp服务器

[root@pxe ~]# yum -y install dhcp

[root@pxe ~]# vim /etc/dhcp/dhcpd.conf

[root@pxe ~]# cat /etc/dhcp/dhcpd.conf

subnet 192.168.4.0 netmask 255.255.255.0 {

option domain-name "tedu.cn";

option domain-name-servers 192.168.4.5;

option routers 192.168.4.254;

default-lease-time 3600;

max-lease-time 14400;

range 192.168.4.100 192.168.4.200;

next-server 192.168.4.1;

filename "pxelinux.0";

}

[root@pxe ~]# systemctl restart dhcpd

[root@pxe ~]# dhclient -d eth0

Internet Systems Consortium DHCP Client 4.2.5

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For info, please visit https://www.isc.org/software/dhcp/

Listening on LPF/eth0/52:54:00:a1:5d:3a

Sending on LPF/eth0/52:54:00:a1:5d:3a

Sending on Socket/fallback

DHCPDISCOVER on eth0 to 255.255.255.255 port 67 interval 5 (xid=0x3558de32)

DHCPREQUEST on eth0 to 255.255.255.255 port 67 (xid=0x3558de32)

DHCPOFFER from 192.168.4.1

DHCPACK from 192.168.4.1 (xid=0x3558de32)

bound to 192.168.4.100 -- renewal in 1531 seconds.

^C

[root@pxe ~]# systemctl enable dhcpd

3、部署tftp服务

[root@pxe ~]# yum -y install tftp tftp-server

[root@pxe ~]# systemctl start tftp

[root@pxe ~]# systemctl enable tftp

[root@pxe ~]# yum provides \*/pxelinux.0

[root@pxe ~]# yum -y install syslinux-tftpboot.x86\_64

[root@pxe ~]# cd /var/lib/tftpboot/

[root@pxe tftpboot]# mkdir centos rhel

[root@pxe tftpboot]# cd centos/

[root@pxe centos]# wget [ftp://192.168.4.254/iso/centos/isolinux/{vmlinuz,initrd.img}](ftp://192.168.4.254/iso/centos/isolinux/%7bvmlinuz,initrd.img%7d)

[root@pxe centos]# cd ../rhel/

[root@pxe rhel]# wget [ftp://192.168.4.254/iso/rhel/isolinux/{vmlinuz,initrd.img}](ftp://192.168.4.254/iso/rhel/isolinux/%7bvmlinuz,initrd.img%7d)

[root@pxe rhel]# ls

initrd.img vmlinuz

[root@pxe rhel]# cd ..

root@pxe tftpboot]# wget <ftp://192.168.4.254/iso/rhel/isolinux/splash.png>

[root@pxe tftpboot]# mkdir pxelinux.cfg

[root@pxe tftpboot]# cd pxelinux.cfg/

[root@pxe pxelinux.cfg]# wget -O default <ftp://192.168.4.254/iso/centos/isolinux/isolinux.cfg>

[root@pxe pxelinux.cfg]# cd ..

[root@pxe tftpboot]# wget <ftp://192.168.4.254/iso/centos/isolinux/boot.msg>

4、制作并部署ks文件

[root@hostos ~]# yum -y install system-config-kickstart.noarch

[root@pxe ~]# yum -y install vsftpd

[root@pxe ~]# systemctl start --now vsftpd

[root@pxe ~]# systemctl enable vsftpd

[root@pxe ~]# mkdir /var/ftp/ksfile

[root@pxe ~]# cat /var/ftp/ksfile/centos\_ks.cfg

#platform=x86, AMD64, 或 Intel EM64T

#version=DEVEL

# Install OS instead of upgrade

install

# Keyboard layouts

keyboard 'us'

# Root password

rootpw --iscrypted $1$FveRK80k$PutMdeSMjjptSKOjj8aw40

# Use network installation

url --url="ftp://192.168.4.254/iso/centos"

# System language

lang en\_US

# Firewall configuration

firewall --disabled

# System authorization information

auth --useshadow --passalgo=sha512

# Use text mode install

text

firstboot --disable

# SELinux configuration

selinux --disabled

# Network information

network --bootproto=dhcp --device=eth0

# Reboot after installation

reboot

# System timezone

timezone Asia/Shanghai --isUtc

# System bootloader configuration

bootloader --location=mbr

# Clear the Master Boot Record

zerombr

# Partition clearing information

clearpart --all --initlabel

# Disk partitioning information

part / --fstype="xfs" --grow --size=1

%post --interpreter=/bin/bash

rm -rf /etc/yum.repos.d/\*

cat >> /etc/yum.repos.d/development.repo << EOF

[development]

name=dvd

baseurl=ftp://192.168.4.254/iso/centos/

enabled=1

gpgcheck=0

EOF

%end

%packages

@base

%end

%addon com\_redhat\_kdump --disable --reserve-mb='auto'

%end

[root@pxe ~]# cat /var/ftp/ksfile/rhel\_ks.cfg

#platform=x86, AMD64, 或 Intel EM64T

#version=DEVEL

# Install OS instead of upgrade

install

# Keyboard layouts

keyboard 'us'

# Root password

rootpw --iscrypted $1$KaXxcT/f$1VkQzkhLkRz86f56VXQEh/

# Use network installation

url --url="ftp://192.168.4.254/iso/rhel/"

# System language

lang en\_US

# Firewall configuration

firewall --disabled

# System authorization information

auth --useshadow --passalgo=sha512

# Use text mode install

text

firstboot --disable

# SELinux configuration

selinux --disabled

# Network information

network --bootproto=dhcp --device=eth0

# Reboot after installation

reboot

# System timezone

timezone Asia/Shanghai --isUtc

# System bootloader configuration

bootloader --location=mbr

# Clear the Master Boot Record

zerombr

# Partition clearing information

clearpart --all --initlabel

# Disk partitioning information

part / --fstype="xfs" --grow --size=1

%post --interpreter=/bin/bash

rm -rf /etc/yum.repos.d/\*

cat >> /etc/yum.repos.d/dvd.repo << EOF

[BaseOS]

name=baseos

baseurl=ftp://192.168.4.254/iso/rhel/BaseOS/

enabled=1

gpgcheck=0

[AppStream]

name=appstream

baseurl=ftp://192.168.4.254/iso/rhel/AppStream/

enabled=1

gpgcheck=0

EOF

%end

%packages

@base

%end

%addon com\_redhat\_kdump --disable --reserve-mb='auto'

%end

[root@pxe ~]# vim /var/lib/tftpboot/pxelinux.cfg/default

[root@pxe ~]# cat /var/lib/tftpboot/pxelinux.cfg/default

default vesamenu.c32

timeout 300

display boot.msg

menu clear

menu background splash.png

label CentOS

menu label ^Install CentOS 7

kernel centos/vmlinuz

append initrd=centos/initrd.img ks=ftp://192.168.4.1/ksfile/centos\_ks.cfg

label RedHat

menu label Ins^tall RedHat 8

kernel rhel/vmlinuz

append initrd=rhel/initrd.img ks=ftp://192.168.4.1/ksfile/rhel\_ks.cfg

[root@pxe ~]#

#测试装机即可

#客户机要求，内存大于2G，硬盘大于10G，网络选择private1虚拟网络







