使用COBBLER批量安装操作系统(基于CENTOS7.X)

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1.1 cobbler简介

　　Cobbler是一个Linux服务器安装的服务，可以通过网络启动(PXE)的方式来快速安装、重装物理服务器和虚拟机，同时还可以管理DHCP，DNS等。

　　Cobbler可以使用命令行方式管理，也提供了基于Web的界面管理工具(cobbler-web)，还提供了API接口，可以方便二次开发使用。

　　Cobbler是较早前的kickstart的升级版，优点是比较容易配置，还自带web界面比较易于管理。

　　Cobbler内置了一个轻量级配置管理系统，但它也支持和其它配置管理系统集成，如Puppet，暂时不支持SaltStack。

　　Cobbler官网http://cobbler.github.io

　　在使用cobbler之前需要了解kickstart的使用： http://www.cnblogs.com/clsn/p/7833333.html

1.1.1 cobbler集成的服务

　　PXE服务支持

　　DHCP服务管理

　　DNS服务管理(可选bind,dnsmasq)

　　电源管理

　　Kickstart服务支持

　　YUM仓库管理

　　TFTP(PXE启动时需要)

　　Apache**(提供kickstart的安装源，并提供定制化的kickstart配置)**

1.2 安装cobbler

1.2.1 环境说明

```
[root@Cobbler ~]# cat /etc/redhat-release
CentOS Linux release 7.4.1708 (Core)

[root@Cobbler ~]# uname -r
3.10.0-693.el7.x86_64

[root@Cobbler ~]# getenforce
Disabled

[root@Cobbler ~]# systemctl status firewalld.service
● firewalld.service - firewalld - dynamic firewall daemon
```

```
    Loaded: loaded (/usr/lib/systemd/system/firewalld.service; disabled; vendor preset: enabled)
    Active: inactive (dead)
      Docs: man:firewalld(1)

[root@Cobbler ~]# hostname -I
10.0.0.202 172.16.1.202
```

*yum*源说明：

```
curl -o /etc/yum.repos.d/CentOS-Base.repo http://mirrors.aliyun.com/repo/Centos-7.repo
curl -o /etc/yum.repos.d/epel.repo http://mirrors.aliyun.com/repo/epel-7.repo
```

1.2.2 使用yum安装cobbler

```
yum -y install cobbler cobbler-web dhcp tftp-server pykickstart httpd
```

说明：*cobbler*是依赖与*epel*源下载

1.2.3 cobbler语法检查前先启动http与cobbler

```
systemctl start httpd.service
systemctl start cobblerd.service
cobbler check
```

1.2.4 进行语法检查

```
[root@Cobbler ~]# cobbler check
The following are potential configuration items that you may want to fix:

1 : The 'server' field in /etc/cobbler/settings must be set to something other than localhost, c

2 : For PXE to be functional, the 'next_server' field in /etc/cobbler/settings must be set to sc

3 : change 'disable' to 'no' in /etc/xinetd.d/tftp

4 : Some network boot-loaders are missing from /var/lib/cobbler/loaders, you may run 'cobbler ge

5 : enable and start rsyncd.service with systemctl

6 : debmirror package is not installed, it will be required to manage debian deployments and rep

7 : The default password used by the sample templates for newly installed machines (default_pass

8 : fencing tools were not found, and are required to use the (optional) power management featur

Restart cobblerd and then run 'cobbler sync' to apply changes.
```

1.2.5 解决当中的报错

命令集

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```
sed -i 's/server: 127.0.0.1/server: 172.16.1.202/' /etc/cobbler/settings
sed -i 's/next_server: 127.0.0.1/next_server: 172.16.1.202/' /etc/cobbler/settings
sed -i 's/manage_dhcp: 0/manage_dhcp: 1/' /etc/cobbler/settings
sed -i 's/pxe_just_once: 0/pxe_just_once: 1/' /etc/cobbler/settings
sed -ri "/default_password_crypted/s#(.*: ).*#\1\"`openssl passwd -1 -salt 'oldboy' '123456'`\"#
sed -i 's#yes#no#' /etc/xinetd.d/tftp

systemctl start rsyncd
systemctl enable rsyncd
systemctl enable tftp.socket
systemctl start tftp.socket
systemctl restart cobblerd.service

sed -i.ori 's#192.168.1#172.16.1#g;22d;23d' /etc/cobbler/dhcp.template

cobbler sync
```

View 命令集 单击+打开

详解

解决1、2

```
cp /etc/cobbler/settings{,.ori}
sed -i 's/server: 127.0.0.1/server: 172.16.1.202/' /etc/cobbler/settings
sed -i 's/next_server: 127.0.0.1/next_server: 172.16.1.202/' /etc/cobbler/settings
```

问题3

```
sed 's#yes#no#g' /etc/xinetd.d/tftp -i
```

4下载包所需的软件包

```
[root@Cobbler ~]# cobbler get-loaders
[root@Cobbler ~]# ls  /var/lib/cobbler/loaders
COPYING.elilo      elilo-ia64.efi   menu.c32     yaboot
COPYING.syslinux   grub-x86_64.efi  pxelinux.0
COPYING.yaboot     grub-x86.efi     README
```

5启动rsync服务

```
[root@Cobbler ~]# systemctl start rsyncd.service
[root@Cobbler ~]# systemctl enable rsyncd.service
```

6 debian相关无需修改

7、修改安装完成后的root密码

```
openssl passwd -1 -salt 'random-phrase-here' 'your-password-here'
random-phrase-here  随机字符串
your-password-here 密码
```

示例

```
[root@Cobbler ~]# openssl passwd -1 -salt 'CLSN' '123456'
$1$CLSN$LpJk4x1cplibx3q/O4O/K/
```

管理*dhcp*

```
sed -i 's/manage_dhcp: 0/manage_dhcp: 1/' /etc/cobbler/settings
```

防止重装

```
sed -i 's/pxe_just_once: 0/pxe_just_once: 1/' /etc/cobbler/settings
```

修改*dhcp*模板

```
sed -i.ori 's#192.168.1#172.16.1#g;22d;23d' /etc/cobbler/dhcp.template
```

cobbler组配置文件位置

```
/etc/cobbler/settings
```

注意：修改完成之后要使用cobbler sync 进行同步，否则不生效。

1.2.6 修改之后

再次检查语法：

```
[root@Cobbler ~]# cobbler check
The following are potential configuration items that you may want to fix:

1 : debmirror package is not installed, it will be required to manage debian deployments and rep
2 : fencing tools were not found, and are required to use the (optional) power management featur

Restart cobblerd and then run 'cobbler sync' to apply changes.
```

重启所有服务

```
systemctl restart httpd.service
systemctl restart cobblerd.service
systemctl restart dhcpd.service
systemctl restart rsyncd.service
systemctl restart tftp.socket
```

到此cobbler就安装完成，下面进行web界面的操作。

1.3 cobbler的web及界面操作

浏览器访问***https://10.0.0.202/cobbler_web***

注意*CentOS7*中*cobbler*只支持*https*访问。

账号密码默认均为**cobbler**

1.3.1 操作说明–导入镜像

1）在虚拟机上添加上镜像

2)挂载上镜像

```
[root@Cobbler ~]# mount /dev/cdrom  /mnt/
mount: /dev/sr0 is write-protected, mounting read-only

[root@Cobbler ~]# df -h |grep mnt
/dev/sr0       4.3G  4.3G    0 100% /mnt
```

3)进行导入镜像

选择*Import DVD* 输入Prefix(文件前缀), Arch（版本）, Breed（品牌）, Path(要从什么地方导入)

在导入镜像的时候要注意路径，防止循环导入。

信息配置好后，点击run，即可进行导入。
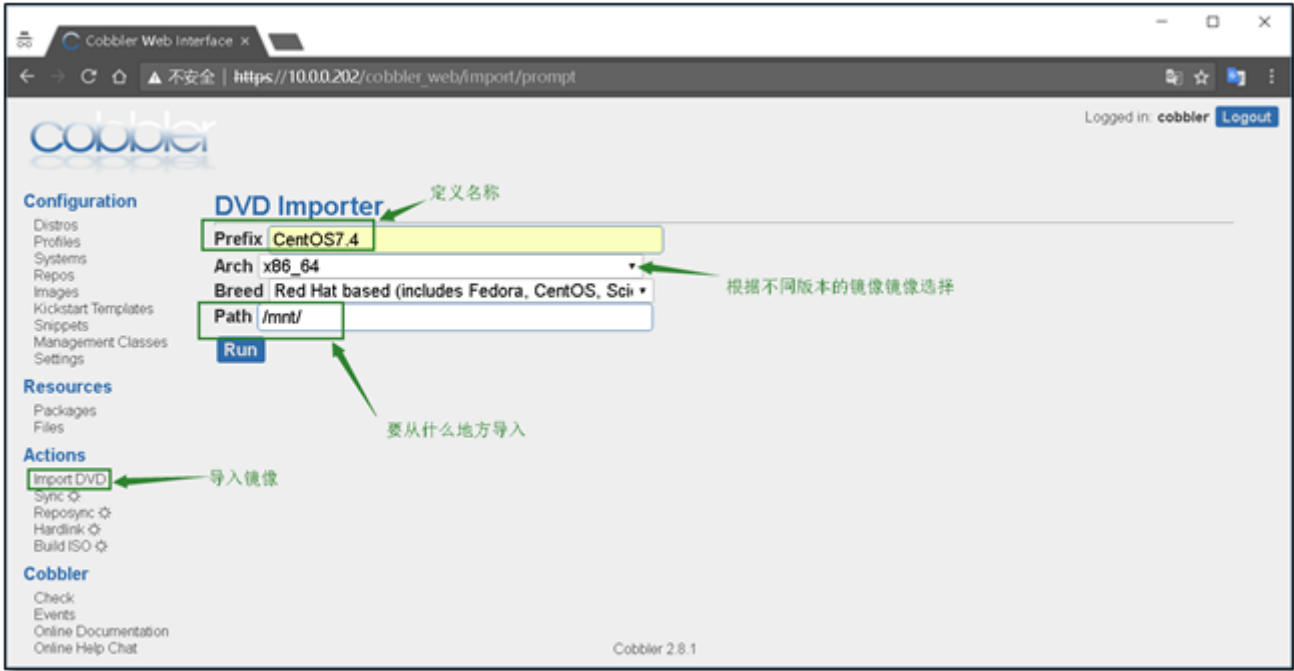
导入过程使用*rsync*进行导入，三个进程消失表示导入完毕

```
[root@Cobbler mnt]# ps -ef |grep rsync
root   12026     1  0 19:04 ?   00:00:00 /usr/bin/rsync --daemon --no-detach
root   13554  11778 12 19:51 ?    00:00:06 rsync -a /mnt/ /var/www/cobbler/ks_mirror/CentOS7.4-x8
root   13555  13554  0 19:51 ?    00:00:00 rsync -a /mnt/ /var/www/cobbler/ks_mirror/CentOS7.4-
root   13556  13555 33 19:51 ?    00:00:17 rsync -a /mnt/ /var/www/cobbler/ks_mirror/CentOS7
root   13590  10759  0 19:52 pts/1   00:00:00 grep --color=auto rsync
```

查看日志可以发现右running进程

日志位于 **Events**

导入完成后生成的文件夹

```
[root@Cobbler ks_mirror]# pwd
/var/www/cobbler/ks_mirror

[root@Cobbler ks_mirror]# ls
CentOS7.4-x86_64  config
```

1.3.2 创建一台空白虚拟机，进行测试网路安装

注意：虚拟机的内存不能小于2G,网卡的配置要保证网络互通

启动虚拟机

启动虚拟机即可发现会有cobbler的选择界面
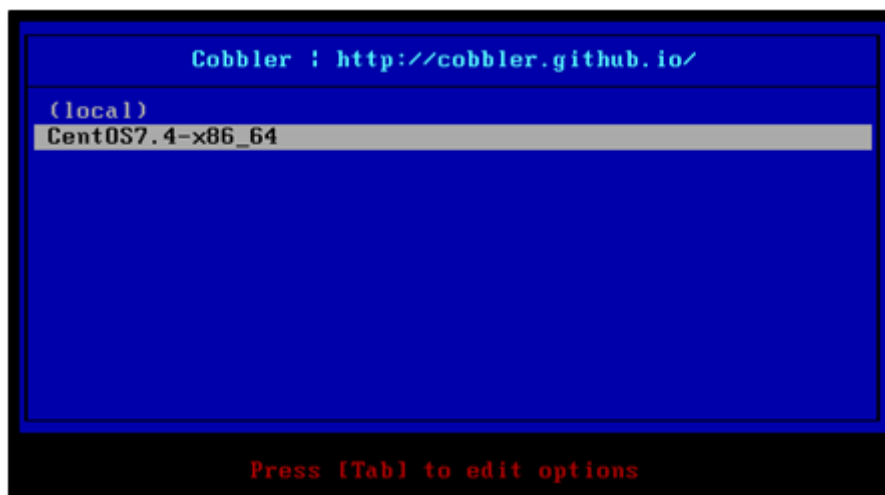
选择CentOS7.4即可进行安装，安装过程与光盘安装一致，这里就不在复述。

1.4 定制化安装操作系统

1.4.1 添加内核参数

1）查看导入的镜像，点击edit
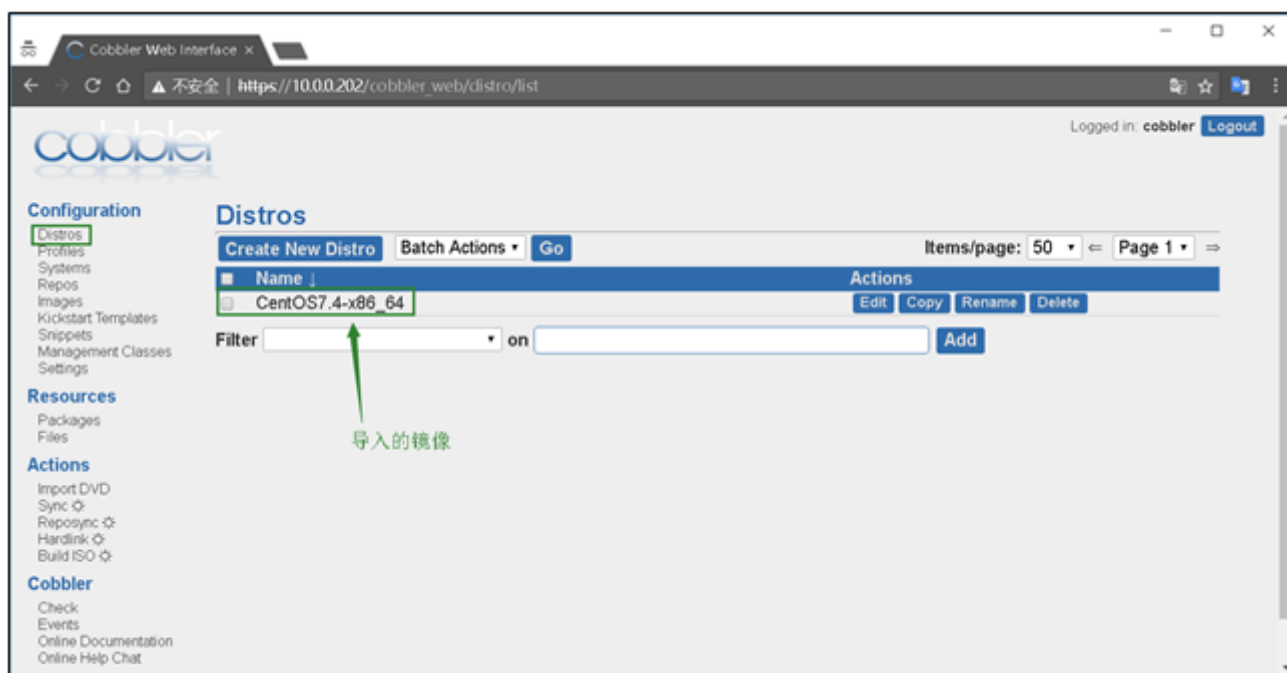
2）在内核参数中添加net.ifnames=0 biosdevname=0

   能够让显示的网卡变为eth0 ，而不是CentOS7中的ens33
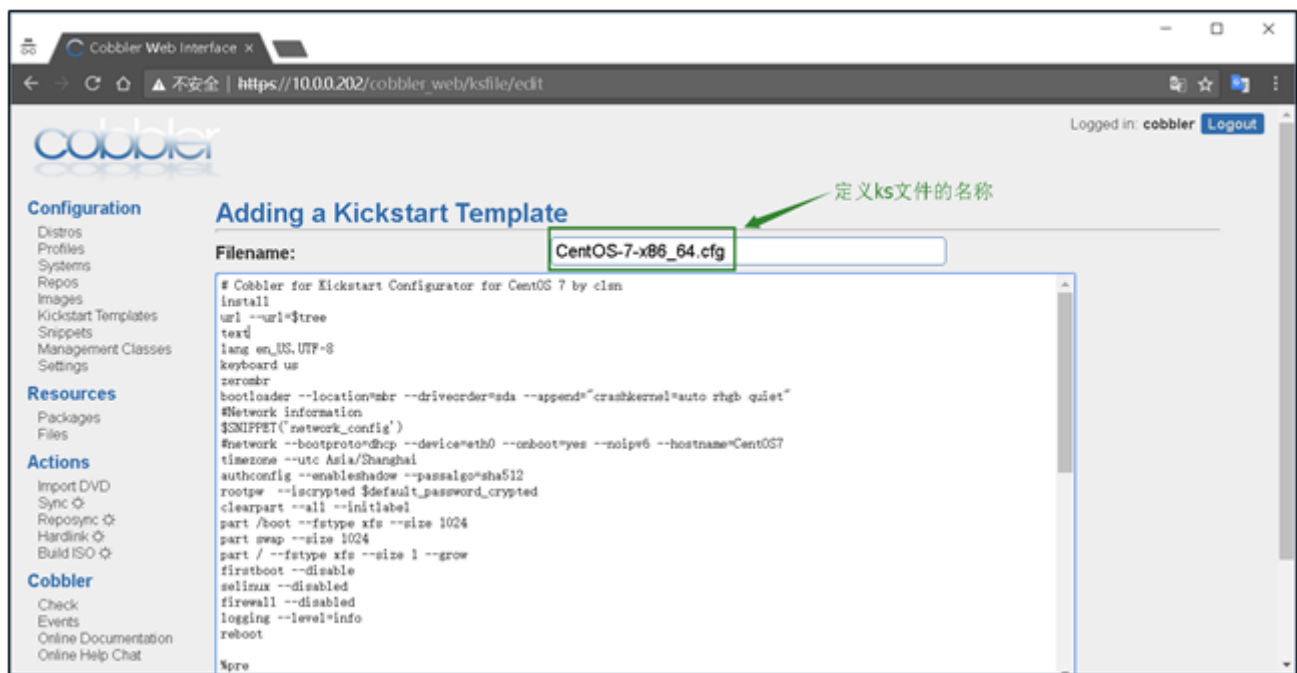
   修改完成后点击保存
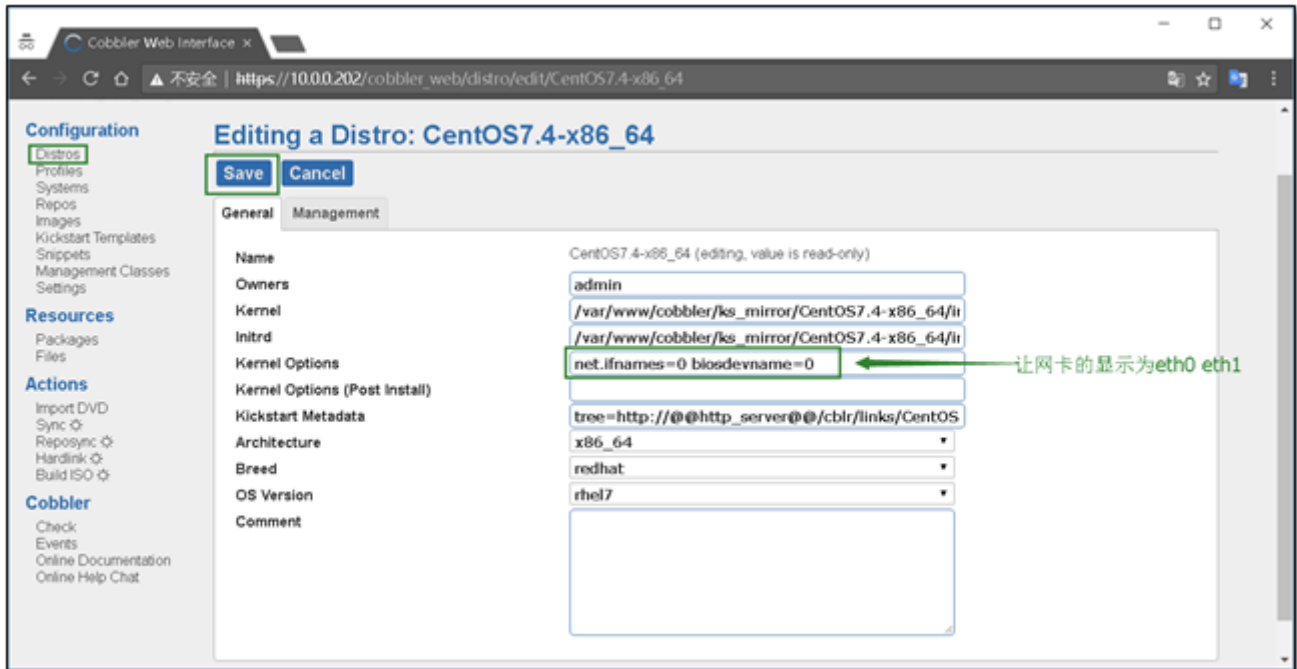
1.4.2 查看镜像属性
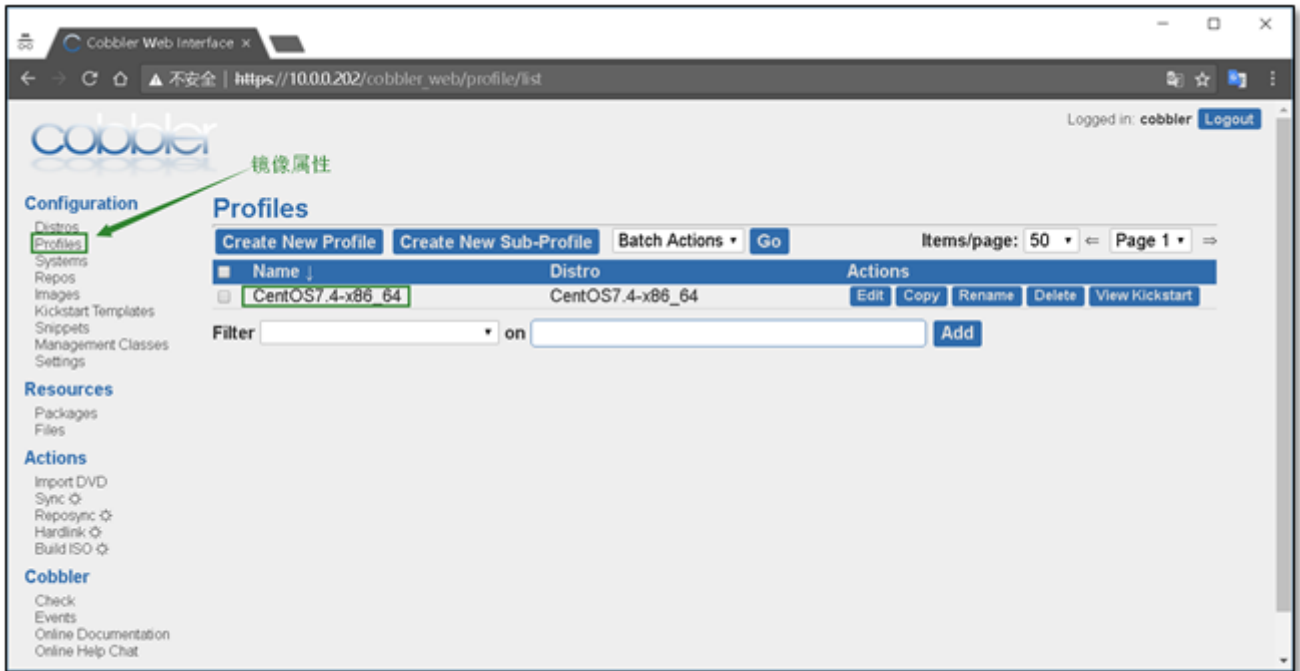
1.4.3 编写ks文件

1)创建新的ks文件
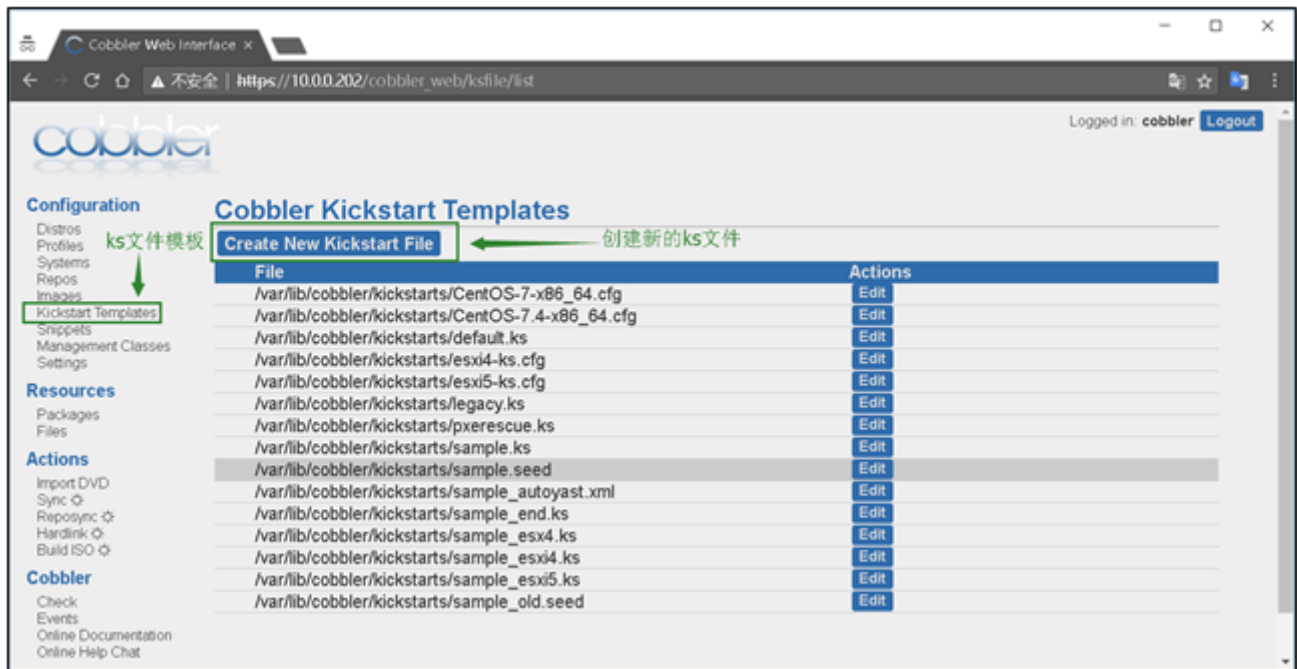
2）添加ks文件，并配置文件名
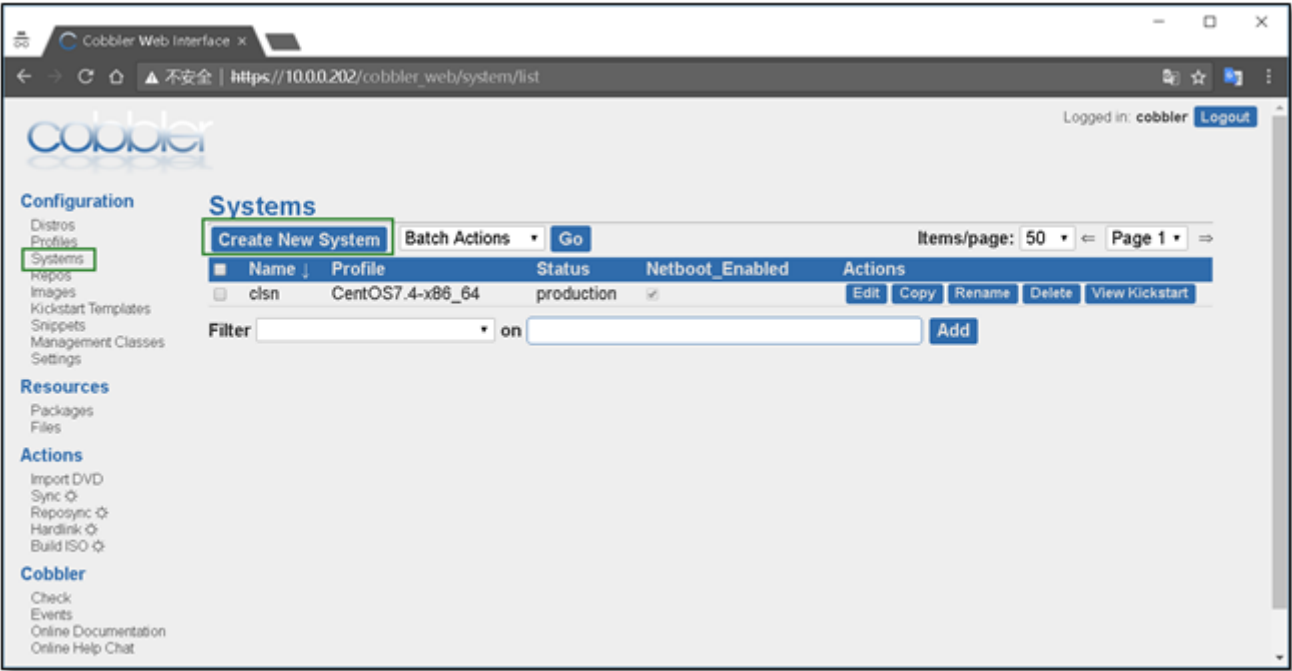
　　创建完成后点击Save进行保存

CentOS7 ks配置文件参考

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```
 1 # Cobbler for Kickstart Configurator for CentOS 7 by clsn
 2 install
 3 url --url=$tree
 4 text
 5 lang en_US.UTF-8
 6 keyboard us
 7 zerombr
 8 bootloader --location=mbr --driveorder=sda --append="crashkernel=auto rhgb quiet"
 9 #Network information
10 $SNIPPET('network_config')
```

```
11 #network --bootproto=dhcp --device=eth0 --onboot=yes --noipv6 --hostname=CentOS7
12 timezone --utc Asia/Shanghai
13 authconfig --enableshadow --passalgo=sha512
14 rootpw  --iscrypted $default_password_crypted
15 clearpart --all --initlabel
16 part /boot --fstype xfs --size 1024
17 part swap --size 1024
18 part / --fstype xfs --size 1 --grow
19 firstboot --disable
20 selinux --disabled
21 firewall --disabled
22 logging --level=info
23 reboot
24
25 %pre
26 $SNIPPET('log_ks_pre')
27 $SNIPPET('kickstart_start')
28 $SNIPPET('pre_install_network_config')
29 # Enable installation monitoring
30 $SNIPPET('pre_anamon')
31 %end
32
33 %packages
34 @^minimal
35 @compat-libraries
36 @core
37 @debugging
38 @development
39 bash-completion
40 chrony
41 dos2unix
42 kexec-tools
43 lrzsz
44 nmap
45 sysstat
46 telnet
47 tree
48 vim
49 wget
50 %end
51
52 %post
53 systemctl disable postfix.service
54 %end
```

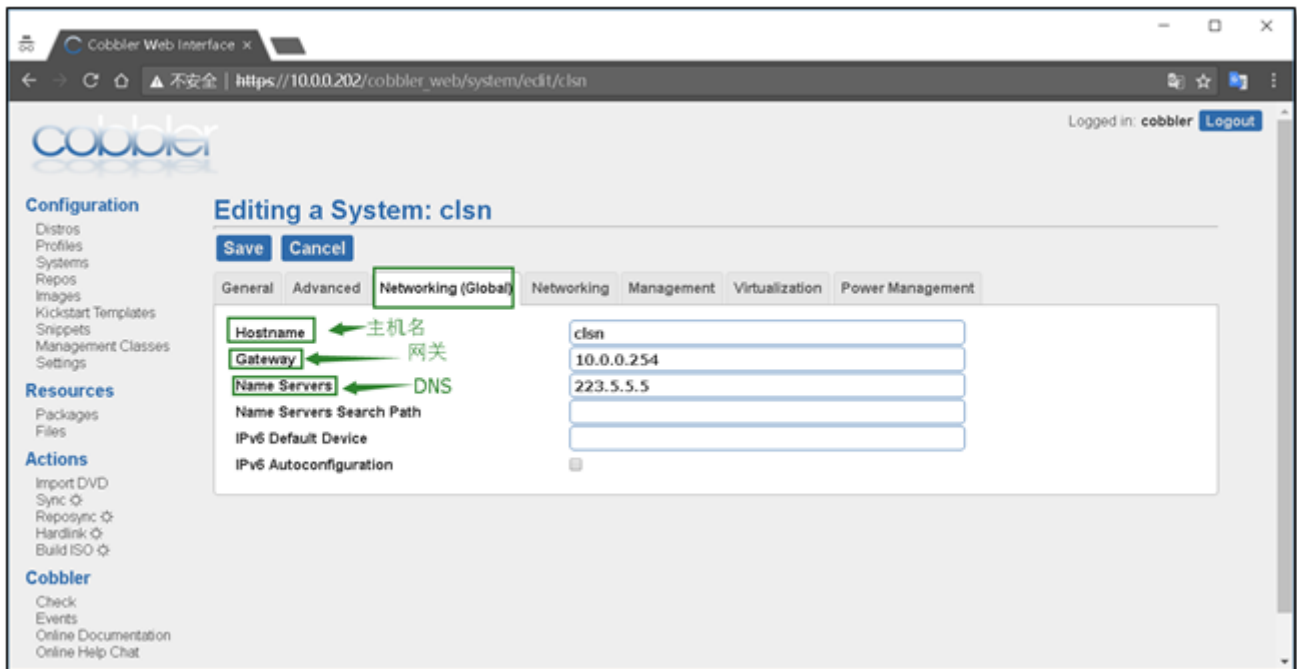View Code ks文件内容(centos7.x)
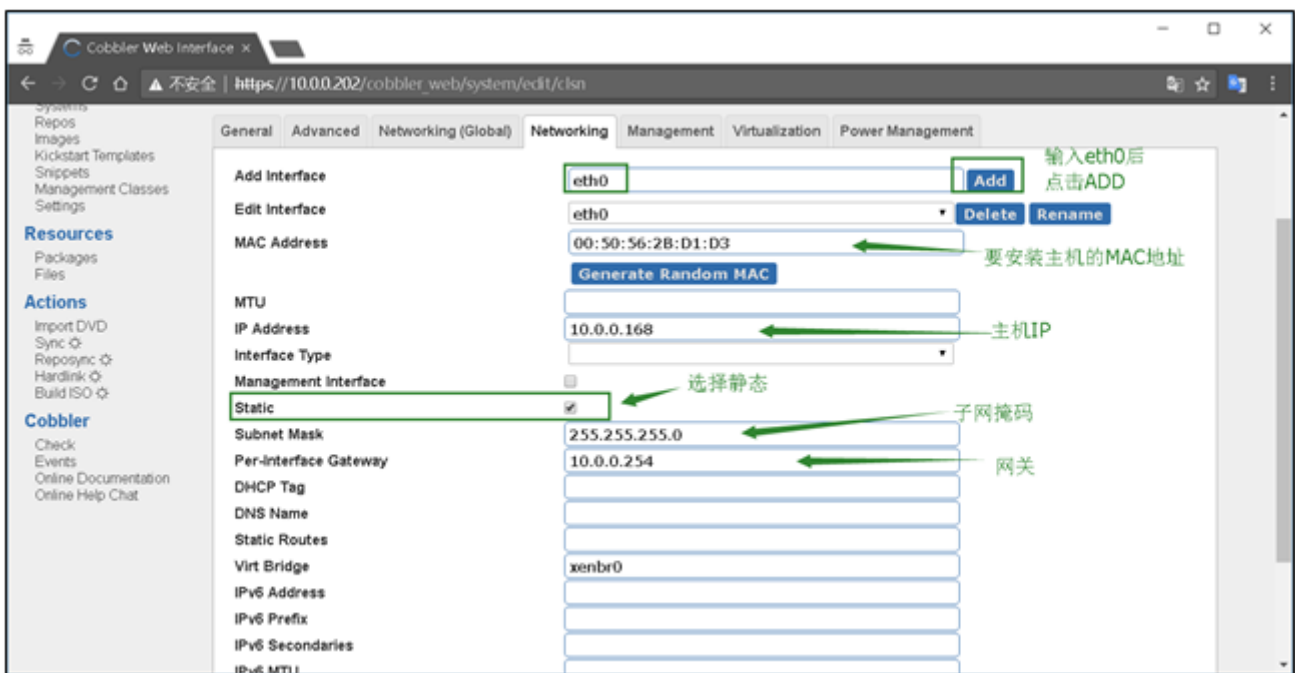
1.4.4 自定义安装系统

1)选择systems 创建一个新的系统

2)定义系统信息
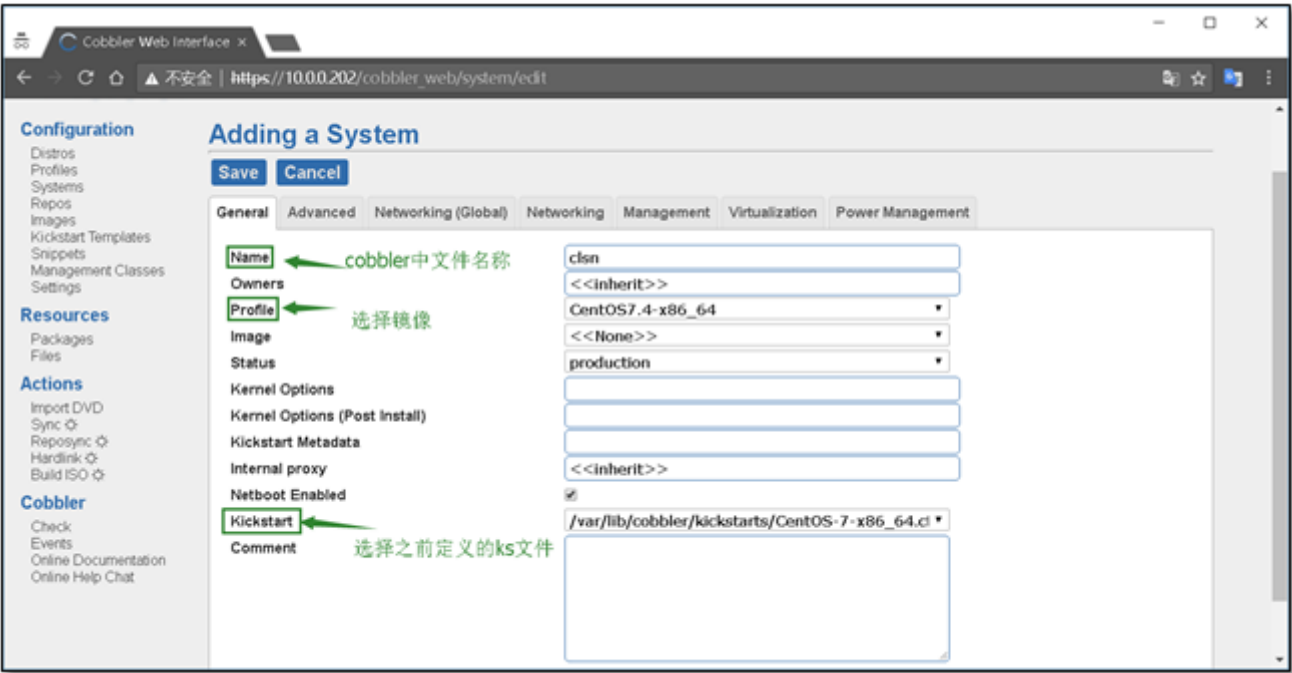
3)配置全局网络信息

　　主机名、网关、DNS
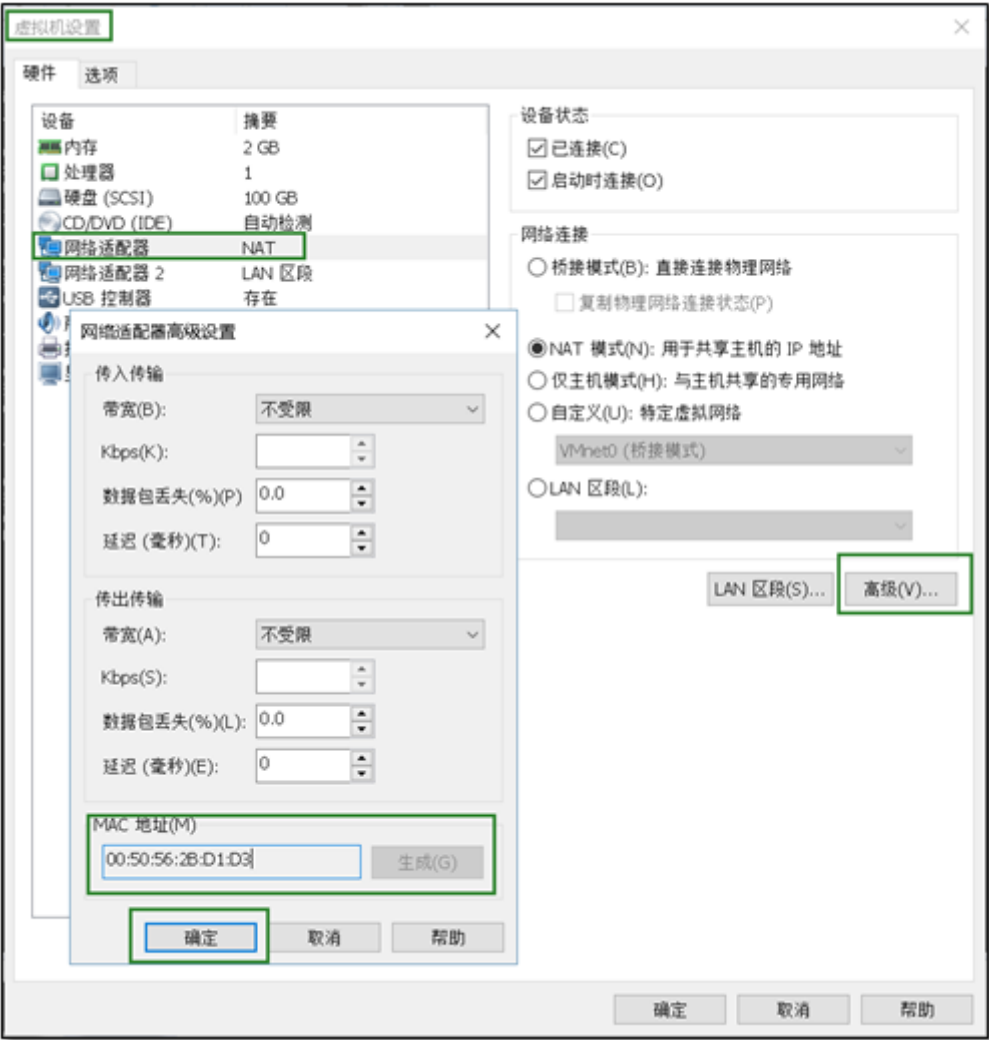
4)配置网卡信息，eth0，eth1

　　需要注意，选择static静态，

以上的所有配置完成后，点击Save进行保存

附录：

VMware workstation中查看虚拟机mac地址的方法。在虚拟机设置中。

cobbler web 界面说明

1.5 安装虚拟机

1.5.1 开启虚拟机

如果之前的设置就显示安装进度

1.5.2 安装完成进行检查

1.6 cobbler使用常见错误

1.6.1 cobbler check报错

```
[root@Cobbler ~]# cobbler sync
Traceback (most recent call last):
  File "/usr/bin/cobbler", line 36, in
    sys.exit(app.main())
  File "/usr/lib/python2.7/site-packages/cobbler/cli.py", line 662, in main
    rc = cli.run(sys.argv)
  File "/usr/lib/python2.7/site-packages/cobbler/cli.py", line 269, in run
    self.token        = self.remote.login("", self.shared_secret)
  File "/usr/lib64/python2.7/xmlrpclib.py", line 1233, in __call__
    return self.__send(self.__name, args)
  File "/usr/lib64/python2.7/xmlrpclib.py", line 1587, in __request
    verbose=self.__verbose
  File "/usr/lib64/python2.7/xmlrpclib.py", line 1273, in request
    return self.single_request(host, handler, request_body, verbose)
  File "/usr/lib64/python2.7/xmlrpclib.py", line 1306, in single_request
    return self.parse_response(response)
  File "/usr/lib64/python2.7/xmlrpclib.py", line 1482, in parse_response
    return u.close()
  File "/usr/lib64/python2.7/xmlrpclib.py", line 794, in close
    raise Fault(**self._stack[0])
xmlrpclib.Fault: ":'login failed'">
```

解决办法

```
systemctl restart httpd.service
systemctl restart cobblerd.service
```

```
cobbler check
```

1.6.2 No space left on device

出现这个错误的原因是虚拟机的内存不足2G，

将内存调为2G即可（这个错误只会出现在CentOS7.3之上）

1.7 附录cobbler_CentOS6.x_ks配置文件

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```
# Cobbler for Kickstart Configurator for CentOS 6  by clsn
install
url --url=$tree
text
lang en_US.UTF-8
keyboard us
zerombr
bootloader --location=mbr --driveorder=sda --append="crashkernel=auto rhgb quiet"
$SNIPPET('network_config')
timezone --utc Asia/Shanghai
authconfig --enableshadow --passalgo=sha512
rootpw  --iscrypted $default_password_crypted
clearpart --all --initlabel
part /boot --fstype=ext4 --asprimary --size=200
part swap --size=1024
part / --fstype=ext4 --grow --asprimary --size=200
firstboot --disable
selinux --disabled
firewall --disabled
logging --level=info
reboot

%pre
$SNIPPET('log_ks_pre')
$SNIPPET('kickstart_start')
$SNIPPET('pre_install_network_config')
# Enable installation monitoring
$SNIPPET('pre_anamon')
%end

%packages
@base
@compat-libraries
@debugging
@development
tree
nmap
sysstat
lrzsz
dos2unix
telnet
```

```
%end

%post --nochroot
$SNIPPET('log_ks_post_nochroot')
%end

%post
$SNIPPET('log_ks_post')
# Start yum configuration
$yum_config_stanza
# End yum configuration
$SNIPPET('post_install_kernel_options')
$SNIPPET('post_install_network_config')
$SNIPPET('func_register_if_enabled')
$SNIPPET('download_config_files')
$SNIPPET('koan_environment')
$SNIPPET('redhat_register')
$SNIPPET('cobbler_register')
# Enable post-install boot notification
$SNIPPET('post_anamon')
# Start final steps
$SNIPPET('kickstart_done')
# End final steps
%end
```

View ks文件参考 centos6.x

1.8 参考文档

http://blog.oldboyedu.com/autoinstall-cobbler/

http://www.zyops.com/autoinstall-cobbler

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如无特殊说明，文章均为本站原创，转载请注明出处

- 转载请注明来源：使用cobbler批量安装操作系统(基于Centos7.x）
- 本文永久链接地址：https://www.nmtui.com/clsn/lx775.html

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