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# Provisioning machines with Cobbler

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- ›› **Cobbler is an integrated solution for provisioning OS's on Linux systems**
  - › RedHat (Fedora, RHEL) focused
  - › Works with SuSE and even Debian to a limited degree
  - › Can be used to install images (windows, firmware, etc)
- ›› **Can manage DHCP, TFTP, and now DNS**
- ›› **Multiple interfaces**
  - › CLI
  - › Web GUI
  - › XMLRPC
  - › Python API

›› **Scalability**

- › Using a CD is time consuming
- › Popping a CD into a machine into a machine to which you do not have physical access is problematic

›› **Repeatability**

- › Consistently build identical machines

›› **Get your own software repository running**

›› **Avoid describing the same thing in multiple places**

- › Sure you could do this yourself by manually editing entries in the /tftpboot tree and dhcpd.conf – but that way lies madness

>> **Use EPEL**

> <http://fedoraproject.org/wiki/EPEL>

>> **Source RPM's**

> <http://people.fedoraproject.org/~mdehaan/files/cobbler/>

>> **check out the source with GIT**

> # git clone git://git.fedorahosted.org/cobbler

## >> Distros

### > Profiles

- Systems

### >> Distros

- > kernel & initrd locations
- > architecture (i386, x86\_64, ia64)
- > breed (RedHat based, Debian, SuSE)

### >> Profiles

- > kickstart file location
- > kickstart metadata – variables you can pass to kickstart
- > all of the above

### >> Systems

- > hostname
- > IP info
- > MAC
- > all of the above

>> **Mirror an existing repo**

- > # cobbler repo add --  
mirror=http://mirrors.kernel.org/fedora/core/updates/6/i386/ --  
name=fc6i386updates
- > # cobbler reposync

>> **We will use this in our kickstart later**

### >> ISO

- > # mount -o loop rhel5.iso /mnt
- > # cobbler import --mirror=/mnt --name=rhel5

### >> From DVD

- > # cobbler import --mirror=/media/dvd --name=rhel5

### >> rsync from a mirror

- > # cobbler import --mirror=rsync://foo.org/path --name=rhel5

### >> NFS – Does not mirror content

- > # cobbler import --mirror=/path/nfsmount --name=filer --available-as=nfs://nfs.foo.org:/path

## >> kernel options

- > serial console=ttyS1,9600

## >> kickstart metadata – variables you can use in your kickstart

- > uses [Cheetah](#) - a python powered template engine
- > ksmeta=eth\_device='eth0' rhel\_key='c0ffee'  
rhn\_passwd='passwd' rhn\_user='spkfoo'

- >> **Easy way to get a working kickstart config**
  - > install by hand and check out `/root/anaconda-ks.cfg`
- >> **Show an example...**

- >> Hostname
- >> MAC
- >> IP Info
- >> Yum repo
  - > Probably a bad idea – use profiles for this
- >> **system specific kernel options and kickstart metadata**
  - > Probably a bad idea – use profiles for this

- >> add, delete, install, sync
- >> pre/post for each
- >> Can use the Cobbler API or any executable script/program
- >> Simple example:

`/var/lib/cobbler/triggers/add/system/post/test.sh`

```
#!/bin/bash
```

```
echo "Hi, my name is $1 and I'm a newly added system"
```

## Example Trigger using API

```
#!/usr/bin/python
import os
import sys
from cobbler import api
cobbler_api = api.BootAPI()
# this is the systemname, not the hostname, so be sure to use the FQDN in the systemname
machine = sys.argv[1]
# location of getcert.sh script
getcert_cmd = "/usr/local/sbin/getcert.sh"
# set return code to 0 by default
rc = 0
# build the command string
cmd = getcert_cmd + " " + machine
# log to cobbler's logs
cobbler_api.log("running - " + cmd)
# run the command and set the return code
rc = os.system(cmd)
# exit with return code
sys.exit(rc)
```

- >> dhcp.template
- >> settings
  
- >> Show examples...

- ›› **Syslog server built in**
  - › 25150/udp
  - › /var/log/cobbler/syslog/<hostname>
- ›› **other places to look**
  - › /var/log/cobbler/cobbler.log
  - › /var/log/cobbler/install.log
  - › http access logs

- >> WebUI
- >> CLI
- >> /tftpboot/pxelinux.cfg
- >> /etc/dhcpd.conf
- >> /etc/cobbler

- >> <https://fedorahosted.org/cobbler> - Official site - sourced throughout presentation
- >> GSLUG - <http://gslug.org> - Providing a forum to learn and share ideas about Linux