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# Integrating Libvirt into Chef

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Plugin for Knife for communicating with Virtual Machine Infrastructure

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# What would I use this for?

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Querying hypervisor for connection, domain, and storage details

Creation of virtual machines

Integrating virtual machine infrastructure with configuration management tool

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# Usage

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```
kphillips@dev: ~  
File Edit View Search Terminal Help  
kphillips@dev:~$ knife libvirt  
FATAL: Cannot find sub command for: 'libvirt'  
Available libvirt subcommands: (for details, knife SUB-COMMAND --help)  
  
** LIBVIRT COMMANDS **  
knife libvirt storage pool show POOL (options)  
knife libvirt server list (options)  
knife libvirt storage pool list (options)  
knife libvirt storage volume list (options)  
knife libvirt storage volume create (options)  
knife libvirt storage volume show POOL VOLUME (options)  
knife libvirt server create (options)  
  
kphillips@dev:~$ █
```

# Workflow

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- Check that name does not exist in NetMan
  - Create storage
  - Render domain XML template
  - Request IP/DNS from NetMan
  - Receive IP from NetMan
  - Add system to cobbler
  - Knife node to Chef
  - Boot VM
-

# So show me...

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```
kphillips@dev: ~  
File Edit View Search Terminal Help  
kphillips@dev:~$ knife libvirt storage volume create --name ci-bannanasplit --size 10 --type qcow2 --pool Private  
Allocating storage...  
root@10.1.4.194's password:  
Created a qcow2 volume of size 10 GB located at /home/kphillip/mnt/libvirt/storage/ci-bannanasplit.img on the hypervisor  
-----  
kphillips@dev:~$ knife libvirt storage volume show Private ci-bannanasplit.img  
Looking up volume...  
root@10.1.4.194's password:  
-----  
Name: ci-bannanasplit.img  
Pool: Private  
  
Capacity: 10485760 MB  
Allocated: 136 MB  
Path: /home/kphillip/mnt/libvirt/storage/ci-bannanasplit.img  
Key: /home/kphillip/mnt/libvirt/storage/ci-bannanasplit.img  
-----  
kphillips@dev:~$ knife libvirt server create --name ci-bannanasplit --cpus 1 --memory 1024  
root@10.1.4.194's password:  
created ci-bannanasplit with 1 CPUS and 1024 MB RAM which has the MAC address of 52:54:00:b9:43:93 with DNS record ci-bannanasplit->10.1.1.43  
  
The system has been created but has yet to be started, please take some time to add the system Cobbler. Press [enter] when you are ready to continue...
```

# Cobbler

**Configuration**

- Distros
- Profiles
- Systems
- Repos
- Images
- Kickstart Templates
- Snippets
- Management Classes

**Resources**

## Systems

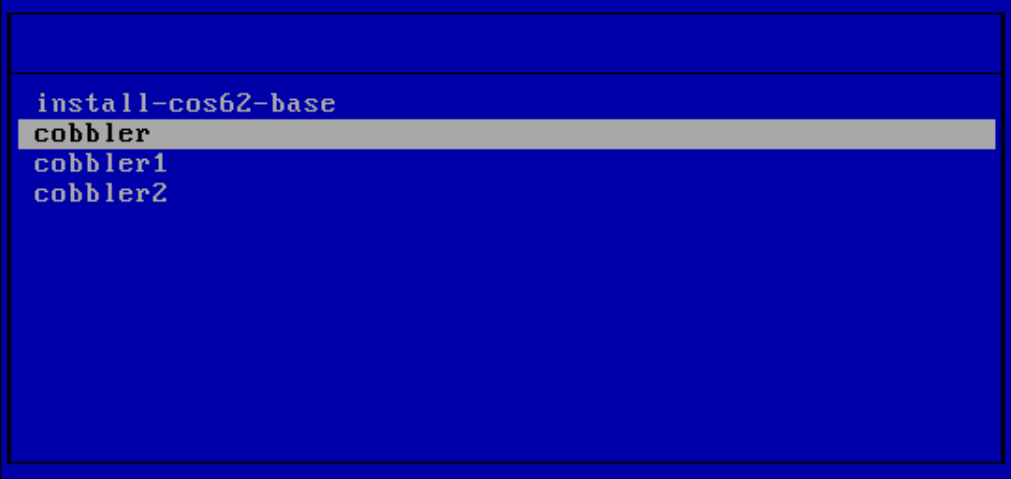
Create New SystemBatch ActionsGoItems/page: 50Page 1

	Name ↓	Profile	Status	Netboot_Enabled	Actions
<input type="checkbox"/>					EditCopyRenameDeleteViewKickstar
<input type="checkbox"/>	ci-bannana-cos62-x86_64-split		production✓		

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Provide Cobbler with the mac address for the new system and assign a profile

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```
install-cos62-base  
cobbler  
cobbler1  
cobbler2
```

Press [Tab] to edit options

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Cobbler controls its own separate TFTP server that is chained to the primary

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# NetworkManager

ci-bannanasplit

VIEW DNS RECORDS

Class: virt - Virtual Machine

Basenet: eng - 10.1.1.0 /24

Name: ci-bannanasplit

Oldname:

Make: Not Specified

Model: Not Specified

Software: Not Specified

Location:

Serial:

Description:

Owner: SYS - System Resource

System Resource ☒

NAME RECORDS			
RR_NAME	RR_TYPE	RR_DATA	NETWORK
ci-bannanasplit	a	10.1.1.43	eng

INTERFACES				
NAME	MAC	ACTIVE	DHCP	DNS NAME
eth0	52:54:00:b9:43:93	<input checked="" type="checkbox"/>	<input type="checkbox"/>	X

Update

Reset

ADD INTERFACE				
INTERFACE NAME	MAC	ACTIVE	DHCP	DNS RECORD
		<input type="checkbox"/>	<input type="checkbox"/>	Choose Record if DHCP

Add

Reset