

# ubuntu 配置 kdump 方法

环境: Ubuntu Server 16.04.1 LTS 64 位

1.执行 kdump-config show 检查 kdump 是否开启, 如下两图出现任何一种代表未开启

kdump

```
root@VM-42-63-ubuntu:/home/ubuntu# kdump-config show
* /etc/default/kdump-tools: USE_KDUMP is not set or zero
DUMP_MODE:      kdump
USE_KDUMP:      0
KDUMP_SYSCTL:   kernel.panic_on_oops=1
KDUMP_COREDIR:  /var/crash
crashkernel addr: 0x2b000000
                /var/lib/kdump/vmlinuz: symbolic link to /boot/vmlinuz-4.4.0-157-generic
kdump initrd:
                /var/lib/kdump/initrd.img: symbolic link to /var/lib/kdump/initrd.img-4.4.0-157-generic
current state:   Not ready to kdump
kexec command:
                no kexec command recorded
root@VM-42-63-ubuntu:/home/ubuntu#
```

或

```
root@VM-42-63-ubuntu:/home/ubuntu# /etc/init.d/kdump-tools status
● kdump-tools.service - Kernel crash dump capture service
   Loaded: loaded (/lib/systemd/system/kdump-tools.service; enabled; vendor preset: enabled)
   Active: inactive (dead) since Thu 2020-05-21 20:01:01 CST; 6s ago
     Process: 3256 ExecStop=/etc/init.d/kdump-tools stop (code=exited, status=0/SUCCESS)
     Process: 1093 ExecStart=/etc/init.d/kdump-tools start (code=exited, status=0/SUCCESS)
    Main PID: 1093 (code=exited, status=0/SUCCESS)

May 21 19:47:39 VM-42-63-ubuntu systemd[1]: Starting Kernel crash dump capture service...
May 21 19:47:40 VM-42-63-ubuntu kdump-tools[1093]: Starting kdump-tools: * loaded kdump kernel
May 21 19:47:40 VM-42-63-ubuntu systemd[1]: Started Kernel crash dump capture service.
May 21 20:01:01 VM-42-63-ubuntu systemd[1]: Stopping Kernel crash dump capture service...
May 21 20:01:01 VM-42-63-ubuntu kdump-tools[3256]: Stopping kdump-tools: * unloaded kdump kernel
May 21 20:01:01 VM-42-63-ubuntu systemd[1]: Stopped Kernel crash dump capture service.
root@VM-42-63-ubuntu:/home/ubuntu#
```

2.开启 kdump

vim /etc/default/kdump-tools

```
# Example - also panic on oom:
# KDUMP_SYSCTL="kernel.panic_on_oops=1 vm.panic_on_oom=1"
#
# USE_KDUMP=1
#KDUMP_SYSCTL="kernel.panic_on_oops=1"

# -----
# Kdump Kernel:
# KDUMP_KERNEL - A full pathname to a kdump kernel.
# KDUMP_INITRD - A full pathname to the kdump initrd (if used).
# If these are not set, kdump-config will try to use the current kernel
# and initrd if it is relocatable. Otherwise, you will need to specify
# these manually.
KDUMP_KERNEL=/var/lib/kdump/vmlinuz
KDUMP_INITRD=/var/lib/kdump/initrd.img

# -----
# vmcore Handling:
```

/etc/init.d/kdump-tools restart

```
root@VM-42-63-ubuntu:/home/ubuntu# /etc/init.d/kdump-tools restart
[ ok ] Restarting kdump-tools (via systemctl): kdump-tools.service.
root@VM-42-63-ubuntu:/home/ubuntu#
root@VM-42-63-ubuntu:/home/ubuntu#
root@VM-42-63-ubuntu:/home/ubuntu#
```

3.再次检查是否开启,如下图代表开启:

```
root@VM-42-63-ubuntu:/home/ubuntu# /etc/init.d/kdump-tools status
● kdump-tools.service - Kernel crash dump capture service
   Loaded: loaded (/lib/systemd/system/kdump-tools.service; enabled; vendor preset: enabled)
   Active: active (exited) since Thu 2020-05-21 19:43:50 CST; 24s ago
     Process: 1931 ExecStop=/etc/init.d/kdump-tools stop (code=exited, status=0/SUCCESS)
     Process: 1955 ExecStart=/etc/init.d/kdump-tools start (code=exited, status=0/SUCCESS)
    Main PID: 1955 (code=exited, status=0/SUCCESS)

May 21 19:43:49 VM-42-63-ubuntu systemd[1]: Stopped Kernel crash dump capture service.
May 21 19:43:49 VM-42-63-ubuntu systemd[1]: Starting Kernel crash dump capture service...
May 21 19:43:50 VM-42-63-ubuntu kdump-tools[1955]: Starting kdump-tools: * loaded kdump kernel
May 21 19:43:50 VM-42-63-ubuntu systemd[1]: Started Kernel crash dump capture service.
root@VM-42-63-ubuntu:/home/ubuntu#
root@VM-42-63-ubuntu:/home/ubuntu#
```

```
root@VM-42-63-ubuntu:/home/ubuntu# kdump-config show
DUMP_MODE: kdump
USE_KDUMP: 1
KDUMP_SYSCTL: kernel.panic_on_oops=1
KDUMP_COREDIR: /var/crash
crashkernel addr: 0x2b000000
                /var/lib/kdump/vmlinuz: symbolic link to /boot/vmlinuz-4.4.0-157-generic
kdump initrd:
                /var/lib/kdump/initrd.img: symbolic link to /var/lib/kdump/initrd.img-4.4.0-157-generic
current state: ready to kdump

kexec command:
/sbin/kexec -p --command-line="BOOT_IMAGE=/boot/vmlinuz-4.4.0-157-generic root=UUID=971546b4-fe6b-4f81-9cbb-9186ff0454ea ro net.
fnames=0 biosdevname=0 console=ttyS0,115200 console=tty0 panic=5 intel_idle.max_cstate=1 intel_pstate=disable irqpoll nr_cpus=1 no
sb systemd.unit=kdump-tools.service" --initrd=/var/lib/kdump/initrd.img /var/lib/kdump/vmlinuz
root@VM-42-63-ubuntu:/home/ubuntu#
root@VM-42-63-ubuntu:/home/ubuntu#
```

配置好 kdump 后, 可以使用如下方法来验证确保 kdump 已经生效, 另外注意, 这个验证方式会 模拟触发一次内核异常重启 后生成 kdump 文件, 会重启机器, 慎重执行。

echo c >/proc/sysrq-trigger

```
root@VM-42-63-ubuntu:/home/ubuntu# ls /var/crash/ -al
total 36
drwxrwxrwt 3 root root 4096 May 21 19:47
drwxr-xr-x 12 root root 4096 May 21 19:20 ..
drwxr-xr-x 2 root root 4096 May 21 19:47 202005211947
-rw-r--r-- 1 root root 355 May 21 19:47 kexec_cmd
-rw-r----- 1 root root 18659 May 21 19:47 linux-image-4.4.0-157-generic-202005211947.crash
root@VM-42-63-ubuntu:/home/ubuntu# ls /var/crash/202005211947/ -al
total 25660
drwxr-xr-x 2 root root 4096 May 21 19:47 .
drwxrwxrwt 3 root root 4096 May 21 19:47 ..
-rw----- 1 root root 44741 May 21 19:47 dmesg.202005211947
-rw----- 1 root root 26218893 May 21 19:47 dump.202005211947
root@VM-42-63-ubuntu:/home/ubuntu#
```