开发者必备Linux命令

> 开发者必备Linux常用命令，掌握这些命令绝对够了，基于CenterOS7.6。

系统服务管理

systemctl

- 输出系统中各个服务的状态：

```
systemctl list-units --type=service
```

```
UNIT                                LOAD   ACTIVE SUB     DESCRIPTION
abrt-ccpp.service                   loaded active exited  Install ABRT coredump hook
abrt-oops.service                   loaded active running ABRT kernel log watcher
abrt-xorg.service                   loaded active running ABRT Xorg log watcher
abrtd.service                       loaded active running ABRT Automated Bug Reporting Tool
accounts-daemon.service             loaded active running Accounts Service
alsa-state.service                  loaded active running Manage Sound Card State (restore and st
atd.service                         loaded active running Job spooling tools
auditd.service                      loaded active running Security Auditing Service
avahi-daemon.service                loaded active running Avahi mDNS/DNS-SD Stack
blk-availability.service            loaded active exited  Availability of block devices
bolt.service                        loaded active running Thunderbolt system service
colord.service                      loaded active running Manage, Install and Generate Color Prof
crond.service                       loaded active running Command Scheduler
cups.service                        loaded active running CUPS Printing Service
dbus.service                        loaded active running D-Bus System Message Bus
firewalld.service                   loaded active running firewalld - dynamic firewall daemon
```

查看服务的运行状态：

```
systemctl status firewalld
```

```
[root@local-linux ~]# systemctl status firewalld
● firewalld.service - firewalld - dynamic firewall daemon
   Loaded: loaded (/usr/lib/systemd/system/firewalld.service; enabled; vendor preset: enabled)
   Active: active (running) since Sat 2019-06-01 10:27:23 CST; 8min ago
     Docs: man:firewalld(1)
 Main PID: 2817 (firewalld)
    Tasks: 2
   CGroup: /system.slice/firewalld.service
           └─2817 /usr/bin/python -Es /usr/sbin/firewalld --nofork --nopid
```

关闭服务：

```
systemctl stop firewalld
```

```
[root@local-linux ~]# systemctl stop firewalld
[root@local-linux ~]# systemctl status firewalld
● firewalld.service - firewalld - dynamic firewall daemon
   Loaded: loaded (/usr/lib/systemd/system/firewalld.service; enabled; vendor preset: enabled)
   Active: inactive (dead) since Sat 2019-06-01 10:37:17 CST; 5s ago
     Docs: man:firewalld(1)
  Process: 2817 ExecStart=/usr/sbin/firewalld --nofork --nopid $FIREWALLD_ARGS (code=exited, status=0/SUCCESS)
 Main PID: 2817 (code=exited, status=0/SUCCESS)
```

启动服务：

```
systemctl start firewalld
```

```
[root@local-linux ~]# systemctl status firewalld
● firewalld.service - firewalld - dynamic firewall daemon
   Loaded: loaded (/usr/lib/systemd/system/firewalld.service; enabled; vendor preset: enabled)
   Active: active (running) since Sat 2019-06-01 10:38:04 CST; 18s ago
     Docs: man:firewalld(1)
 Main PID: 4553 (firewalld)
    Tasks: 2
   CGroup: /system.slice/firewalld.service
           └─4553 /usr/bin/python -Es /usr/sbin/firewalld --nofork --nopid
```

重新启动服务（不管当前服务是启动还是关闭）：

```
systemctl restart firewalld
```

重新载入配置信息而不中断服务：

```
systemctl reload firewalld
```

禁止服务开机自启动：

```
systemctl disable firewalld
```

```
[root@local-linux ~]# systemctl disable firewalld
Removed symlink /etc/systemd/system/multi-user.target.wants/firewalld.service.
Removed symlink /etc/systemd/system/dbus-org.fedoraproject.FirewallD1.service.
[root@local-linux ~]# systemctl status firewalld
● firewalld.service - firewalld - dynamic firewall daemon
   Loaded: loaded (/usr/lib/systemd/system/firewalld.service; disabled; vendor preset: enabled)
   Active: active (running) since Sat 2019-06-01 10:41:03 CST; 1min 17s ago
     Docs: man:firewalld(1)
 Main PID: 4928 (firewalld)
    Tasks: 2
   CGroup: /system.slice/firewalld.service
           └─4928 /usr/bin/python -Es /usr/sbin/firewalld --nofork --nopid
```

设置服务开机自启动：

```
systemctl enable firewalld
```

- ```
  [root@local-linux ~]# systemctl enable firewalld
  Created symlink from /etc/systemd/system/dbus-org.fedoraproject.FirewallD1.service to /usr/lib/sy
  Created symlink from /etc/systemd/system/multi-user.target.wants/firewalld.service to /usr/lib/sy
  [root@local-linux ~]# systemctl status firewalld
  ● firewalld.service - firewalld - dynamic firewall daemon
     Loaded: loaded (/usr/lib/systemd/system/firewalld.service; enabled; vendor preset: enabled)
     Active: active (running) since Sat 2019-06-01 10:41:03 CST; 1min 57s ago
       Docs: man:firewalld(1)
   Main PID: 4928 (firewalld)
     CGroup: /system.slice/firewalld.service
             └─4928 /usr/bin/python -Es /usr/sbin/firewalld --nofork --nopid
  ```

文件管理

ls
  ```

列出当前目录(/)下的所有文件：

```
ls -l /
```

```
[root@local-linux /]# ls -l /
total 20
lrwxrwxrwx.   1 root root    7 May 26 15:13 bin -> usr/bin
dr-xr-xr-x.   5 root root 4096 May 26 15:40 boot
drwxr-xr-x.  20 root root 3180 Jun  1 10:27 dev
drwxr-xr-x. 139 root root 8192 Jun  1 10:27 etc
drwxr-xr-x.   3 root root   19 May 26 15:35 home
lrwxrwxrwx.   1 root root    7 May 26 15:13 lib -> usr/lib
lrwxrwxrwx.   1 root root    9 May 26 15:13 lib64 -> usr/lib64
drwxr-xr-x.   2 root root    6 Apr 11  2018 media
drwxr-xr-x.   2 root root    6 Apr 11  2018 mnt
drwxr-xr-x.   3 root root   16 May 26 15:22 opt
dr-xr-xr-x. 166 root root    0 Jun  1 10:27 proc
dr-xr-x---.   5 root root  224 Jun  1 10:29 root
drwxr-xr-x.  39 root root 1220 Jun  1 10:27 run
lrwxrwxrwx.   1 root root    8 May 26 15:13 sbin -> usr/sbin
drwxr-xr-x.   2 root root    6 Apr 11  2018 srv
dr-xr-xr-x.  13 root root    0 Jun  1 10:27 sys
drwxrwxrwt.  14 root root 4096 Jun  1 10:41 tmp
drwxr-xr-x.  13 root root  155 May 26 15:13 usr
drwxr-xr-x.  20 root root  282 May 26 15:38 var
```

pwd

获取目前所在工作目录的绝对路径

```
[root@local-linux home]# pwd
/home
```

cd

改变当前工作目录：

```
cd /usr/local
```

```
[root@local-linux home]# cd /usr/local/
[root@local-linux local]# pwd
/usr/local
```

date

显示或修改系统时间与日期；

```
date '+%Y-%m-%d %H:%M:%S'
```

```
[root@local-linux local]# date '+%Y-%m-%d %H:%M:%S'
2019-06-01 10:55:35
```

passwd

用于设置用户密码：

```
passwd root
```

```
[root@local-linux local]# passwd
Changing password for user root.
New password:
BAD PASSWORD: The password is shorter than 8 characters
Retype new password:
passwd: all authentication tokens updated successfully.
[root@local-linux local]#
```

su

改变用户身份（切换到超级用户）：

```
su -
```

clear

用于清除屏幕信息

man

显示指定命令的帮助信息：

```
man ls
```

who

- 查询系统处于什么运行级别：

  ```
  who -r
  ```

  ```
  [root@local-linux local]# who -r
           run-level 5  2019-06-01 10:27
  ```

显示目前登录到系统的用户：

```
who -buT
```

-
```
[root@local-linux local]# who -buT
           system boot  2019-06-01 10:27
root     + pts/0        2019-06-01 10:29   .          4362 (192.168.3.4)
```

free

显示系统内存状态（单位MB）：

```
free -m
```

```
[root@local-linux local]# free -m
              total        used        free      shared  buff/cache   available
Mem:           1838         341        1144          11         351        1310
Swap:          2047           0        2047
```

ps

显示系统进程运行动态：

```
ps -ef
```

查看sshd进程的运行动态：

```
ps -ef | grep sshd
```

```
[root@local-linux local]# ps -ef |grep sshd
root      3338     1  0 10:27 ?        00:00:00 /usr/sbin/sshd -D
root      4356  3338  0 10:29 ?        00:00:01 sshd: root@pts/0
root      5722  4362  0 11:03 pts/0    00:00:00 grep --color=auto sshd
```

top

查看即时活跃的进程，类似Windows的任务管理器

```
top - 11:06:33 up 39 min,  1 user,  load average: 0.00, 0.02, 0.05
Tasks: 155 total,   2 running, 153 sleeping,   0 stopped,   0 zombie
%Cpu(s):  0.0 us,  0.3 sy,  0.0 ni, 99.7 id,  0.0 wa,  0.0 hi,  0.0 si,  0.0 st
KiB Mem :  1882300 total,  1171436 free,   349996 used,   360868 buff/cache
KiB Swap:  2097148 total,  2097148 free,        0 used.  1341900 avail Mem

  PID USER      PR  NI    VIRT    RES    SHR S %CPU %MEM     TIME+ COMMAND
 5748 root      20   0  162016   2316   1588 R  0.7  0.1   0:00.03 top
 3334 root      20   0  222748   3780   3028 S  0.3  0.2   0:00.39 rsyslogd
    1 root      20   0  193964   7088   4224 S  0.0  0.4   0:03.69 systemd
    2 root      20   0       0      0      0 S  0.0  0.0   0:00.00 kthreadd
```

mkdir

创建目录

```
[root@local-linux /]# mkdir /mydata
[root@local-linux /]# ll
total 20
lrwxrwxrwx.   1 root root    7 May 26 15:13 bin -> usr/bin
dr-xr-xr-x.   5 root root 4096 May 26 15:40 boot
drwxr-xr-x.  20 root root 3180 Jun  1 10:27 dev
drwxr-xr-x. 139 root root 8192 Jun  1 10:56 etc
drwxr-xr-x.   3 root root   19 May 26 15:35 home
lrwxrwxrwx.   1 root root    7 May 26 15:13 lib -> usr/lib
lrwxrwxrwx.   1 root root    9 May 26 15:13 lib64 -> usr/lib64
drwxr-xr-x.   2 root root    6 Apr 11  2018 media
drwxr-xr-x.   2 root root    6 Apr 11  2018 mnt
drwxr-xr-x.   2 root root    6 Jun  1 11:07 mydata
```

more

用于文件过长时分页查看文件内容 每页10行查看boot.log文件

```
more -c -10 /var/log/boot.log
```

```
[  OK  ] Started Show Plymouth Boot Screen.
[  OK  ] Reached target Paths.
[  OK  ] Started Forward Password Requests to Plymouth Directory Watch.
[  OK  ] Reached target Basic System.
         Mounting Configuration File System...
[  OK  ] Mounted Configuration File System.
[  OK  ] Found device /dev/mapper/centos-root.
         Starting File System Check on /dev/mapper/centos-root...
[  OK  ] Started File System Check on /dev/mapper/centos-root.
[  OK  ] Started dracut initqueue hook.
--More--(2%)
```

cat

查看Linux启动日志文件文件，并标明行号：

```
cat -Ab /var/log/boot.log
```

```
[root@local-linux log]# cat -Ab /var/log/boot.log
     1  [^[[32m  OK  ^[[0m] Started Show Plymouth Boot Screen.^M$
     2  [^[[32m  OK  ^[[0m] Reached target Paths.^M$
     3  [^[[32m  OK  ^[[0m] Started Forward Password Requests to Plymouth Directory Watch.^M$
     4  [^[[32m  OK  ^[[0m] Reached target Basic System.^M$
     5           Mounting Configuration File System...^M$
     6  [^[[32m  OK  ^[[0m] Mounted Configuration File System.^M$
     7  ^[%G^[%G[^[[32m  OK  ^[[0m] Found device /dev/mapper/centos-root.^M$
     8           Starting File System Check on /dev/mapper/centos-root...^M$
     9  [^[[32m  OK  ^[[0m] Started File System Check on /dev/mapper/centos-root.^M$
    10  [^[[32m  OK  ^[[0m] Started dracut initqueue hook.^M$
    11  [^[[32m  OK  ^[[0m] Reached target Remote File Systems (Pre).^M$
    12  [^[[32m  OK  ^[[0m] Reached target Remote File Systems.^M$
    13           Mounting /sysroot...^M$
```

touch

创建text.txt文件：

```
touch text.txt
```

```
[root@local-linux mydata]# touch test.txt
[root@local-linux mydata]# ll
total 0
-rw-r--r--. 1 root root 0 Jun  1 14:37 test.txt
[root@local-linux mydata]#
```

rm

- 删除文件：

```
rm text.txt
```

强制删除某个目录及其子目录：

```
rm -rf testdir/
```

```
[root@local-linux mydata]# ll
total 0
drwxr-xr-x. 2 root root 6 Jun  1 14:39 testdir
-rw-r--r--. 1 root root 0 Jun  1 14:37 test.txt
[root@local-linux mydata]# rm -rf testdir/
[root@local-linux mydata]# ll
total 0
-rw-r--r--. 1 root root 0 Jun  1 14:37 test.txt
[root@local-linux mydata]#
```

cp

将test1目录复制到test2目录

```
cp -r /mydata/tes1 /mydata/test2
```

mv

移动或覆盖文件：

```
mv text.txt text2.txt
```

压缩与解压

tar

- 将/etc文件夹中的文件归档到文件etc.tar（并不会进行压缩）：

```
tar -cvf /mydata/etc.tar /etc
```

用gzip压缩文件夹/etc中的文件到文件etc.tar.gz：

```
tar -zcvf /mydata/etc.tar.gz /etc
```

用bzip2压缩文件夹/etc到文件/etc.tar.bz2：

```
tar -jcvf /mydata/etc.tar.bz2 /etc
```

```
[root@local-linux mydata]# ll
total 53936
-rw-r--r--. 1 root root 34273280 Jun  1 14:44 etc.tar
-rw-r--r--. 1 root root  9819207 Jun  1 14:49 etc.tar.bz2
-rw-r--r--. 1 root root 11132647 Jun  1 14:49 etc.tar.gz
```

分页查看压缩包中内容（gzip）：

```
tar -ztvf /mydata/etc.tar.gz |more -c -10
```

```
drwxr-xr-x root/root         0 2019-06-01 10:56 etc/
-rw-r--r-- root/root       465 2019-05-26 15:11 etc/fstab
-rw------- root/root         0 2019-05-26 15:11 etc/crypttab
lrwxrwxrwx root/root         0 2019-05-26 15:11 etc/mtab -> /proc/self/mounts
-rw-r--r-- root/root        51 2019-06-01 10:27 etc/resolv.conf
drwxr-xr-x root/root         0 2019-05-26 15:18 etc/fonts/
drwxr-xr-x root/root         0 2019-05-26 15:22 etc/fonts/conf.d/
lrwxrwxrwx root/root         0 2019-05-26 15:18 etc/fonts/conf.d/31-cantarell.c
ll.conf
lrwxrwxrwx root/root         0 2019-05-26 15:22 etc/fonts/conf.d/66-sil-nuosu.c
--More--
```

解压文件到当前目录（gzip）：

```
tar -zxvf /mydata/etc.tar.gz
```

解压文件到指定目录（gzip）：

```
tar -zxvf /mydata/etc.tar.gz -C /mydata/etc
```

磁盘和网络管理

df

查看磁盘空间占用情况：

```
df -hT
```

```
[root@local-linux mydata]# df -hT
Filesystem              Type      Size  Used Avail Use% Mounted on
/dev/mapper/centos-root xfs        27G  4.2G   23G  16% /
devtmpfs                devtmpfs  903M     0  903M   0% /dev
tmpfs                   tmpfs     920M     0  920M   0% /dev/shm
tmpfs                   tmpfs     920M  9.2M  910M   2% /run
tmpfs                   tmpfs     920M     0  920M   0% /sys/fs/cgroup
/dev/sda1               xfs      1014M  179M  836M  18% /boot
tmpfs                   tmpfs     184M   12K  184M   1% /run/user/42
tmpfs                   tmpfs     184M     0  184M   0% /run/user/0
```

dh

查看当前目录下的文件及文件夹所占大小：

```
du -h --max-depth=1 ./*
```

```
[root@local-linux mydata]# du -h --max-depth=1 ./*
33M     ./etc.tar
9.4M    ./etc.tar.bz2
11M     ./etc.tar.gz
```

ifconfig

显示当前网络接口状态

```
[root@local-linux mydata]# ifconfig
enp0s3: flags=4163<UP,BROADCAST,RUNNING,MULTICAST>  mtu 1500
        inet 192.168.3.101  netmask 255.255.255.0  broadcast 192.168.3.255
        inet6 fe80::a00:27ff:fe5a:4b13  prefixlen 64  scopeid 0x20<link>
        ether 08:00:27:5a:4b:13  txqueuelen 1000  (Ethernet)
        RX packets 7064  bytes 562953 (549.7 KiB)
        RX errors 0  dropped 0  overruns 0  frame 0
        TX packets 6165  bytes 2418605 (2.3 MiB)
        TX errors 0  dropped 0 overruns 0  carrier 0  collisions 0
```

netstat

- 查看当前路由信息：

```
netstat -rn
```

```
[root@local-linux mydata]# netstat -rn
Kernel IP routing table
Destination     Gateway         Genmask         Flags   MSS Window  irtt Iface
0.0.0.0         192.168.3.1     0.0.0.0         UG        0 0          0 enp0s3
192.168.3.0     0.0.0.0         255.255.255.0   U         0 0          0 enp0s3
192.168.122.0   0.0.0.0         255.255.255.0   U         0 0          0 virbr0
```

查看所有有效TCP连接：

```
1 netstat -an
```

查看系统中启动的监听服务：

```
1 netstat -tulnp
```

```
[root@local-linux mydata]# netstat -tulnp
Active Internet connections (only servers)
Proto Recv-Q Send-Q Local Address           Foreign Address         State       PID/Program name
tcp        0      0 0.0.0.0:111             0.0.0.0:*               LISTEN      1/systemd
tcp        0      0 0.0.0.0:6000            0.0.0.0:*               LISTEN      3384/X
tcp        0      0 192.168.122.1:53        0.0.0.0:*               LISTEN      3837/dnsmasq
tcp        0      0 0.0.0.0:22              0.0.0.0:*               LISTEN      3338/sshd
tcp        0      0 127.0.0.1:631           0.0.0.0:*               LISTEN      3336/cupsd
tcp        0      0 127.0.0.1:25            0.0.0.0:*               LISTEN      3884/master
tcp        0      0 127.0.0.1:6010          0.0.0.0:*               LISTEN      4356/sshd: root@pts
tcp6       0      0 :::111                  :::*                    LISTEN      1/systemd
tcp6       0      0 :::6000                 :::*                    LISTEN      3384/X
tcp6       0      0 :::22                   :::*                    LISTEN      3338/sshd
tcp6       0      0 ::1:631                 :::*                    LISTEN      3336/cupsd
tcp6       0      0 ::1:25                  :::*                    LISTEN      3884/master
tcp6       0      0 ::1:6010                :::*                    LISTEN      4356/sshd: root@pts
```

查看处于连接状态的系统资源信息：

```
1 netstat -atunp
```

wget

从网络上下载文件

```
[root@local-linux mydata]# wget http://mirror.bit.edu.cn/apache/tomcat/tomcat-8/v8.5.41/bin/apache-tomcat-8.5.41.tar.gz
--2019-06-01 15:05:29--  http://mirror.bit.edu.cn/apache/tomcat/tomcat-8/v8.5.41/bin/apache-tomcat-8.5.41.tar.gz
Resolving mirror.bit.edu.cn (mirror.bit.edu.cn)... 219.143.204.117, 202.204.80.77, 2001:da8:204:2001:250:56ff:fea1:22
Connecting to mirror.bit.edu.cn (mirror.bit.edu.cn)|219.143.204.117|:80... connected.
HTTP request sent, awaiting response... 200 OK
Length: 9699102 (9.2M) [application/octet-stream]
Saving to: 'apache-tomcat-8.5.41.tar.gz'

100%[==========================================================================================>] 9,699,102   1.33MB/s   in 7.3s
```

文件上传下载

安装上传下载工具

```
1 yum install -y lrzsz
```

上传文件

```
rz
```

下载文件

```
sz fileName
```

软件的安装与管理

rpm

- 安装软件包：rpm -ivh nginx-1.12.2-2.el7.x86_64.rpm
- 模糊搜索软件包：rpm -qa | grep nginx
- 精确查找软件包：rpm -qa nginx
- 查询软件包的安装路径：rpm -ql nginx-1.12.2-2.el7.x86_64
- 查看软件包的概要信息：rpm -qi nginx-1.12.2-2.el7.x86_64
- 验证软件包内容和安装文件是否一致：rpm -V nginx-1.12.2-2.el7.x86_64
- 更新软件包：rpm -Uvh nginx-1.12.2-2.el7.x86_64
- 删除软件包：rpm -e nginx-1.12.2-2.el7.x86_64

yum

- 安装软件包： yum install nginx
- 检查可以更新的软件包：yum check-update
- 更新指定的软件包：yum update nginx
- 在资源库中查找软件包信息：yum info nginx*
- 列出已经安装的所有软件包：yum info installed
- 列出软件包名称：yum list nginx*
- 模糊搜索软件包：yum search nginx