Linux????

????????????

Linux????(????????)

Ubuntu 20.04/22.04?????????????

??????????????????????????????????????

SSH??

Ubuntu?OS?????????????????SSH????????????????????

```
sudo apt install ssh
```

SSH?????

??????????????????

```
ssh-keygen -t ed25519
```

- ????????Enter??/home/hoge/.ssh/
- ????????????

SSH???????

- ?????????????????
- ???????????????????????????
- ????????????

```
cd .ssh
```

- ?????????

```
ls -l
```

??????????????

1. id_ed25519
2. id_ed25519.pub

??????????scp??????????????????

??????

????authorized_keys????????????????????

- ???????

```
mv id_ed25519.pub authorized_keys
```

- ?????????

```
chmod 600 authorized_keys
```

????

??????????????id_ed25519?SSH????????????????????????????????

SSH???????????

- SSH????????????

```
sudo cp -pi /etc/ssh/sshd_config /path/to/backup/directory/sshd_config.$(date +%Y%m%d)
```

?????????????????????

- ????????

```
diff -u /etc/ssh/sshd_config /path/to/backup/directory/sshd_config.$(date +%Y%m%d)
```

????????????????????????????

- ????????

```
sudo sed -i -e 's/^#PasswordAuthentication yes/PasswordAuthentication no/' -e 's/^#PermitEmptyPasswords
no/PermitEmptyPasswords no/' /etc/ssh/sshd_config
```

- ????

```
diff -u /etc/old/sshd_config.$(date +%Y%m%d) /etc/ssh/sshd_config
```

- ??

```
-#PasswordAuthentication yes
-#PermitEmptyPasswords no
+PasswordAuthentication no
+PermitEmptyPasswords no
```

- SSH???

????????????SSH?????????????????

```
sudo systemctl restart ssh.service
```

SSH??????

1. ???????????????
2. ??????SSH?????????????????
3. ????????????????????????????

????????????????

???????????????????

```
sudo apt update && sudo apt upgrade
```

??????????????????

```
sudo reboot
```

??????????????

Ubuntu?OS????????? hoge.example.com ???????

```
uname -n
```

??????????????????????

```
sudo hostnamectl set-hostname hoge.example.com
```

??????????????????????

????

```
uname -n
```

hoge.example.com???????

???????

??????????

```
hoge@hoge$
```

??????????????????????

- ??????.bashrc??

```
cat << ___EOF___ | tee -a ~/.bashrc
PS1="[\u@\H \W]\\$ "
```

```
# ⬜⬜⬜⬜⬜⬜⬜⬜⬜⬜⬜⬜
if [ "\$PS1" ]; then
  if [ "\$(id -u)" -eq 0 ]; then # root⬜⬜⬜⬜⬜
    PS1='\[\e[0;31m\][\u@\H \W]#\[\e[0m\] '
  else # ⬜⬜⬜⬜⬜⬜⬜
    PS1='\[\e[0;32m\][\u@\H \W]$\[\e[0m\] '
  fi
fi
___EOF___
```

- root

Ubuntu??.bashrc????????????????????????

```
sudo su -
```

```
cat << ___EOF___ | tee -a ~/.bashrc
PS1="[\u@\H \W]\\$ "

# ⬜⬜⬜⬜⬜⬜⬜⬜⬜⬜⬜⬜
if [ "\$PS1" ]; then
  if [ "\$(id -u)" -eq 0 ]; then # root⬜⬜⬜⬜⬜
    PS1='\[\e[0;31m\][\u@\H \W]#\[\e[0m\] '
  else # ⬜⬜⬜⬜⬜⬜⬜
    PS1='\[\e[0;32m\][\u@\H \W]$\[\e[0m\] '
  fi
fi
___EOF___
```

????SSH?????????????????????

1. ???? `[hoge@hoge.example.com~]$` ??????????????????
2. ???? `[root@hoge.example.com~]#` ??????????????root?

aptitude??????

?????????????????????apt????aptitude??????

```
sudo apt install aptitude
```

Ubuntu Linux??cron???????

??

Ubuntu?Linus?????(cron)?????????????????????????????

rsyslogd?Cron??????

- ???????????????

```
sudo cp -pi /etc/rsyslog.d/50-default.conf /path/to/backup/directory/50-default.conf.$(date +%Y%m%d)
```

?????????????????????

- ??????????

```
diff -u /etc/rsyslog.d/50-default.conf /path/to/backup/directory/50-default.conf.$(date +%Y%m%d)
```

????????????????????????????

???????????

- Sed????????????

```
sudo sed -i 's/^#cron.*/cron.*                    \/var\/log\/cron.log/' /etc/rsyslog.d/50-default.conf
```

- ????

```
diff -u /path/to/backup/directory/50-default.conf.$(date +%Y%m%d) /etc/rsyslog.d/50-default.conf
```

- ??

```
-#cron.*                 /var/log/cron.log
+cron.*                  /var/log/cron.log
```

rsyslogd??

- ??????rsylogd???????

```
systemctl status rsyslog.service
```

active (running)??????

- rsyslog???

```
sudo systemctl restart rsyslog.service
```

- ??????rsylogd???????

```
systemctl status rsyslog.service
```

vps?????swap????????

??

vps?Swap??????????????????Swap?????????????????????

??

- Ubuntu 24.04
- 4GB???/80GB??????????????

?????????

1. ???????????????????
2. Swap?????????
3. ????Swap??????????
4. Swap??????????????
5. fstab???????
6. fstab??????????????Swap????????????

?????

??????????????????????????????????????? ??

???????????

- ????????

```
free -h
```

-h??????(human readable)???????

- ????

```
              total      used      free    shared buff/cache  available
Mem:          3.8Gi     450Mi     2.9Gi     2.5Mi     688Mi      3.4Gi
Swap:            0B        0B        0B
```

Swap?????????????

????????????

- ????

```
df -h
```

- ?????

```
Filesystem      Size  Used Avail Use% Mounted on
/dev/root       78G  5.0G   73G   7% /
tmpfs          2.0G     0  2.0G   0% /dev/shm
tmpfs          784M  980K  783M   1% /run
tmpfs          5.0M     0  5.0M   0% /run/lock
/dev/vda15     105M  6.1M   99M   6% /boot/efi
tmpfs          392M   12K  392M   1% /run/user/1001
```

?????????????????4GB?????????

Swap?????

- Swap????

```
sudo fallocate -l 4G /swap
```

- ????????

```
ls -ldh /swap
```

?????????4GB?????????????????

Swap????

- /swap??????????

```
sudo chmod 600 /swap
```

- ???????????

```
ls -ldh /swap
```

root?????????????????\

/swap???

- Swap????

```
sudo mkswap /swap
```

- ????

> □□□□□□□□□□ 1 □□□□□□□□□ = 4 GiB (4294963200 □□□)
>
> □□□□□□□□, UUID=08cf06da-757e-4ab4-b049-e7da8ee73341

?/swap????

```
sudo swapon /swap
```

Swap?????

- ???????

```
free -h
```

- ?????

```
          total      used      free    shared  buff/cache  available
Mem:      3.8Gi     446Mi     2.9Gi     2.5Mi      689Mi       3.4Gi
Swap:     4.0Gi        0B     4.0Gi
```

4GB?Swap???????????

fstab??

- /etc/fstab???????

```
sudo cp -pi /etc/fstab /path/to/backup/directory/fstab.$(date +%Y%m%d)
```

- ??????????

```
diff -u /path/to/backup/directory/fstab.$(date +%Y%m%d) /etc/fstab
```

???????????????????????????????

- /etc/fstab??

```
cat <<- __EOF__ | sudo tee -a /etc/fstab
/swap none swap sw 0 0
__EOF__
```

- ????

```
diff -u /path/to/backup/directory/fstab.$(date +%Y%m%d) /etc/fstab
```

- ??

```
+/swap none swap sw 0 0
```

?????????

- ???????

```
sudo reboot
```

- ???????

???????????????

1. ?????????????
2. Web?????????????????????????
3. free -h ?????Swap????????????

Ubuntu????????NW??????????????

???????????????????????????????

net-tools

??????????????(ifconfig/netstat?)???????

```
sudo aptitude install net-tools
```

ifconfig??????

?????	??	??
-a	???????????????????	??????????????????
-s	???????????	?????????????????
up	????????????	?????????????
down	????????????	?????????????
inet	IP???????	????????????IP??????
netmask	?????????	?????????????
broadcast	??????????????	?????????????????
mtu	???????MTU????	????????????????
promisc	?????????????	?????????????
-promisc	?????????????	????????
arp	ARP?????????	????????????????
-arp	ARP?????????	ARP??????
allmulti	??????????????	??????????????????????
-allmulti	??????????????	????????

netstat??????

?????	??	??
-a	??????????????????	?????????????????
-t	TCP???????	TCP???????????
-u	UDP???????	UDP???????????
-l	?????????????	????????????????
-p	????ID??????????	???????????????????????
-n	?????????????????	???????????

?????	??	??
-r	?????????????	?????????????????
-s	??????????????	?????????????????
-c	????????????	??????????????????

?????	??	??
-r	?????????????	?????????????????
-s	??????????????	?????????????????
-c	????????????	??????????????????

Ubuntu??????????????????

???????????????????????????????????????

```
sudo tee -a /etc/profile.d/history.sh > /dev/null << 'EOF'

export HISTSIZE=50000

export HISTFILESIZE=50000

export HISTTIMEFORMAT='%Y/%m/%d %H:%M:%S '

EOF
```

- ??????history????????5??????????
- ?????????????????

?????????????????????????

```
source /etc/profile.d/history.sh
```

??????????????????

????????????????????????????????????

???????????

```
sudo su -
```

??

- Ubuntu 20.04 / 22.04 / 24.04

??root????????????????? * ????????????????????

?????????????

- ????????????

```
sudo cp -pi /etc/sudoers /path/to/backup/directory/sudoers.$(date +%Y%m%d)
```

?????????????????????

- ????????

```
sudo diff -u /path/to/backup/directory/sudoers.$(date +%Y%m%d) /etc/sudoers
```

??????????????????

????????

- sed???????????

```
sudo sed -i 's/^Defaults\s\+env_reset$/Defaults env_reset,pwfeedback/' /etc/sudoers
```

- ????

```
sudo diff -u /path/to/backup/directory/sudoers.$(date +%Y%m%d) /etc/sudoers
```

```
-Defaults       env_reset
+Defaults env_reset,pwfeedback
```

??????

????????????????SSH????????????

```
sudo su -
```

??????????? * ??????????????????

cd???????pwd??????

Linux???

?????Linux????????????????????????????????????

```
cd /hoge
```

??????

```
pwd
```

?????????????????????

????

- ????

```
sudo tee -a /etc/profile.d/pwd.sh > /dev/null << 'EOF'
cd() {
builtin cd "$@" && pwd
}
EOF
```

- ????

```
source /etc/profile.d/pwd.sh
```

????

```
cd /hoge
```

?

```
cd /hoge && pwd
```

????????????????

Ubuntu??????????????????????????? ??????

??

Ubuntu????????????????????????????TIPS???

???? `cd /etc/apache2/sites-available` ???????.conf?????????????????????????????????????

??

- Ubuntu 22.04 /24.04
- Bash???Zsh???

??

1. ????????

??? `/etc/profile.d/cd.sh` ????? `cd` ?????????

```
sudo tee -a /etc/profile.d/cd.sh > /dev/null << 'EOF'
# □□□□cd□□□□□
cd() {
# □□□□□□□□
builtin cd "$@"

# □□□□□□□□□□□□□□□□□□□□
case "$PWD" in
"/etc/apache2/sites-available")
echo "□□: .conf□□□□□□□□□□□□□□□□□"
;;
"/var/log")
echo "□□: □□□□□□□□□□□□□□□□□□□"
;;
*)
# □□□□□□□□□□□□□□□□□□
;;
```

```
    esac
}
EOF
```

2. ????????????????

```
sudo chmod +x /etc/profile.d/cd.sh
```

3. ????????

```
source /etc/profile.d/cd.sh
```

????

?????????????????????????????????????

```
cd /etc/apache2/sites-available
```

□□: .conf?????????????????

```
cd /var/log
```

□□??????????????????????

???????????

?????????:

???????????????????????????case??????????????

????????:

??????????????????????echo??????????????

```
case "$PWD" in
"/new/directory/path")
echo "□□□□□□□□□□□□□□□□"
;;
# □□□□□□□□□□□□□□
esac
```

???

Linux-?????????-

S3???????????(wasabi)

???????????????????S3(*Amazon Simple Storage Service*)?

???????????????????????????????????????

??

- Ubuntu 20.04 / 24.04

??

- S3??????????(????Wasabi????????????)?
  - ???????????
  - ???????????
  - ?????????????

??

Linux?????????????????????

```
sudo aptitude install s3fs
```

?????????????????????????

???

- ?????: `.passwd-s3fs`

???????????????????????????

```
🔒🔒🔒🔒🔒:🔒🔒🔒
```

- ????

```
cat .passwd-s3fs
```

????????????????

?????????????????????

- ???????

```
sudo chmod 600 .passwd-s3fs
```

- ???????

```
ls -l .passwd-s3fs
```

??????600??????

???????????????

- ??????????

```
sudo mkdir /mnt/wasabi
```

???????????????

- ????

```
ls -ld /mnt/wasabi
```

???????????????

```
sudo s3fs 　wasabi□□□□□□□□□ /mnt/wasabi -o passwd_file/□□□□□□□□□□□□□□/.passwd-s3fs -o url=https://□□□□□
use_path_request_style -o endpoint=□□□□□□□□□ -o allow_other
```

URL????????????????????

?????????????????????????

- fstab????????

```
sudo cp -pi /etc/fstab /path/to/directory/fstab.$(date +%Y%m%d)
```

?????????????????????

- ??????????

```
diff -u /path/to/directory/fstab.$(date +%Y%m%d) /etc/fstab
```

???????????????????

- fstab??

??????????????????? /etc/fstab ??????????

```
s3fs#□wasabi□□□□□ /mnt/wasabi fuse _netdev,allow_other,passwd_file=/□□□□□□□□□□□/.passwd-
s3fs,url=https://s3.□□□□□□□□□wasabisys.com,use_path_request_style,endpoint=□□□□□□□□□ 0 0
```

?????????????????????????????????????

- ????

```
diff -u /path/to/directory/fstab.$(date +%Y%m%d) /etc/fstab
```

```
+ s3fs#□wasabi□□□□□ /mnt/wasabi fuse _netdev,allow_other,passwd_file=/□□□□□□□□□□□/.passwd-
s3fs,url=https://s3.□□□□□□□□□wasabisys.com,use_path_request_style,endpoint=□□□□□□□□□ 0 0
```

- ???????

```
sudo reboot
```

??

- ??????

```
df -h
```

`s3fs` ??????????????????????????????

- ??????

```
cd /mnt/wasabi
```

???????????????????

- ????????

```
sudo touch test.txt
```

```
ls -l test.txt
```

??????????????????

???????????????????????????????????????

Linux -????TIPS-

??????????????

??

????????????????????????????conf????????????????????????

????

```
sudo cp -pi /path/to/src/directory/*.conf /path/to/backup/directory/
```

??

- ?????????????????
- `.bk.yyyy-mm-dd` ?????????

??TIPS???

????

```
for file in /path/to/src/directory/*.conf; do sudo cp "$file" "/path/to/backup/directory/$(basename
"$file").bk.$(date +%Y%m%d)"; done
```

??????????? `.conf` ??????????????????????? `.conf.bk.yyyy-mm-dd` ????????????????

/var/log/auth.log??????????????

??

?????????????

`/var/auth.log` ???

- ????

```
sudo awk '/Disconnected from invalid user/ {print $(NF-4)}' /var/log/auth.log | sort | uniq -c | sort -nr
```

- ????

```
43 root
36 ubuntu
24 user
20 test
13 admin
8 deploy
6 guest
6 ftpuser
5 oracle
5 hadoop
5 dev
5 debian
4 user1
4 sysadmin
4 samba
3 test1
3 mysql
3 max
3 kafka
```

???????????????????????????????

???????????????????????????

`/var/auth.log` ?????????????????????????

- ????

```
sudo awk '/Accepted/ {split($1, date, "T"); split(date[2], time, "."); gsub("-", "/", date[1]); print date[1] " " substr(time[1], 1, 5) " " $7}' /var/log/auth.log | sort | uniq -c | sort -nr
```

??? `2024-11-25T16:21:14.772402+09:00` ???????? `2024/11/25 14:38` ?????????

- ????

```
1 2024/11/25 14:38 hoge
```

??????????????????