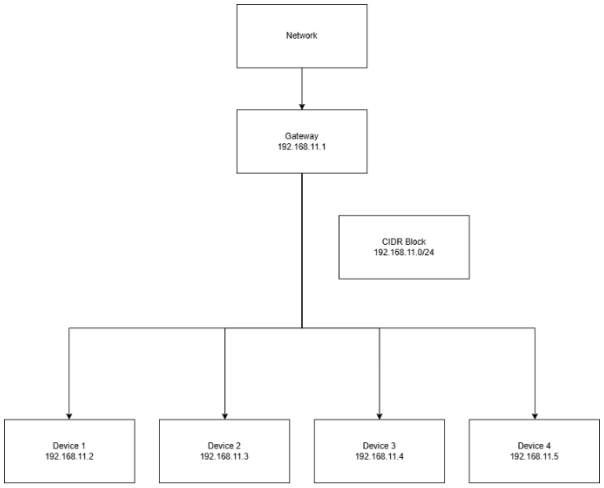
1. Buat sebuah diagram sebuah jaringan komputer dengan 4 device dengan kondisi :
- IP Class C : 192.168.4.xxx
- CIDR Block : 192.168.11.0/24



2. Jelaskan perbedaan antara SH (Shell) dan BASH (Bourne-Again Shell)

Jawab :

Shell merupakan bahasa yang umum digunakan pada OS UNIX/Linux sedangkan BASH adalah jenis pengembangan dari shell itu sendiri yang mana lebih lengkap dan modern dan sering dijadikan default

Perbedaan :

	Shell	BASH
Fitur	Sederhana	Lebih lengkap dan modern
Script	Terbatas	Sangat mendukung
Digunakan	Unix Lama	Linux modern (sering dijadikan default)

3. Buat dokumentasi/kumpulan command linux yang kalian ketahui! (Command diluar materi akan diberi nilai ++)

- sudo apt update = update repo sebagai admin

```
ads@dumpways:~$ sudo apt update
Hit:1 http://id.archive.ubuntu.com/ubuntu jammy InRelease
Hit:2 http://id.archive.ubuntu.com/ubuntu jammy-updates InRelease
Hit:3 http://id.archive.ubuntu.com/ubuntu jammy-backports InRelease
Hit:4 http://security.ubuntu.com/ubuntu jammy-security InRelease
Reading package lists... Done
Building dependency tree... Done
Reading state information... Done
61 packages can be upgraded. Run 'apt list --upgradable' to see them.
ads@dumpways:~$
```

- sudo apt list –upgradable = untuk melihat list repo yang bisa di upgarde

```
libmm-glib0/jammy-updates 1.20.0-1~ubuntu22.04.4 amd64 [upgradable from: 1.20.0-1~ubuntu22.04.3]
libnss-systemd/jammy-updates 249.11-0ubuntu3.17 amd64 [upgradable from: 249.11-0ubuntu3.16]
libopeniscsiusr/jammy-updates 2.1.5-1ubuntu1.1 amd64 [upgradable from: 2.1.5-1ubuntu1]
libpackagekit-glib2-18/jammy-updates 1.2.5-2ubuntu3 amd64 [upgradable from: 1.2.5-2ubuntu2]
libpam-systemd/jammy-updates 249.11-0ubuntu3.17 amd64 [upgradable from: 249.11-0ubuntu3.16]
libpcap0.8/jammy-updates 1.10.1-4ubuntu1.22.04.1 amd64 [upgradable from: 1.10.1-4build1]
libseccomp2/jammy-updates 2.5.3-2ubuntu3~22.04.1 amd64 [upgradable from: 2.5.3-2ubuntu2]
libsystemd0/jammy-updates 249.11-0ubuntu3.17 amd64 [upgradable from: 249.11-0ubuntu3.16]
libudev1/jammy-updates 249.11-0ubuntu3.17 amd64 [upgradable from: 249.11-0ubuntu3.16]
linux-base/jammy-updates 4.5ubuntu9+22.04.1 all [upgradable from: 4.5ubuntu9]
lvm2/jammy-updates 2.03.11-2.1ubuntu5 amd64 [upgradable from: 2.03.11-2.1ubuntu4]
modemmanager/jammy-updates 1.20.0-1~ubuntu22.04.4 amd64 [upgradable from: 1.20.0-1~ubuntu22.04.3]
needrestart/jammy-updates 3.5-5ubuntu2.5 all [upgradable from: 3.5-5ubuntu2.4]
open-iscsi/jammy-updates 2.1.5-1ubuntu1.1 amd64 [upgradable from: 2.1.5-1ubuntu1]
packagekit-tools/jammy-updates 1.2.5-2ubuntu3 amd64 [upgradable from: 1.2.5-2ubuntu2]
packagekit/jammy-updates 1.2.5-2ubuntu3 amd64 [upgradable from: 1.2.5-2ubuntu2]
pci.ids/jammy-updates 0.0~2022.01.22-1ubuntu0.1 all [upgradable from: 0.0~2022.01.22-1]
pollinate/jammy-updates 4.33-3ubuntu2.1 all [upgradable from: 4.33-3ubuntu2]
powermgmt-base/jammy-updates 1.36ubuntu0.22.04.1 all [upgradable from: 1.36]
python3-update-manager/jammy-updates 1:22.04.22 all [upgradable from: 1:22.04.21]
snapd/jammy-updates 2.71+ubuntu22.04 amd64 [upgradable from: 2.63+22.04ubuntu0.1]
sosreport/jammy-updates 4.9.2-0ubuntu0~22.04.1 amd64 [upgradable from: 4.5.6-0ubuntu1~22.04.2]
systemd-hwe-hwdb/jammy-updates 249.11.6 all [upgradable from: 249.11.5]
systemd-sysv/jammy-updates 249.11-0ubuntu3.17 amd64 [upgradable from: 249.11-0ubuntu3.16]
systemd-timesyncd/jammy-updates 249.11-0ubuntu3.17 amd64 [upgradable from: 249.11-0ubuntu3.16]
systemd/jammy-updates 249.11-0ubuntu3.17 amd64 [upgradable from: 249.11-0ubuntu3.16]
ubuntu-advantage-tools/jammy-updates 36ubuntu0~22.04 all [upgradable from: 33.2~22.04]
ubuntu-minimal/jammy-updates 1.481.4 amd64 [upgradable from: 1.481.3]
ubuntu-pro-client-l10n/jammy-updates 36ubuntu0~22.04 amd64 [upgradable from: 33.2~22.04]
ubuntu-pro-client/jammy-updates 36ubuntu0~22.04 amd64 [upgradable from: 33.2~22.04]
ubuntu-server-minimal/jammy-updates 1.481.4 amd64 [upgradable from: 1.481.3]
ubuntu-server/jammy-updates 1.481.4 amd64 [upgradable from: 1.481.3]
ubuntu-standard/jammy-updates 1.481.4 amd64 [upgradable from: 1.481.3]
udev/jammy-updates 249.11-0ubuntu3.17 amd64 [upgradable from: 249.11-0ubuntu3.16]
update-manager-core/jammy-updates 1:22.04.22 all [upgradable from: 1:22.04.21]
xfsprogs/jammy-updates 5.13.0-1ubuntu2.1 amd64 [upgradable from: 5.13.0-1ubuntu2]
ads@dumpways:~$ _
```

- mkdir “nama folder” = membuat folder
- ls = melihat isi direktori
- touch “nama file” = membuat file kosong
- ls -la = melihat isi direktori secara detail beserta file hidden
- cd “nama direktori”/ = pindah ke direktori
- cd .. = kembali direktori sebelumnya

```
ads@dumpways:~$ mkdir dumpways
ads@dumpways:~$ ls
dumpways
ads@dumpways:~$ touch file1
ads@dumpways:~$ ls
dumpways  file1
ads@dumpways:~$ ls -la
total 36
drwxr-x--- 5 ads  ads  4096 Jan 28 05:08 .
drwxr-xr-x 3 root root 4096 Jan 28 04:16 ..
-rw------- 1 ads  ads    13 Jan 28 04:17 .bash_history
-rw-r--r-- 1 ads  ads   220 Jan  6  2022 .bash_logout
-rw-r--r-- 1 ads  ads  3771 Jan  6  2022 .bashrc
drwx------ 2 ads  ads  4096 Jan 28 04:17 .cache
drwxrwxr-x 2 ads  ads  4096 Jan 28 05:08 dumpways
-rw-rw-r-- 1 ads  ads     0 Jan 28 05:08 file1
-rw-r--r-- 1 ads  ads   807 Jan  6  2022 .profile
drwx------ 2 ads  ads  4096 Jan 28 04:17 .ssh
-rw-r--r-- 1 ads  ads     0 Jan 28 04:59 .sudo_as_admin_successful
ads@dumpways:~$ cd dumpways/
ads@dumpways:~/dumpways$ ls -la
total 8
drwxrwxr-x 2 ads ads 4096 Jan 28 05:08 .
drwxr-x--- 5 ads ads 4096 Jan 28 05:08 ..
ads@dumpways:~/dumpways$ cd..
cd..: command not found
ads@dumpways:~/dumpways$ cd ..
ads@dumpways:~$
```

- cp “nama file yang ada” “nama file baru” = copy file
- mv “nama file” “tujuan” = pindah file

```
ads@dumpways:~$ ls
dumpways  file1
ads@dumpways:~$ cp file1 file2
ads@dumpways:~$ ls
dumpways  file1  file2
ads@dumpways:~$ mv file1 dumpways/file1
ads@dumpways:~$ ls
dumpways  file2
ads@dumpways:~$ cd dumpways/
ads@dumpways:~/dumpways$ ls
file1
ads@dumpways:~/dumpways$ cd ..
ads@dumpways:~$
```

-echo “text” = menampilkan text
-echo “text” > “nama file” = membuat text dan menyimpan di file baru (jika belum ada file)
- cat “nama file” = menampilkan isi file
- echo “text” >> “nama file” = menambah text di akhir baris file
- echo “text baru” > “nama file yang sudah ada” = mengganti text dengan yang baru

```
ads@dumpways:~$ echo "hello dumpways"
hello dumpways
ads@dumpways:~$ echo "hello dumpways" > file.js
ads@dumpways:~$ ls
dumpways  file2  file.js
ads@dumpways:~$ cat file.js
hello dumpways
ads@dumpways:~$ echo "hello dumpways" >> file.js
ads@dumpways:~$ cat file.js
hello dumpways
hello dumpways
ads@dumpways:~$ echo "hello baru" > file.js
ads@dumpways:~$ cat file.js
hello baru
ads@dumpways:~$
```

- find = mencari file
- find -type f = mencari semua file biasa
-find -type d = mencari seluruh direktori

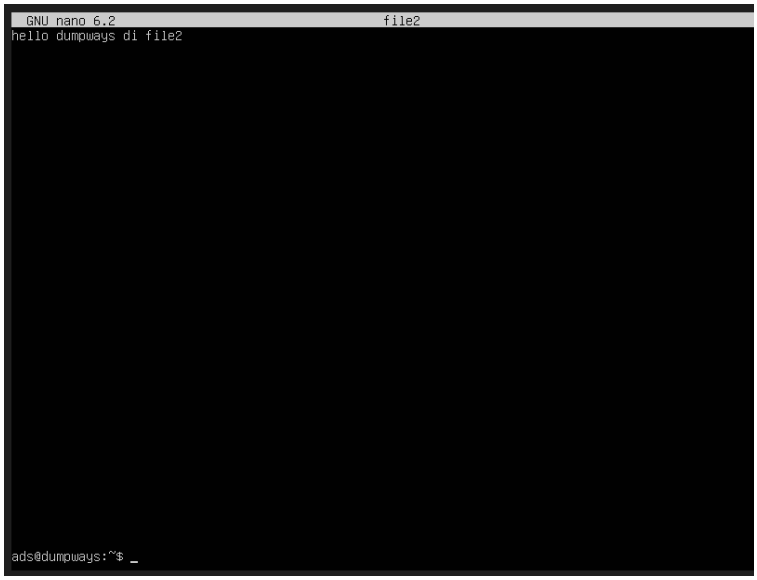
```
ads@dumpways:~$ find
.
./.bash_logout
./file.js
./.cache
./.cache/motd.legal-displayed
./file2
./.bash_history
./.profile
./.sudo_as_admin_successful
./.bashrc
./dumpways
./dumpways/file1
./.ssh
./.ssh/authorized_keys
ads@dumpways:~$ find -type f
./.bash_logout
./file.js
./.cache/motd.legal-displayed
./file2
./.bash_history
./.profile
./.sudo_as_admin_successful
./.bashrc
./dumpways/file1
./.ssh/authorized_keys
ads@dumpways:~$ find -type d
.
./.cache
./dumpways
./.ssh
ads@dumpways:~$
```

-find -type f -name “nama file” = mencari file biasa (jika ada akan menampilkan lokasi file jika tidak ada maka tidak menampilkan apapun”

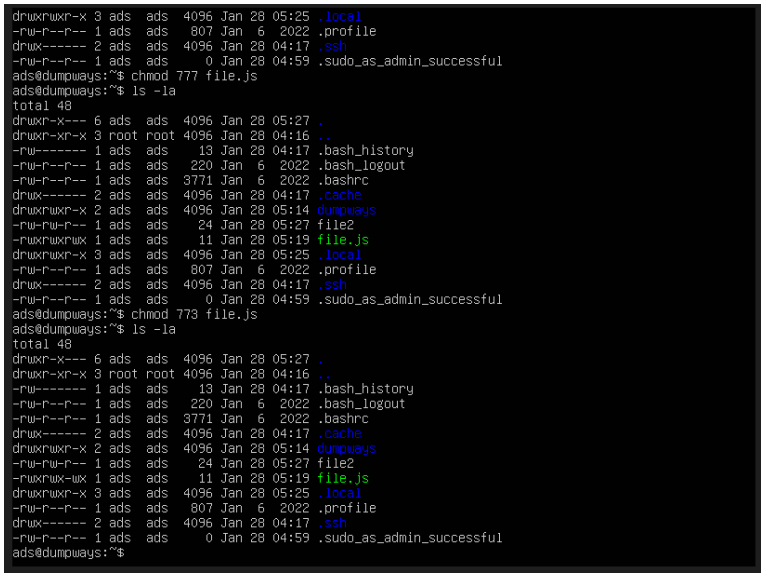
```
ads@dumpways:~$ find -type f name file
find: paths must precede expression: `name'
ads@dumpways:~$ find -type f  -name file
ads@dumpways:~$ find -type f -name file1
./dumpways/file1
ads@dumpways:~$
```

- grep “text” “nama file” = mencari text di dalam file (jika tidak ada maka tidak akan menampilkan apapun)

- nano “nama file” = menampilkan gui file sederhana (bisa edit, tambah, hapus dll)



-chmod 777 file.js = mengubah hak akses kepada semua user
- chmod 773 file.js = mengubah hak akses, hanya bisa tulis dan eksekusi untuk selain yang mempunyai file



-sudo chown root:root file.js = mengubah kepemilikan file

```
ads@dumpways:~$ chown root:root file.js
chown: changing ownership of 'file.js': Operation not permitted
ads@dumpways:~$ sudo chown root:root file.js
[sudo] password for ads:
ads@dumpways:~$ ls -la
total 48
drwxr-x--- 6 ads  ads  4096 Jan 28 05:27 .
drwxr-xr-x 3 root root 4096 Jan 28 04:16 ..
-rw------- 1 ads  ads    13 Jan 28 04:17 .bash_history
-rw-r--r-- 1 ads  ads   220 Jan  6  2022 .bash_logout
-rw-r--r-- 1 ads  ads  3771 Jan  6  2022 .bashrc
drwx------ 2 ads  ads  4096 Jan 28 04:17 .cache
drwxrwxr-x 2 ads  ads  4096 Jan 28 05:14 dumpways
-rw-rw-r-- 1 ads  ads    24 Jan 28 05:27 file2
-rwxrwx-wx 1 root root   11 Jan 28 05:19 file.js
drwxrwxr-x 3 ads  ads  4096 Jan 28 05:25 .local
-rw-r--r-- 1 ads  ads   807 Jan  6  2022 .profile
drwx------ 2 ads  ads  4096 Jan 28 04:17 .ssh
-rw-r--r-- 1 ads  ads     0 Jan 28 04:59 .sudo_as_admin_successful
ads@dumpways:~$
```

-history = melihat histori komen
-sudo su = berpindah ke user root
-exit = keluar dari user root

```
   58  clear
   59  nano file2
   60  clear
   61  grep hello file2
   62  grep -r hello
   63  ls -la
   64  clear
   65  ls -la
   66  chmod 777 file.js
   67  ls -la
   68  chmod 773 file.js
   69  ls -la
   70  clear
   71  chown root:root file.js
   72  sudo chown root:root file.js
   73  ls -la
   74  clear
   75  history
ads@dumpways:~$ sudo su
root@dumpways:/home/ads# ls -la
total 48
drwxr-x--- 6 ads  ads  4096 Jan 28 05:27 .
drwxr-xr-x 3 root root 4096 Jan 28 04:16 ..
-rw------- 1 ads  ads    13 Jan 28 04:17 .bash_history
-rw-r--r-- 1 ads  ads   220 Jan  6  2022 .bash_logout
-rw-r--r-- 1 ads  ads  3771 Jan  6  2022 .bashrc
drwx------ 2 ads  ads  4096 Jan 28 04:17 .cache
drwxrwxr-x 2 ads  ads  4096 Jan 28 05:14 dumpways
-rw-rw-r-- 1 ads  ads    24 Jan 28 05:27 file2
-rwxrwx-wx 1 root root   11 Jan 28 05:19 file.js
drwxrwxr-x 3 ads  ads  4096 Jan 28 05:25 .local
-rw-r--r-- 1 ads  ads   807 Jan  6  2022 .profile
drwx------ 2 ads  ads  4096 Jan 28 04:17 .ssh
-rw-r--r-- 1 ads  ads     0 Jan 28 04:59 .sudo_as_admin_successful
root@dumpways:/home/ads#
exit
ads@dumpways:~$
```