

**PRAKTIKUM
SISTEM OPERASI
(Operation System)**

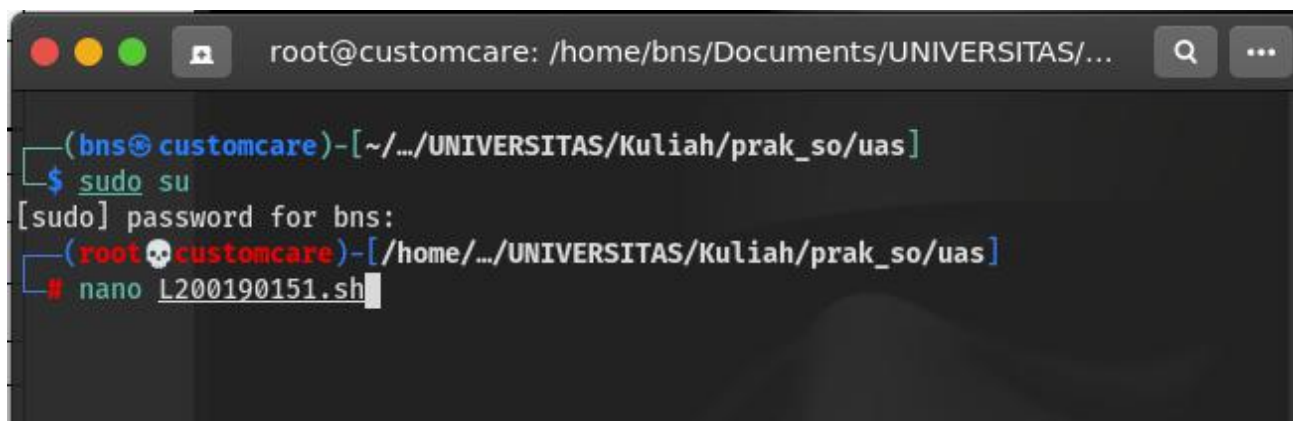
**LAPORAN TUGAS
UJIAN AKHIR SEMESTER**



**Nama : Shafa Bani Saputra
NIM : L200190151
Kelas : E**

**PROGRAM STUDI INFORMATIKA
FAKULTAS KOMUNIKASI DAN INFORMATIKA
UNIVERSITAS MUHAMMADIYAH
SURAKARTA**

No 1



```
root@customcare: /home/bns/Documents/UNIVERSITAS/...  
  
(bns@customcare)-[~/.../UNIVERSITAS/Kuliah/prak_so/uas]  
$ sudo su  
[sudo] password for bns:  
(root@customcare)-[~/.../UNIVERSITAS/Kuliah/prak_so/uas]  
# nano L200190151.sh
```

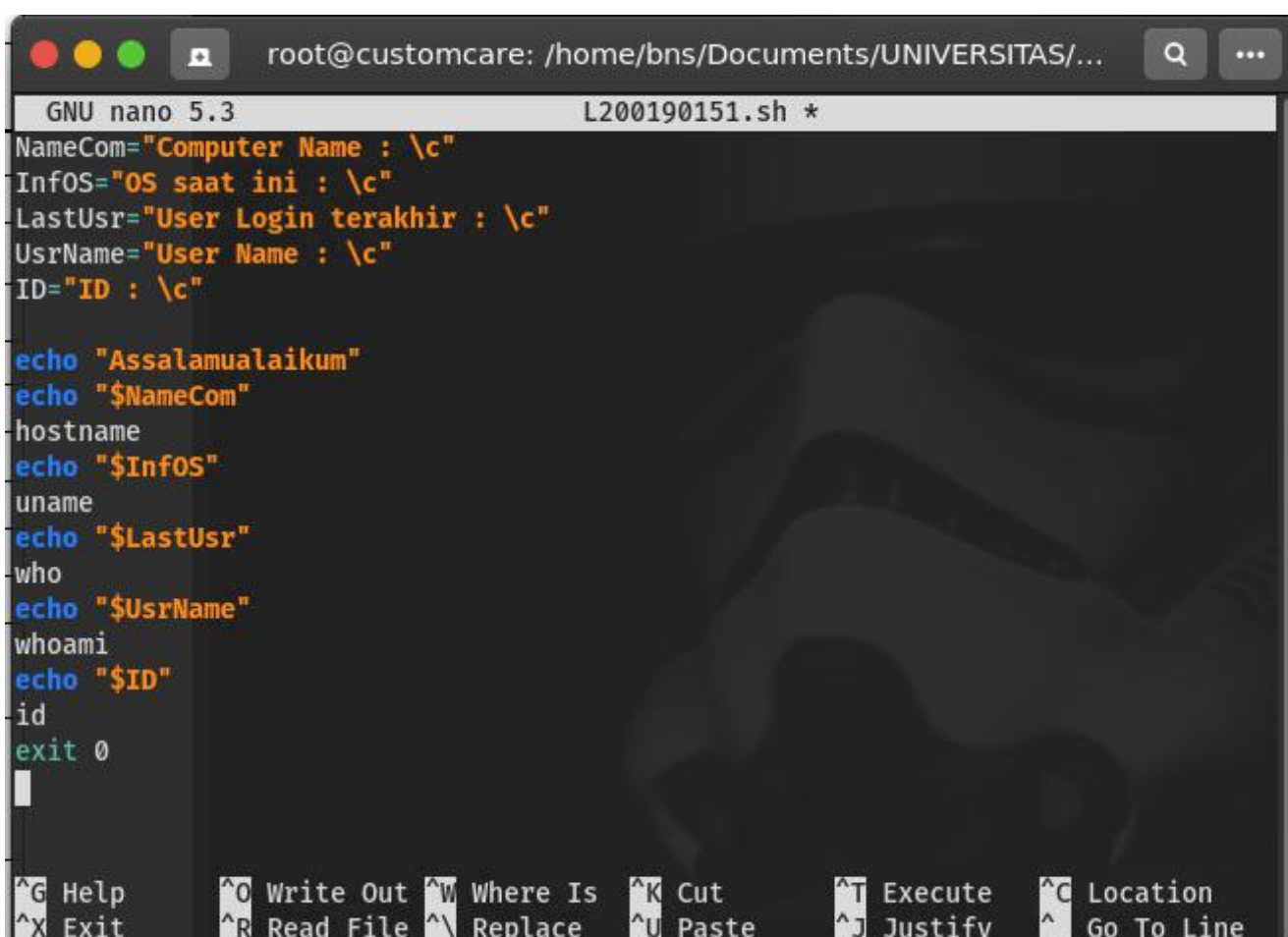
Buka terminal kemudian masuk ke dalam direktory dimana akan menyimpan file, atau bisa pada lokasi directory klik kanan open in terminal.

Kemudian disini saya menggunakan mode root dengan mengetikan "sudo su" kemudian tuliskan password.

Selanjutnya untuk membuat file saya menggunakan nano walaupun bisa juga dengan vi ataupun dengan text editor lainnya.

Ketikan "nano L200190151.sh"

Kemudian akan muncul GNU nano dan kemudian ketikan sourcode setelah selesai tekan "ctrl+x" untuk keluar kemudian tekan "y" dan tekan enter.



```
GNU nano 5.3 L200190151.sh *  
NameCom="Computer Name : \c"  
InfoS="OS saat ini : \c"  
LastUsr="User Login terakhir : \c"  
UsrName="User Name : \c"  
ID="ID : \c"  
  
echo "Assalamualaikum"  
echo "$NameCom"  
hostname  
echo "$InfoS"  
uname  
echo "$LastUsr"  
who  
echo "$UsrName"  
whoami  
echo "$ID"  
id  
exit 0
```

^G Help ^O Write Out ^W Where Is ^K Cut ^T Execute ^C Location
^X Exit ^R Read File ^\ Replace ^U Paste ^J Justify ^_ Go To Line

Kemudian ketikkan “./L200190151.sh” maka akan muncul output

```
root@customcare: /home/bns/Documents/UNIVERSITAS/...  
  
(root@customcare)-[/home/.../UNIVERSITAS/Kuliah/prak_so/uas]  
# ./L200190151.sh  
Assalamualaikum  
Computer Name : customcare  
OS saat ini : Linux  
User Login terakhir : bns :0 2021-01-27 23:38 (:0)  
User Name : root  
ID : uid=0(root) gid=0(root) groups=0(root),145(kaboxer)  
  
(root@customcare)-[/home/.../UNIVERSITAS/Kuliah/prak_so/uas]  
#
```

No 2

Membuat directory dan mengatur permissionnya

```
root@customcare: /home/bns/Documents/UNIVERSITAS/...  
  
(root@customcare)-[/home/.../UNIVERSITAS/Kuliah/prak_so/uas]  
# mkdir L200190151  
  
(root@customcare)-[/home/.../UNIVERSITAS/Kuliah/prak_so/uas]  
# ll  
total 372  
drwxr-xr-x 2 root root 4096 Jan 27 23:01 L200190151  
-rwxr-xr-x 1 bns bns 210 Jan 27 21:57 L20019015#1.sh  
-rwxr-xr-x 1 root root 260 Jan 27 22:32 L200190151.sh  
-rw-r--r-- 1 bns bns 364853 Jan 27 22:34 uas.docx  
  
(root@customcare)-[/home/.../UNIVERSITAS/Kuliah/prak_so/uas]  
# chmod 000 L200190151  
  
(root@customcare)-[/home/.../UNIVERSITAS/Kuliah/prak_so/uas]  
# ll  
total 372  
d----- 2 root root 4096 Jan 27 23:01 L200190151  
-rwxr-xr-x 1 bns bns 210 Jan 27 21:57 L20019015#1.sh  
-rwxr-xr-x 1 root root 260 Jan 27 22:32 L200190151.sh  
-rw-r--r-- 1 bns bns 364853 Jan 27 22:34 uas.docx  
  
(root@customcare)-[/home/.../UNIVERSITAS/Kuliah/prak_so/uas]  
#
```

Chmod 645

```
root@customcare: /home/bns/Documents/UNIVERSITAS/...

(root@customcare)-[/home/.../UNIVERSITAS/Kuliah/prak_so/uas]
# chmod 645 L200190151

(root@customcare)-[/home/.../UNIVERSITAS/Kuliah/prak_so/uas]
# ll
total 372
drw-r--r-x 2 root root 4096 Jan 27 23:01 L200190151
-rwxr-xr-x 1 bns bns 210 Jan 27 21:57 L20019015#1.sh
-rwxr-xr-x 1 root root 260 Jan 27 22:32 L200190151.sh
-rw-r--r-- 1 bns bns 364853 Jan 27 22:34 uas.docx

(root@customcare)-[/home/.../UNIVERSITAS/Kuliah/prak_so/uas]
#
```

Chmod 127

```
root@customcare: /home/bns/Documents/UNIVERSITAS/...

(root@customcare)-[/home/.../UNIVERSITAS/Kuliah/prak_so/uas]
# chmod 127 L200190151

(root@customcare)-[/home/.../UNIVERSITAS/Kuliah/prak_so/uas]
# ll
total 372
d--x-w-rwx 2 root root 4096 Jan 27 23:01 L200190151
-rwxr-xr-x 1 bns bns 210 Jan 27 21:57 L20019015#1.sh
-rwxr-xr-x 1 root root 260 Jan 27 22:32 L200190151.sh
-rw-r--r-- 1 bns bns 364853 Jan 27 22:34 uas.docx

(root@customcare)-[/home/.../UNIVERSITAS/Kuliah/prak_so/uas]
#
```

Chmod 703

```
root@customcare: /home/bns/Documents/UNIVERSITAS/...

(root@customcare)-[/home/.../UNIVERSITAS/Kuliah/prak_so/uas]
# chmod 703 L200190151

(root@customcare)-[/home/.../UNIVERSITAS/Kuliah/prak_so/uas]
# ll
total 372
drwx---wx 2 root root 4096 Jan 27 23:01 L200190151
-rwxr-xr-x 1 bns bns 210 Jan 27 21:57 L20019015#1.sh
-rwxr-xr-x 1 root root 260 Jan 27 22:32 L200190151.sh
-rw-r--r-- 1 bns bns 364853 Jan 27 22:34 uas.docx

(root@customcare)-[/home/.../UNIVERSITAS/Kuliah/prak_so/uas]
#
```


Chmod 222

```
root@customcare: /home/bns/Documents/UNIVERSITAS/...

(root@customcare)-[/home/.../UNIVERSITAS/Kuliah/prak_so/uas]
# chmod 222 L200190151

(root@customcare)-[/home/.../UNIVERSITAS/Kuliah/prak_so/uas]
# ll
total 372
d-w--w--w- 2 root root 4096 Jan 27 23:01 L200190151
-rwxr-xr-x 1 bns bns 210 Jan 27 21:57 L20019015#1.sh
-rwxr-xr-x 1 root root 260 Jan 27 22:32 L200190151.sh
-rw-r--r-- 1 bns bns 364853 Jan 27 22:34 uas.docx

(root@customcare)-[/home/.../UNIVERSITAS/Kuliah/prak_so/uas]
#
```

Chmod 777

```
root@customcare: /home/bns/Documents/UNIVERSITAS/...

(root@customcare)-[/home/.../UNIVERSITAS/Kuliah/prak_so/uas]
# chmod 777 L200190151

(root@customcare)-[/home/.../UNIVERSITAS/Kuliah/prak_so/uas]
# ll
total 372
drwxrwxrwx 2 root root 4096 Jan 27 23:01 L200190151
-rwxr-xr-x 1 bns bns 210 Jan 27 21:57 L20019015#1.sh
-rwxr-xr-x 1 root root 260 Jan 27 22:32 L200190151.sh
-rw-r--r-- 1 bns bns 364853 Jan 27 22:34 uas.docx

(root@customcare)-[/home/.../UNIVERSITAS/Kuliah/prak_so/uas]
#
```

Chmod 000

```
root@customcare: /home/bns/Documents/UNIVERSITAS/...

(root@customcare)-[/home/.../UNIVERSITAS/Kuliah/prak_so/uas]
# chmod 000 L200190151

(root@customcare)-[/home/.../UNIVERSITAS/Kuliah/prak_so/uas]
# ll
total 372
d----- 2 root root 4096 Jan 27 23:01 L200190151
-rwxr-xr-x 1 bns bns 210 Jan 27 21:57 L20019015#1.sh
-rwxr-xr-x 1 root root 260 Jan 27 22:32 L200190151.sh
-rw-r--r-- 1 bns bns 364853 Jan 27 22:34 uas.docx

(root@customcare)-[/home/.../UNIVERSITAS/Kuliah/prak_so/uas]
#
```

Chmod 265

```
root@customcare: /home/bns/Documents/UNIVERSITAS/...

(root@customcare)-[/home/.../UNIVERSITAS/Kuliah/prak_so/uas]
# chmod 265 L200190151

(root@customcare)-[/home/.../UNIVERSITAS/Kuliah/prak_so/uas]
# ll
total 372
d-w-rw-r-x 2 root root 4096 Jan 27 23:01 L200190151
-rwxr-xr-x 1 bns bns 210 Jan 27 21:57 L200190151#1.sh
-rwxr-xr-x 1 root root 260 Jan 27 22:32 L200190151.sh
-rw-r--r-- 1 bns bns 364853 Jan 27 22:34 uas.docx

(root@customcare)-[/home/.../UNIVERSITAS/Kuliah/prak_so/uas]
#
```

Chmod 666

```
root@customcare: /home/bns/Documents/UNIVERSITAS/...

(root@customcare)-[/home/.../UNIVERSITAS/Kuliah/prak_so/uas]
# chmod 666 L200190151

(root@customcare)-[/home/.../UNIVERSITAS/Kuliah/prak_so/uas]
# ll
total 372
drw-rw-rw- 2 root root 4096 Jan 27 23:01 L200190151
-rwxr-xr-x 1 bns bns 210 Jan 27 21:57 L200190151#1.sh
-rwxr-xr-x 1 root root 260 Jan 27 22:32 L200190151.sh
-rw-r--r-- 1 bns bns 364853 Jan 27 22:34 uas.docx

(root@customcare)-[/home/.../UNIVERSITAS/Kuliah/prak_so/uas]
#
```

Chmod 777

```
root@customcare: /home/bns/Documents/UNIVERSITAS/...

(root@customcare)-[/home/.../UNIVERSITAS/Kuliah/prak_so/uas]
# chmod 777 L200190151

(root@customcare)-[/home/.../UNIVERSITAS/Kuliah/prak_so/uas]
# ll
total 372
drwxrwxrwx 2 root root 4096 Jan 27 23:01 L200190151
-rwxr-xr-x 1 bns bns 210 Jan 27 21:57 L200190151#1.sh
-rwxr-xr-x 1 root root 260 Jan 27 22:32 L200190151.sh
-rw-r--r-- 1 bns bns 364853 Jan 27 22:34 uas.docx

(root@customcare)-[/home/.../UNIVERSITAS/Kuliah/prak_so/uas]
#
```

Chmod 323

```
root@customcare: /home/bns/Documents/UNIVERSITAS/...  
  
(root@customcare)~[/home/.../UNIVERSITAS/Kuliah/prak_so/uas]  
# chmod 323 L200190151  
  
(root@customcare)~[/home/.../UNIVERSITAS/Kuliah/prak_so/uas]  
# ll  
total 372  
d-wx-w--wx 2 root root 4096 Jan 27 23:01 L200190151  
-rwxr-xr-x 1 bns bns 210 Jan 27 21:57 L20019015#1.sh  
-rwxr-xr-x 1 root root 260 Jan 27 22:32 L200190151.sh  
-rw-r--r-- 1 bns bns 364853 Jan 27 22:34 uas.docx  
  
(root@customcare)~[/home/.../UNIVERSITAS/Kuliah/prak_so/uas]  
#
```

Chmod 131

```
root@customcare: /home/bns/Documents/UNIVERSITAS/...  
  
(root@customcare)~[/home/.../UNIVERSITAS/Kuliah/prak_so/uas]  
# chmod 131 L200190151  
  
(root@customcare)~[/home/.../UNIVERSITAS/Kuliah/prak_so/uas]  
# ll  
total 372  
d--x-wx--x 2 root root 4096 Jan 27 23:01 L200190151  
-rwxr-xr-x 1 bns bns 210 Jan 27 21:57 L20019015#1.sh  
-rwxr-xr-x 1 root root 260 Jan 27 22:32 L200190151.sh  
-rw-r--r-- 1 bns bns 364853 Jan 27 22:34 uas.docx  
  
(root@customcare)~[/home/.../UNIVERSITAS/Kuliah/prak_so/uas]  
#
```

No 3

Buka terminal kemudian masuk ke root kemudian update package dahulu untuk mendapatkan directory terbaru dari directory linux

```
root@customcare: /home/bns
(bns@customcare)~$ sudo su
[sudo] password for bns:
(root@customcare)~$ apt-get update
Hit:1 http://dl.google.com/linux/chrome/deb stable InRelease
Hit:2 http://packages.microsoft.com/repos/vscode stable InRelease
Hit:3 https://linux.teamviewer.com/deb stable InRelease
Hit:4 http://ppa.launchpad.net/linuxuprising/java/ubuntu focal InRelease
Hit:5 http://kali.cs.nctu.edu.tw/kali kali-rolling InRelease
Hit:6 https://download.sublimetext.com apt/stable/ InRelease
Reading package lists... Done
N: Skipping acquire of configured file 'main/binary-arm64/Packages' as repository 'http://packages.microsoft.com/repos/vscode stable InRelease' doesn't support architecture 'arm64'
N: Skipping acquire of configured file 'main/binary-armhf/Packages' as repository 'http://packages.microsoft.com/repos/vscode stable InRelease' doesn't support architecture 'armhf'
(root@customcare)~$
```

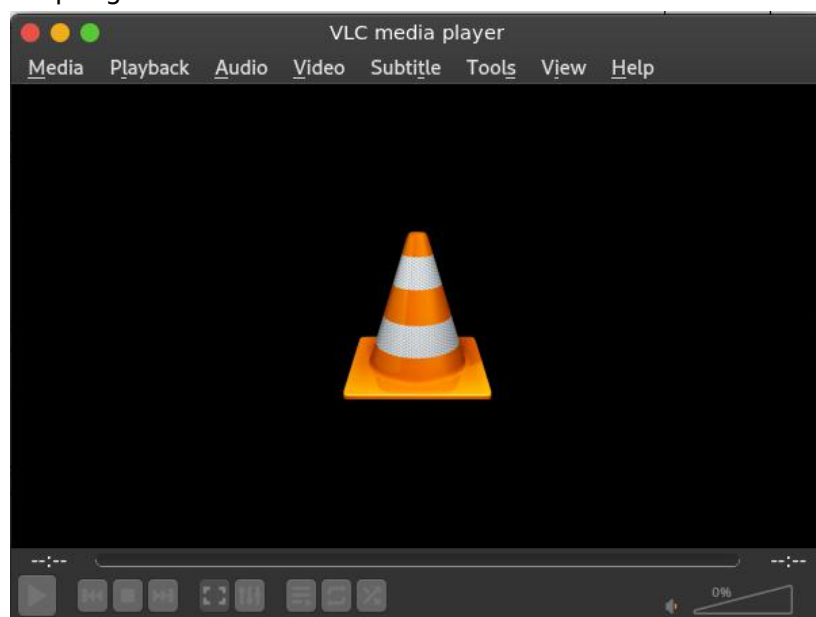
Kemudian ketikkan “apt install vlc”

```
bns@customcare: ~
(root@customcare)~$ apt install vlc
Reading package lists... Done
Building dependency tree
Reading state information... Done
The following package was automatically installed and is no longer required:
  libqt5opengl5
Use 'sudo apt autoremove' to remove it.
The following additional packages will be installed:
  fonts-freefont-ttf libaribb24-0 libbasicusageenvironment1 libcdcb2
  libdvbpsi10 libebml5 libgroupsock8 libixml10 liblirc-client0 liblivemedia77
  libmad0 libmatroska7 libopenmpt-modplug1 libplacebo72 libproxy-tools
  libproxy1-plugin-gsettings libproxy1-plugin-networkmanager
  libproxy1-plugin-webkit libproxy1v5 libresid-builder0c2a libSDL-image1.2
  libSDL1.2debian libsidplay2 libspatialaudio0 libupnp13 libusageenvironment3
  libva-drm2 libva-wayland2 libva-x11-2 libva2 libvlc-bin libvlc5 libvlccore9
  libvncclient1 libxcb-composite0 vlc-bin vlc-data vlc-l10n
  vlc-plugin-access-extra vlc-plugin-base vlc-plugin-notify vlc-plugin-qt
  vlc-plugin-samba vlc-plugin-skins2 vlc-plugin-video-output
  vlc-plugin-video-splitter vlc-plugin-visualization
Suggested packages:
  lirc vlc-plugin-fluidsynth vlc-plugin-jack vlc-plugin-svg libdvdcss2
The following NEW packages will be installed:
  fonts-freefont-ttf libaribb24-0 libbasicusageenvironment1 libcdcb2
  libdvbpsi10 libebml5 libgroupsock8 libixml10 liblirc-client0 liblivemedia77
  libmad0 libmatroska7 libopenmpt-modplug1 libplacebo72 libproxy-tools
  libresid-builder0c2a libSDL-image1.2 libSDL1.2debian libsidplay2
  libspatialaudio0 libupnp13 libusageenvironment3 libva-wayland2 libvlc-bin
  libvlc5 libvlccore9 libvncclient1 libxcb-composite0 vlc vlc-bin vlc-data
  vlc-l10n vlc-plugin-access-extra vlc-plugin-base vlc-plugin-notify
  vlc-plugin-qt vlc-plugin-samba vlc-plugin-skins2 vlc-plugin-video-output
  vlc-plugin-video-splitter vlc-plugin-visualization
The following packages will be upgraded:
  libproxy1-plugin-gsettings libproxy1-plugin-networkmanager
  libproxy1-plugin-webkit libproxy1v5 libva-drm2 libva-x11-2 libva2
7 upgraded, 41 newly installed, 0 to remove and 1353 not upgraded.
Need to get 19.4 MB of archives.
After this operation, 81.2 MB of additional disk space will be used.
Do you want to continue? [Y/n] y
```


Pada konfirmasi penginstalan ketikkan “y” untuk melanjutkan
Tunggu hingga selesai, jika sudah ketikkan exit untuk keluar pada mode root dan selanjutnya
ketika “vlc” untuk menjalankannya

```
bns@customcare: ~  
  
(root@customcare)-[/home/bns]  
# exit  
  
(bns@customcare)-[~]  
$ vlc  
VLC media player 3.0.11.1 Vetinari (revision 3.0.11.1-0-g52483f3ca2)  
[000055d00d4935b0] main libvlc: Running vlc with the default interface. Use 'cvlc'  
to use vlc without interface.  
[000055d00d531940] main playlist: playlist is empty
```

Dan vlc pun siap digunakan



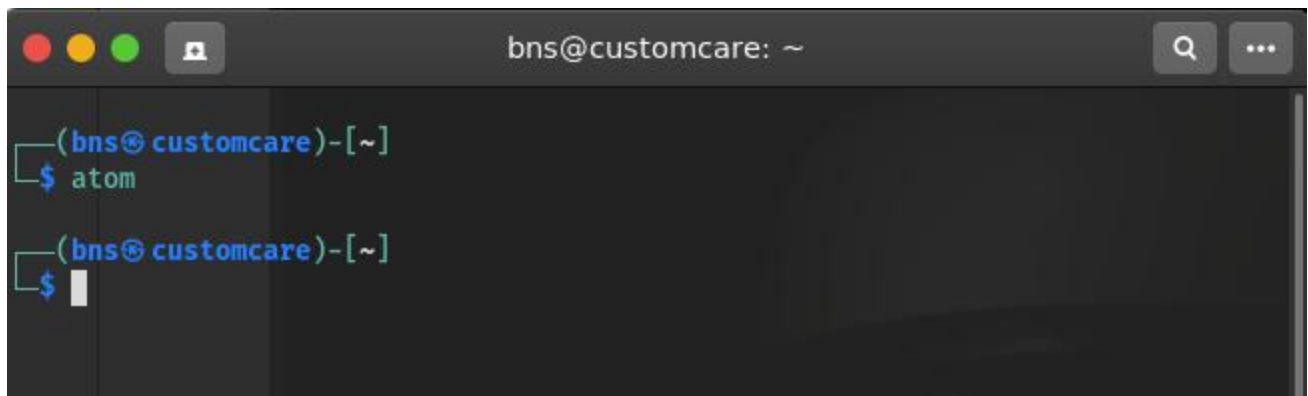
Selanjutnya menginstal text editor

Disini saya akan menginstall atom yang mana merupakan salah satu text editor dari beberapa
text editor seperti sublime text3 ,Visual studio code dan yang lainnya
Pertama download dulu file atom.deb bisa didownload dari web resminya “atom.io”

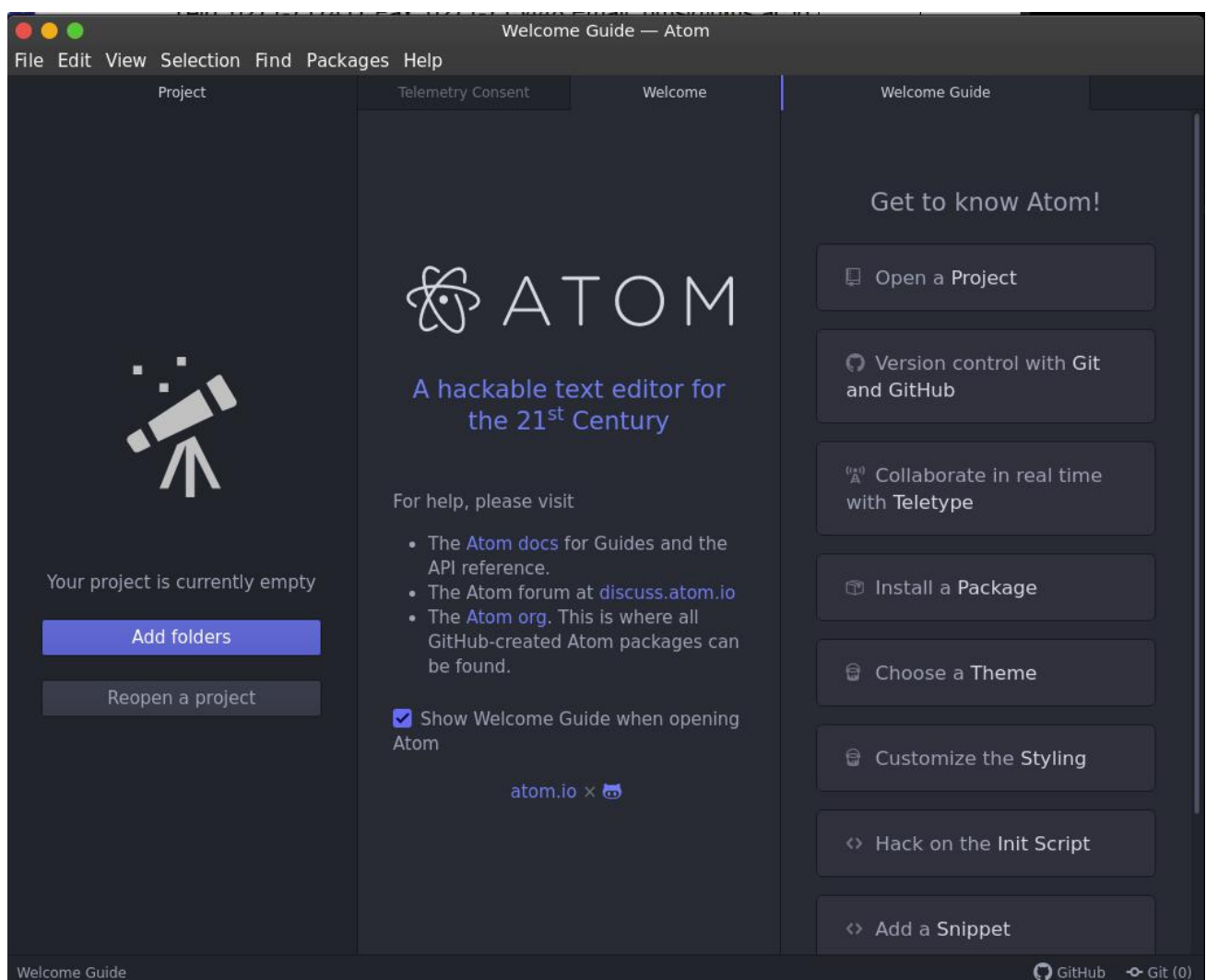
Selanjutnya menuju kedirectory tempat file atom.deb berada dan kemudian klik kanan open in
terminal dan ketikkan “dpkg -i atom-amd64.deb” disini atom-amd64.deb adalah nama file yang
saya download tadi, kemudian tunggu hingga proses intallasi selesai.

```
root@customcare: /home/bns/Documents/UNIVERSITAS/...  
  
(bns@customcare)-[~]  
$ sudo su  
(root@customcare)-[/home/bns]  
# cd Documents/UNIVERSITAS/Kuliah/prak_so/uas  
  
(root@customcare)-[/home/.../UNIVERSITAS/Kuliah/prak_so/uas]  
# ls  
atom-amd64.deb  L200190151  L20019015#1.sh  L200190151.sh  uas.docx  
  
(root@customcare)-[/home/.../UNIVERSITAS/Kuliah/prak_so/uas]  
# dpkg -i atom-amd64.deb  
(Reading database ... 363415 files and directories currently installed.)  
Preparing to unpack atom-amd64.deb ...  
Unpacking atom (1.54.0) over (1.54.0) ...  
Setting up atom (1.54.0) ...
```

Kemudian keluar dari mode root dan ketikkan atom



```
bns@customcare: ~  
$ atom  
$
```



No 4 a

```
GNU nano 5.3          root@customcare: /home/bns/Documents/UNIVERSITAS/Kuliah/prak_so/uas
nomor4.c
#include <stdlib.h>
#include <string.h>
#include <fcntl.h>
main (int argc, char *argv[]){
    int fd, n, len;
    char buf[100];
    if (argc != 2)
    {
        printf("Usage: ./a.out <filename>\n");
        exit(-1);
    }
    fd = open(argv[1], O_WRONLY|O_CREAT|O_TRUNC, 0644);
    if (fd < 0)
    {
        printf("File creation problem\n");
        exit(-1);
    }
    printf("Tekan Ctrl+D di akhir baris:\n");
    while((n = read(0, buf, sizeof(buf))) > 0)
    {
        len = strlen(buf);
        write(fd, buf, len);
    }
    close(fd);
}
```

Terdapat source code yang hilang yaitu variable "len" dan juga fungsi "close"

```
root@customcare: /home/bns/Documents/UNIVERSITAS/Kuliah/prak_so/uas
# nano nomor4.c
1 x
root@customcare: /home/bns/Documents/UNIVERSITAS/Kuliah/prak_so/uas
# gcc -o fcreate nomor4.c
nomor4.c:4:1: warning: return type defaults to 'int' [-Wimplicit-int]
 4 | main (int argc, char *argv[]){
    |
nomor4.c: In function 'main':
nomor4.c:9:3: warning: implicit declaration of function 'printf' [-Wimplicit-function-declaration]
 9 |     printf("Usage: ./a.out <filename>\n");
    |     ^~~~~~
nomor4.c:9:3: warning: incompatible implicit declaration of built-in function 'printf'
nomor4.c:4:1: note: include '<stdio.h>' or provide a declaration of 'printf'
 3 | #include <fcntl.h>
+++ #include <stdio.h>
 4 | main (int argc, char *argv[]){
nomor4.c:15:2: warning: incompatible implicit declaration of built-in function 'printf'
15 |     printf("File creation problem\n");
    |     ^~~~~~
nomor4.c:15:2: note: include '<stdio.h>' or provide a declaration of 'printf'
nomor4.c:18:1: warning: incompatible implicit declaration of built-in function 'printf'
18 |     printf("Tekan Ctrl+D di akhir baris:\n");
    |     ^~~~~~
nomor4.c:18:1: note: include '<stdio.h>' or provide a declaration of 'printf'
nomor4.c:19:12: warning: implicit declaration of function 'read' [-Wimplicit-function-declaration]
19 |     while((n = read(0, buf, sizeof(buf))) > 0)
    |                ^~~~~
nomor4.c:22:2: warning: implicit declaration of function 'write' [-Wimplicit-function-declaration]
22 |     write(fd, buf, len);
    |     ^~~~~
nomor4.c:24:1: warning: implicit declaration of function 'close' [-Wimplicit-function-declaration]
24 |     close(fd);
    |     ^~~~~~
root@customcare: /home/bns/Documents/UNIVERSITAS/Kuliah/prak_so/uas
```

No 4 b

```
root@customcare: /home/bns/Documents/UNIVERSITAS/Kuliah/prak_so/uas
GNU nano 5.3 nomor4b.c
#include <stdlib.h>
#include <fcntl.h>
main(int argc, char *argv[]){
    int fd, i;
    char buf[100];
    if (argc < 2)
    {
        printf("Usage: ./a.out <filename>\n");
        exit(-1);
    }
    fd = open(argv[1], O_RDONLY);
    if(fd == -1)
    {
        printf("%s file does not exist\n", argv [1]);
        exit(-1);
    }
    printf("Isi dari file %s adalah : \n", argv[1]);
    while(read(fd, buf, sizeof(buf)) > 0)
        printf("%s", buf);
    close(fd);
}
```

Terdapat sourcode yang hilang yaitu variable "fd" dan juga fungsi "close" serta kurang titik koma(;) pada line 9 setelah exit(-1)

```
root@customcare: /home/bns/Documents/UNIVERSITAS/Kuliah/prak_so/uas
nano nomor4b.c
gcc -o fread nomor4b.c
nomor4b.c:3:1: warning: return type defaults to 'int' [-Wimplicit-int]
  3 | main(int argc, char *argv[]){
    | ^~~~~
nomor4b.c: In function 'main':
nomor4b.c:8:3: warning: implicit declaration of function 'printf' [-Wimplicit-function-declaration]
  8 |     printf("Usage: ./a.out <filename>\n");
    |     ^~~~~~
nomor4b.c:8:3: warning: incompatible implicit declaration of built-in function 'printf'
nomor4b.c:3:1: note: include '<stdio.h>' or provide a declaration of 'printf'
  2 | #include <fcntl.h>
+++ +#include <stdio.h>
  3 | main(int argc, char *argv[]){
nomor4b.c:14:3: warning: incompatible implicit declaration of built-in function 'printf'
 14 |     printf("%s file does not exist\n", argv [1]);
    |     ^~~~~~
nomor4b.c:14:3: note: include '<stdio.h>' or provide a declaration of 'printf'
nomor4b.c:17:2: warning: incompatible implicit declaration of built-in function 'printf'
 17 |     printf("Isi dari file %s adalah : \n", argv[1]);
    |     ^~~~~~
nomor4b.c:17:2: note: include '<stdio.h>' or provide a declaration of 'printf'
nomor4b.c:18:8: warning: implicit declaration of function 'read' [-Wimplicit-function-declaration]
 18 |     while(read(fd, buf, sizeof(buf)) > 0)
    |            ^~~~~
nomor4b.c:20:2: warning: implicit declaration of function 'close' [-Wimplicit-function-declaration]
 20 |     close(fd);
    |     ^~~~~~
root@customcare: /home/bns/Documents/UNIVERSITAS/Kuliah/prak_so/uas
```