

Звіт

Лабораторна робота 1

1. Установив VirtualBox.
2. Завантажив та встановив образ Linux встановивши Ubuntu з сайту osboxes.org.
3. Інсталував мінімально необхідні пакети : git, tree, gcc, make, ddd за допомогою команди **sudo apt-get install**.

```
osboxes@osboxes:~$ sudo apt-get install ddd
Reading package lists... Done
Building dependency tree
Reading state information... Done
The following additional packages will be installed:
  libmotif-common libxm4
Suggested packages:
  ddd-doc pydb glibc-doc xterm gnuplot
The following NEW packages will be installed:
  ddd libmotif-common libxm4
0 upgraded, 3 newly installed, 0 to remove and 32 not upgraded.
Need to get 2,337 kB of archives.
After this operation, 7,463 kB of additional disk space will be used.
Do you want to continue? [Y/n] y
Get:1 http://us.archive.ubuntu.com/ubuntu focal/universe amd64 libmotif-common all 2.3.8-2build1 [10.8 kB]
Get:2 http://us.archive.ubuntu.com/ubuntu focal/universe amd64 libxm4 amd64 2.3.8-2build1 [993 kB]
Get:3 http://us.archive.ubuntu.com/ubuntu focal/universe amd64 ddd amd64 1:3.3.12-5.2build1 [1,334 kB]
Fetched 2,337 kB in 5s (472 kB/s)
Selecting previously unselected package libmotif-common.
(Reading database ... 143447 files and directories currently installed.)
Preparing to unpack .../libmotif-common_2.3.8-2build1_all.deb ...
Unpacking libmotif-common (2.3.8-2build1) ...
Selecting previously unselected package libxm4:amd64.
Preparing to unpack .../libxm4_2.3.8-2build1_amd64.deb ...
Unpacking libxm4:amd64 (2.3.8-2build1) ...
Selecting previously unselected package ddd.
Preparing to unpack .../ddd_1%3a3.3.12-5.2build1_amd64.deb ...
Unpacking ddd (1:3.3.12-5.2build1) ...
Setting up libmotif-common (2.3.8-2build1) ...
Setting up libxm4:amd64 (2.3.8-2build1) ...
Setting up ddd (1:3.3.12-5.2build1) ...
Processing triggers for install-info (6.7.0.dfsg.2-5) ...
Processing triggers for desktop-file-utils (0.24-1ubuntu2) ...
Processing triggers for mime-support (3.64ubuntu1) ...
Processing triggers for gnome-menus (3.36.0-1ubuntu1) ...
Processing triggers for libc-bin (2.31-0ubuntu9) ...
Processing triggers for man-db (2.9.1-1) ...

osboxes@osboxes:~$ sudo apt-get install make
Reading package lists... Done
Building dependency tree
Reading state information... Done
Suggested packages:
  make-doc
The following NEW packages will be installed:
  make
0 upgraded, 1 newly installed, 0 to remove and 32 not upgraded.
Need to get 162 kB of archives.
After this operation, 393 kB of additional disk space will be used.
Get:1 http://us.archive.ubuntu.com/ubuntu focal/main amd64 make amd64 4.2.1-1.2 [162 kB]
Fetched 162 kB in 1s (225 kB/s)
Selecting previously unselected package make.
(Reading database ... 143431 files and directories currently installed.)
Preparing to unpack .../make_4.2.1-1.2_amd64.deb ...
Unpacking make (4.2.1-1.2) ...
Setting up make (4.2.1-1.2) ...
Processing triggers for man-db (2.9.1-1) ...

osboxes@osboxes:~$ sudo apt-get install git
Reading package lists... Done
Building dependency tree
Reading state information... Done
The following additional packages will be installed:
  git-man liberror-perl
Suggested packages:
  git-daemon-run | git-daemon-sysvinit git-doc git-el git-email git-gui gitk gitweb git-cvs git-mediawiki git-svn
The following NEW packages will be installed:
  git git-man liberror-perl
0 upgraded, 3 newly installed, 0 to remove and 32 not upgraded.
Need to get 5,464 kB of archives.
After this operation, 38.4 MB of additional disk space will be used.
Do you want to continue? [Y/n] y
Get:1 http://us.archive.ubuntu.com/ubuntu focal/main amd64 liberror-perl all 0.17029-1 [26.5 kB]
Get:2 http://us.archive.ubuntu.com/ubuntu focal/main amd64 git-man all 1:2.25.1-1ubuntu3 [984 kB]
Get:3 http://us.archive.ubuntu.com/ubuntu focal/main amd64 git amd64 1:2.25.1-1ubuntu3 [4,554 kB]
Fetched 5,464 kB in 12s (471 kB/s)
Selecting previously unselected package liberror-perl.
(Reading database ... 142489 files and directories currently installed.)
Preparing to unpack .../liberror-perl_0.17029-1_all.deb ...
Unpacking liberror-perl (0.17029-1) ...
Selecting previously unselected package git-man.
Preparing to unpack .../git-man_1%3a2.25.1-1ubuntu3_all.deb ...
Unpacking git-man (1:2.25.1-1ubuntu3) ...
Selecting previously unselected package git.
Preparing to unpack .../git_1%3a2.25.1-1ubuntu3_amd64.deb ...
Unpacking git (1:2.25.1-1ubuntu3) ...
Setting up liberror-perl (0.17029-1) ...
Setting up git-man (1:2.25.1-1ubuntu3) ...
Setting up git (1:2.25.1-1ubuntu3) ...
Processing triggers for man-db (2.9.1-1) ...

osboxes@osboxes:~$ sudo apt-get install tree
Reading package lists... Done
Building dependency tree
Reading state information... Done
The following NEW packages will be installed:
  tree
0 upgraded, 1 newly installed, 0 to remove and 32 not upgraded.
Need to get 43.0 kB of archives.
After this operation, 115 kB of additional disk space will be used.
Get:1 http://us.archive.ubuntu.com/ubuntu focal/universe amd64 tree amd64 1.8.0-1 [43.0 kB]
Fetched 43.0 kB in 1s (72.8 kB/s)
Selecting previously unselected package tree.
(Reading database ... 143424 files and directories currently installed.)
Preparing to unpack .../tree_1.8.0-1_amd64.deb ...
Unpacking tree (1.8.0-1) ...
Setting up tree (1.8.0-1) ...
Processing triggers for man-db (2.9.1-1) ...
```

4.За допомогою команди **git clone** виконав клонування репозиторія, що надав викладач

git clone https://github.com/davydov-vyacheslav/sample_project.git

5.Ознайомився з утилітою **tree**.

6.Виконав компіляцію за допомогою команди **make clean prep compile**.

7.Побачив структуру каталогів та файлів проекту” після компіляції.

```
osboxes@osboxes:~/sample_project$ tree
.
├── dist
│   ├── main.bin
│   └── test.bin
├── Doxyfile
├── Makefile
├── README.md
├── src
│   ├── lib.c
│   ├── lib.h
│   └── main.c
└── test
    └── test.c

3 directories, 9 files
```

8.Виконав зміни у кодї, а саме замінив “Kit” на “cat”

9.Перекомпілював проект та показав зміни у кодї за допомогою команди **git diff**.

```
osboxes@osboxes:~/sample_project/dist$ git diff
diff --git a/src/lib.c b/src/lib.c
index 56582cf..515b902 100644
--- a/src/lib.c
+++ b/src/lib.c
@@ -14,7 +14,7 @@ char *get_animal_type_name(enum animal_type type)
     char *result;
     switch (type) {
     case CAT:
-        result = "Kit";
+        result = "cat";
         break;
     case DOG:
         result = "Собака";
@@ -47,3 +47,4 @@ void show_animals(struct animal animals[], unsigned int count)
     animals[i].weight);
 }
}
```

Висновок: я встановив віртуальну ОС, навчився виконувати основні команди такі як **cd**, **apt**, інсталиював мінімально необхідні пакети (**tree**, **git**, **gcc**, **ddd**, **make**), навчився працювати з репозиторіями (**git clone**, **git diff**)