EXPERIMENT NO: 11 **DATE:**

SOFTWARE FROM SOURCE CODE

AIM: INSTALLING SOFTWARE FROM SOURCE CODE

- Source code software must be compiled and installed.
- Usually comes in a compressed archive, called a tarball with .tar or .tar.gz ending. ● Archive includes source, configure script, makefile,and install scripts.

Package Managers

- Automate the installation, removal, and management of the software applications.
- Only track software installed using the package manager.
- Similar to Add/Remove programs control panel in MS Windows

---> *Configure Script:*

- Inspects system for requirements and configures the “makefile” .

----> *Make:*

- Automates the compilation of programming source code for the target system.
- “makefile” defines the necessary steps to build the application. ● They are far from perfect.
- There is no central database to track applications installed with make.
- Removal of applications may or may not be supported by the make file.
- “makefile” contains installation parameters, variables,and setup instructions.
- “make” and “make install” commands are run to compile and install software.

----->*Make Command:*

- Source code distributed as “gzipped tarballs”.
- After unpacking the code you must check the README file for specific install instructions.

$ configure

$ make

$ make install

Installation Steps:

Step 1: Open the Linux terminal and enter

sudo apt update

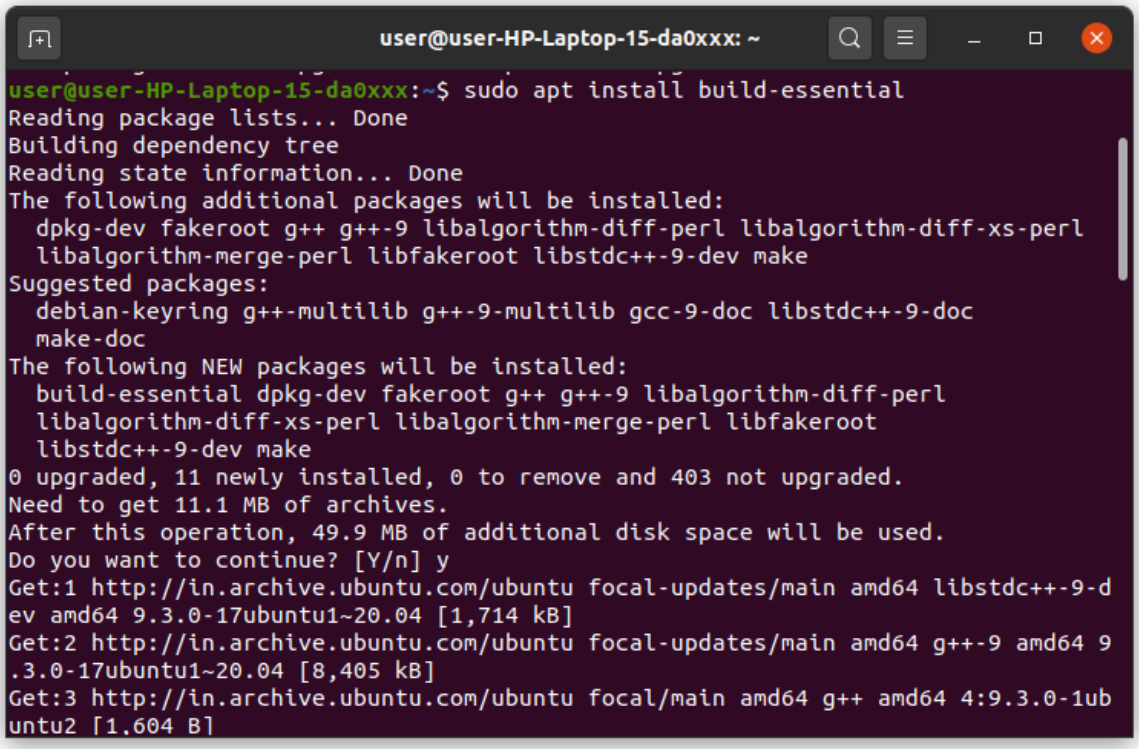
This command is used to install the latest versions of the packages currently installed on the user's system from the sources enumerated in /etc/apt/sources. The installed packages which have new packages available are retrieved and installed.

```
user@user-HP-Laptop-15-da0xxx:~$ sudo apt update
Hit:1 http://in.archive.ubuntu.com/ubuntu focal InRelease
Hit:2 http://in.archive.ubuntu.com/ubuntu focal-updates InRelease
Hit:3 http://ppa.launchpad.net/ansible/ansible/ubuntu focal InRelease
Hit:4 http://in.archive.ubuntu.com/ubuntu focal-backports InRelease
Get:5 http://security.ubuntu.com/ubuntu focal-security InRelease [114 kB]
Fetched 114 kB in 3s (33.0 kB/s)
Reading package lists... Done
Building dependency tree
Reading state information... Done
403 packages can be upgraded. Run 'apt list --upgradable' to see them.
user@user-HP-Laptop-15-da0xxx:~$
```

Step 2: Enter *sudo apt*

install build-essential

build-essential is called a meta-package. It in itself does not install anything. Instead, it is a link to several other packages that will be installed as dependencies. In the case of the build-essential metapackage, it will install everything required for compiling basic software written in C and C++..



Step 3:

Enter *cd*

/usr/local/s

rc/

The cd command, also known as chdir (change directory), is a command-line shell command used to change the current working directory in various operating systems.

```
user@user-HP-Laptop-15-da0xxx:~$ cd /usr/local/src
user@user-HP-Laptop-15-da0xxx:/usr/local/src$ sudo wget http://www.noip.com/clie
nt/linux/noip-duc-linux.tar.gz
--2021-09-21 16:59:32--  http://www.noip.com/client/linux/noip-duc-linux.tar.gz
Resolving www.noip.com (www.noip.com)... 8.23.224.107
Connecting to www.noip.com (www.noip.com)|8.23.224.107|:80... connected.
HTTP request sent, awaiting response... 200 OK
Length: 134188 (131K) [application/x-gzip]
Saving to: 'noip-duc-linux.tar.gz'

noip-duc-linux.tar. 100%[===================>] 131.04K  71.0KB/s    in 1.8s

2021-09-21 16:59:35 (71.0 KB/s) - 'noip-duc-linux.tar.gz' saved [134188/134188]

user@user-HP-Laptop-15-da0xxx:/usr/local/src$
```

Step 4: Enter

sudo wget http://www.noip.com/client/linux/noip-duc-linux.tar.gz

- The wget command is a command line utility for downloading files from the Internet. It supports downloading multiple files, downloading in the background, resuming downloads, limiting the bandwidth used for downloads and viewing headers.


```
user@user-HP-Laptop-15-da0xxx:~$ cd /usr/local/src
user@user-HP-Laptop-15-da0xxx:/usr/local/src$ sudo wget http://www.noip.com/clie
nt/linux/noip-duc-linux.tar.gz
--2021-09-21 16:59:32--  http://www.noip.com/client/linux/noip-duc-linux.tar.gz
Resolving www.noip.com (www.noip.com)... 8.23.224.107
Connecting to www.noip.com (www.noip.com)|8.23.224.107|:80... connected.
HTTP request sent, awaiting response... 200 OK
Length: 134188 (131K) [application/x-gzip]
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noip-duc-linux.tar. 100%[===================>] 131.04K  71.0KB/s    in 1.8s

2021-09-21 16:59:35 (71.0 KB/s) - 'noip-duc-linux.tar.gz' saved [134188/134188]

user@user-HP-Laptop-15-da0xxx:/usr/local/src$
```


- Step 5: Enter
- *sudo tar xf noip-duc-linux.tar.gz and cd noip-2.1.9-1/*
- The Linux 'tar' stands for tape archive, is used to create Archive and extract the Archive files. tar command in Linux is one of the important commands which provides archiving functionality in Linux. We can use Linux tar command to create compressed or uncompressed Archive files and also maintain and modify them.

```
user@user-HP-Laptop-15-da0xxx:/usr/local/src$ sudo tar xf noip-duc-linux.tar.gz
user@user-HP-Laptop-15-da0xxx:/usr/local/src$ ls
noip-2.1.9-1  noip-duc-linux.tar.gz
user@user-HP-Laptop-15-da0xxx:/usr/local/src$ cd noip-2.1.9-1
user@user-HP-Laptop-15-da0xxx:/usr/local/src/noip-2.1.9-1$
```

- Step 6: Sudo make install

The make install command will copy built program and its libraries and documentation to correct location

RESULT: Familiarised with source code