INSTALLING SOFTWARE IN UBUNTU LINUX

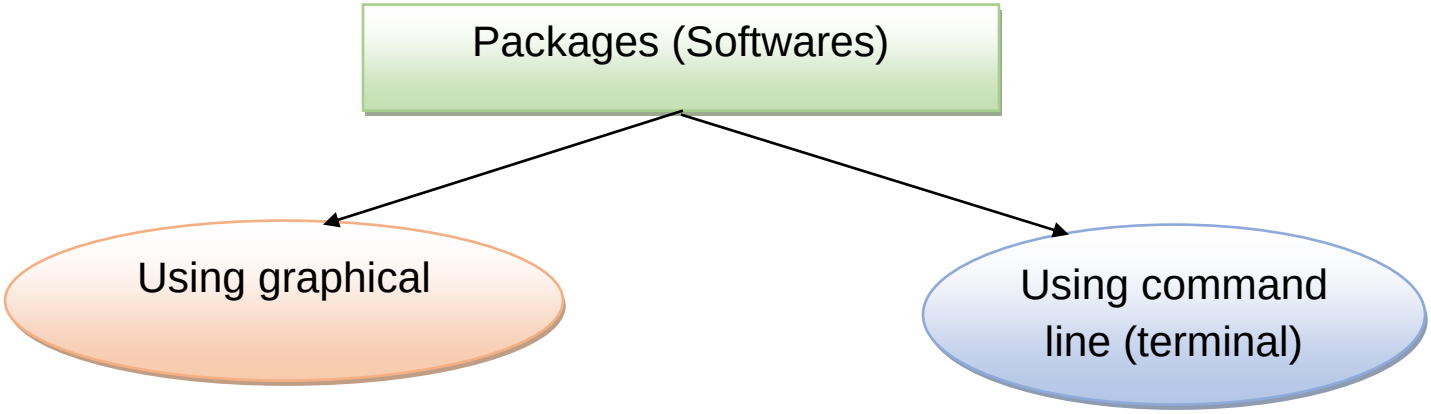
INSTALLING SOFTWARE IN LINUX

PACKAGES

- Complied collection of executable and data files into a single file called as “package” file
- Software tends to come in “packages”. In the windows OS, a package is a “setup.exe” or an “application.msi” or a “program.zip”. On a Mac OS, a package is a “program.dmg” or a “program.sit” file. In the Linux OS, there are several kinds of packages and each distribution has its own preferred package format. (Ex. .rpm, .deb, etc)
- The contents of the package are
  - Particular product information
  - Program files, Icons
  - List of commands
  - Man pages, configuration files
  - Shared libraries, etc, …
- In linux, software packages have different formats like “.rpm, .deb, .sh, .tar.gz, .tgz, tar.xz or any other archives” etc, …
- Packages are distributed either in “Binaries form” or “Source form”
- Source form is a file (downloaded file) containing all the source code for the application, we want to install, unpack it and compile it on our system.
- Packages are either installed from distribution CD or local disk or download from various web sites

Methods

- In linux, the softwares can be installed using graphically or using the command line



Using graphical method

- Each linux distribution has own software center for installing and managing softwares (packages)

Using Terminal

- It is possible to install, remove and update packages using package manager (package tool) in linux terminal

Package Manager

- In windows, there is **no package manager**. We can directly install softwares using admin rights
- To install packages on linux, we need to use proper package manager
- It is a sub system on linux, that manages the packages (softwares) on the computer
- It's an important component of Linux, in that it keeps track of everything installed; downloads packages; ensures all packages are installed in a common location; helps to upgrade packages; resolves

dependencies; and keeps users from having to install from source code.

- Linux distributions are differentiated based on the selection of package manager.
- Example
  - Debian and Ubuntu use dpkg and apt package tools
  - Redhat, centos and fedora use yum package tool
- Each package manager works with a different file type.
- For example, apt works with **.deb files**, yum or zipper tool works with **.rpm files**.
- The apt package manager cannot install .rpm files and neither yum or zipper tool can install .deb files

Main Package Management standards

RPM (RedHat Package Manager)

- It is a packaging system originally developed by RedHat & widely used in the Linux community
- Supported distributions: Fedora, Mandriva, Red Hat (naturally), centOS, SUSE, etc, …
- A rpm package file will be named something like "program-version-other**.rpm**"
- Format: .rpm

DEB (Debian Package Manager)

- It is an another popular package format
- It was introduced by Debian distribution
- Distributions using it include Ubuntu, Knoppix, Mepis, Debian (naturally), Linux Mint
- A deb package file will be named something like "program-version-other**.deb**"
- Format: .deb

Tarballs

- It was compatible with all Linux distributions
- Format: .tar.gz, .tar.bz2, etc, ..

- Each package manager depends on the format & metadata of the packages it can manage

1. INSTALLING SOFTWARE IN REDHAT LINUX

- RPM (RedHat Package Manager) is a famous tool for installing softwares in RedHat Linux
- Main Operations of RPM command
    1. Querying and verifying packages
    2. Installing, upgrading, and removing packages

RPM Command Options

- i ← used for install package
- e ← used for remove package
- U ← used for update package

(i) Install

- To install software, use the following command

```
rpm -i <package-name>
```

(ii) Remove

- To remove software, use the following command

```
rpm –e <package-name>
```

(iii) Upgrade

- To upgrade software, use the following command

```
rpm –U <package-name>
```

NOTE

- It is an important to note that, the commands used in linux is case sensitive.

2. INSTALLING SOFTWARE IN DEBIAN LINUX

- Debian Linux provides two popular command tools for installing packages in ubuntu linux. They are
    1. dpkg
    2. apt
- APT (Advanced Package Tool) is a wonderful package management system
- It consists of different tools, which names usually begins with “apt-”: apt-get, apt-cache, apt-cdrom, etc …
- Complete command is “apt-get” and it's the easiest way to install files / softwares packages in Debian based Linux distributions

(i) Install

- To install software, use the following command

```
apt-get install ${packagename}
```

(ii) Remove

- To remove / uninstall any software, use the following command

```
apt-get remove ${packagename}
```

(iii) Update

- Apt keeps a local database on user hard drive with a list of all available packages
- This database needs to be explicitly updated
- To update apt database, use the following command

```
apt-get update
```

(iv) Information about package

- Apt-cache is used to give more about package & its description (dependencies, functionalities, maintainer's identity, etc, …)
- To know more about a package and its description

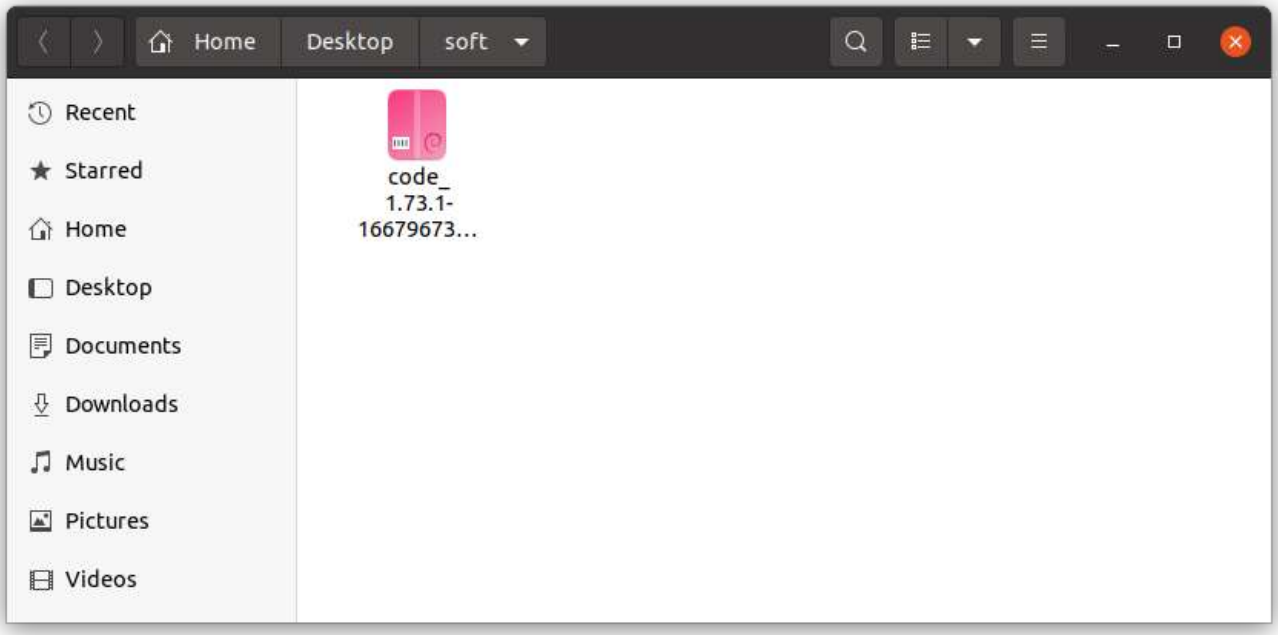
```
apt-cache show <packagename>
```

I. INSTALLING VISUAL STUDIO CODE DEB PACKAGE VIA COMMAND LINE

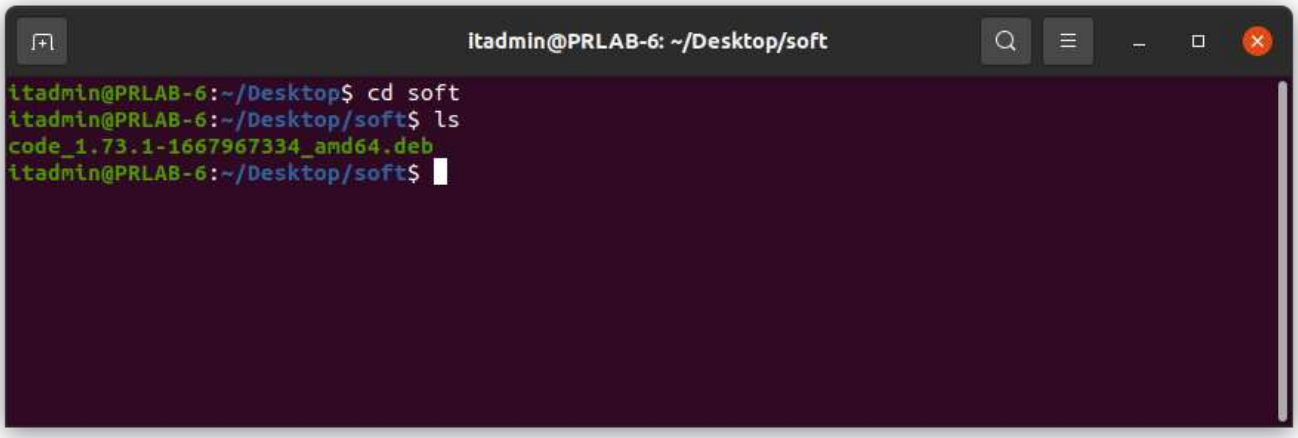
Package	:	Visual Studio Code (VSC) Editor
Type of Install	:	**Command Line**
Type of the Package	:	**.deb**
Tested OS	:	Ubuntu OS

Step 1: Download the package of VSC Editor from Internet

Step 2: create an optional directory named soft (user defined folder)

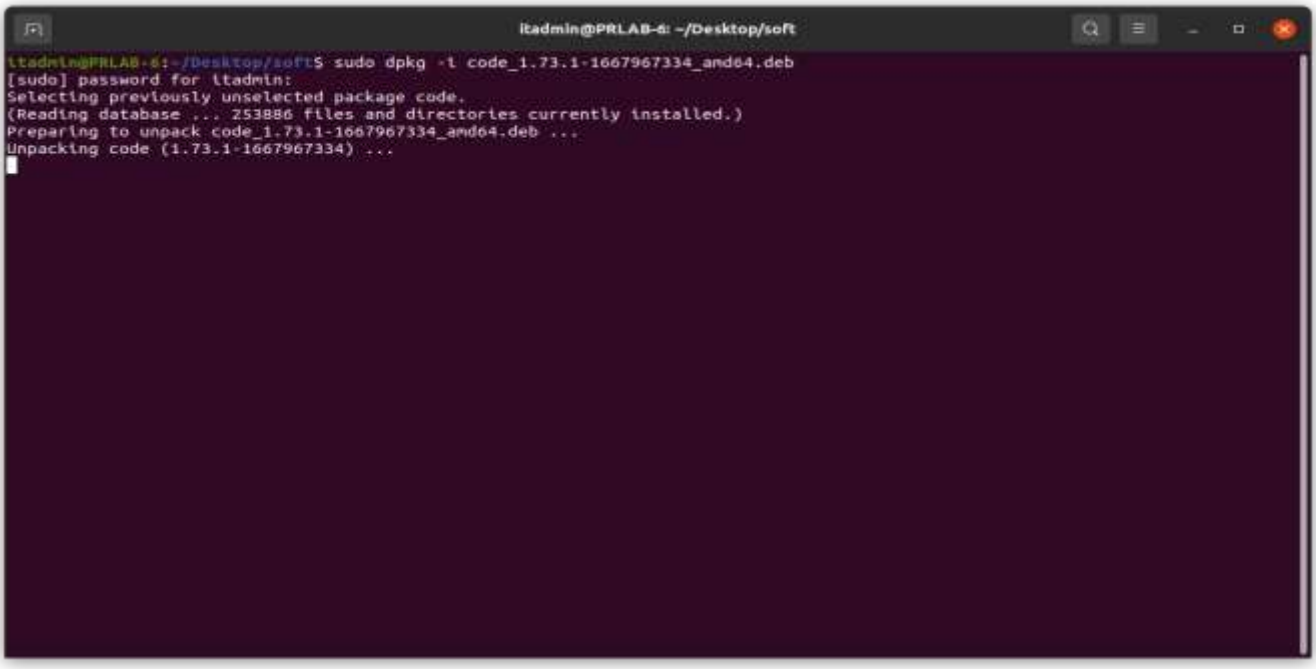


Step 3: Navigate the path to current folder named soft which contains DEB software

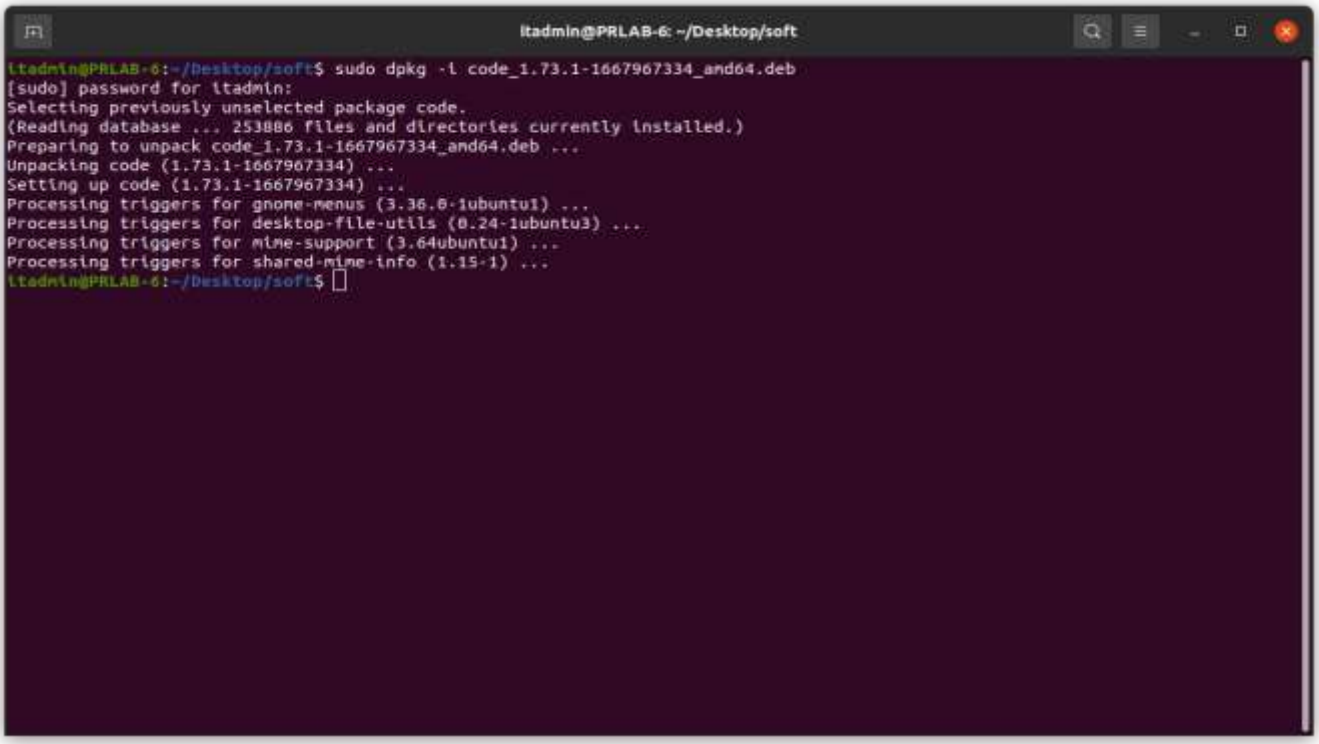


Step 4: Install the Visual Studio Code Manually using dpkg command with root permission

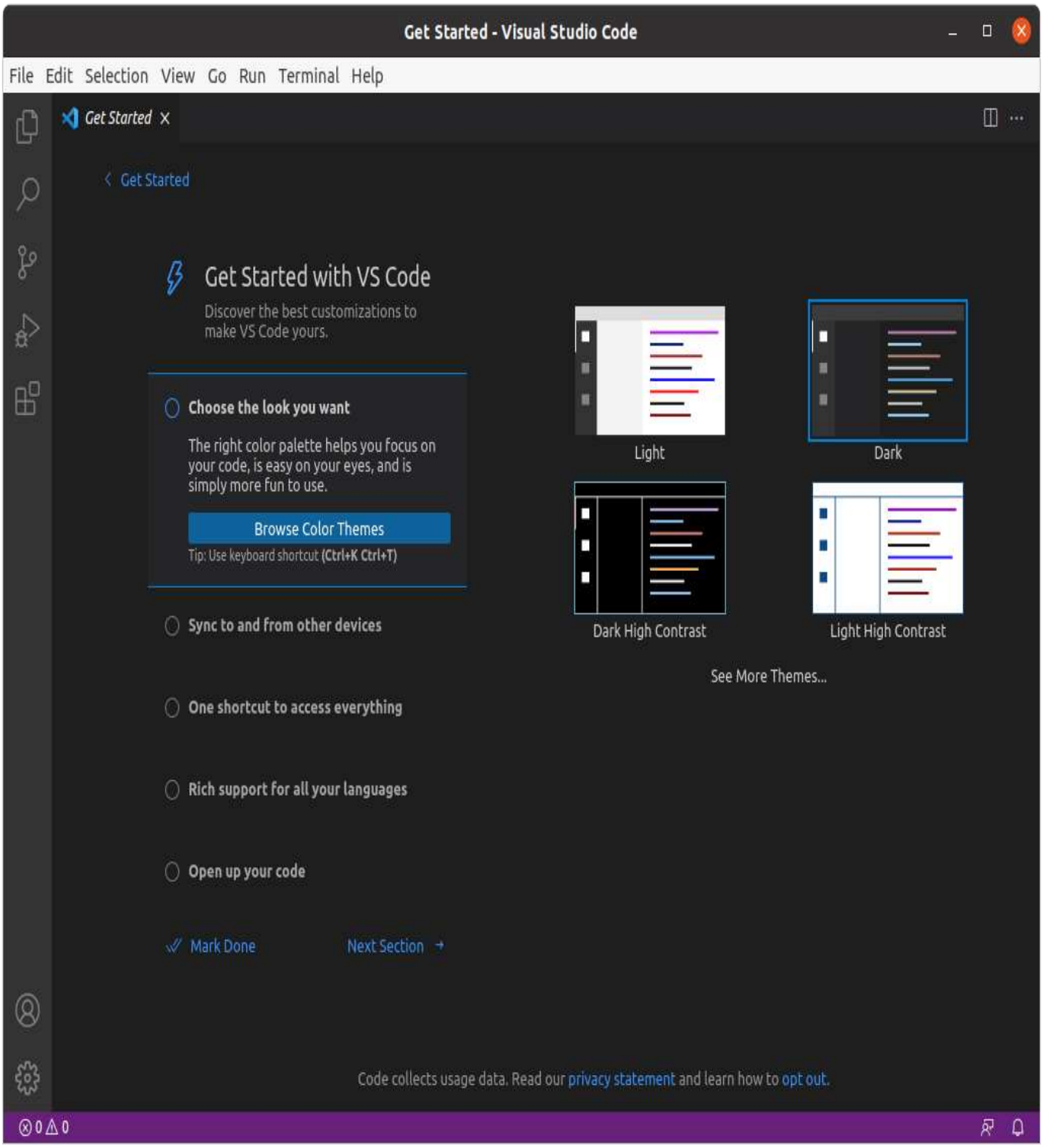
Command | **sudo dpkg -i code_1.73.1-1667967334_amd64.deb**



Installation Progress in Ubuntu Terminal



VERIFICATION OF NEWLY INSTALLED VSC PACKAGE

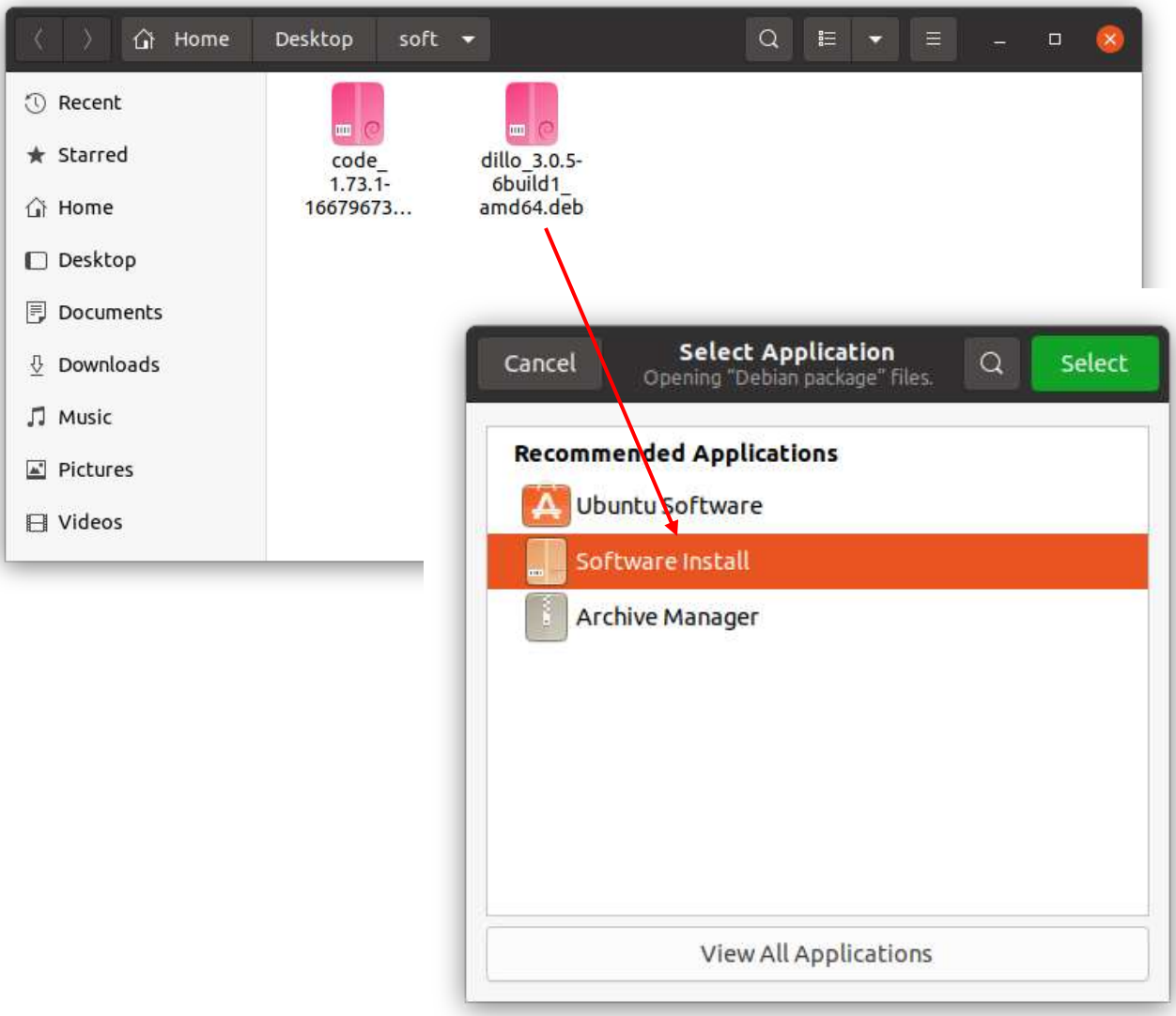


II. INSTALLING VISUAL STUDIO CODE DEB PACKAGE VIA AUTOMATIC

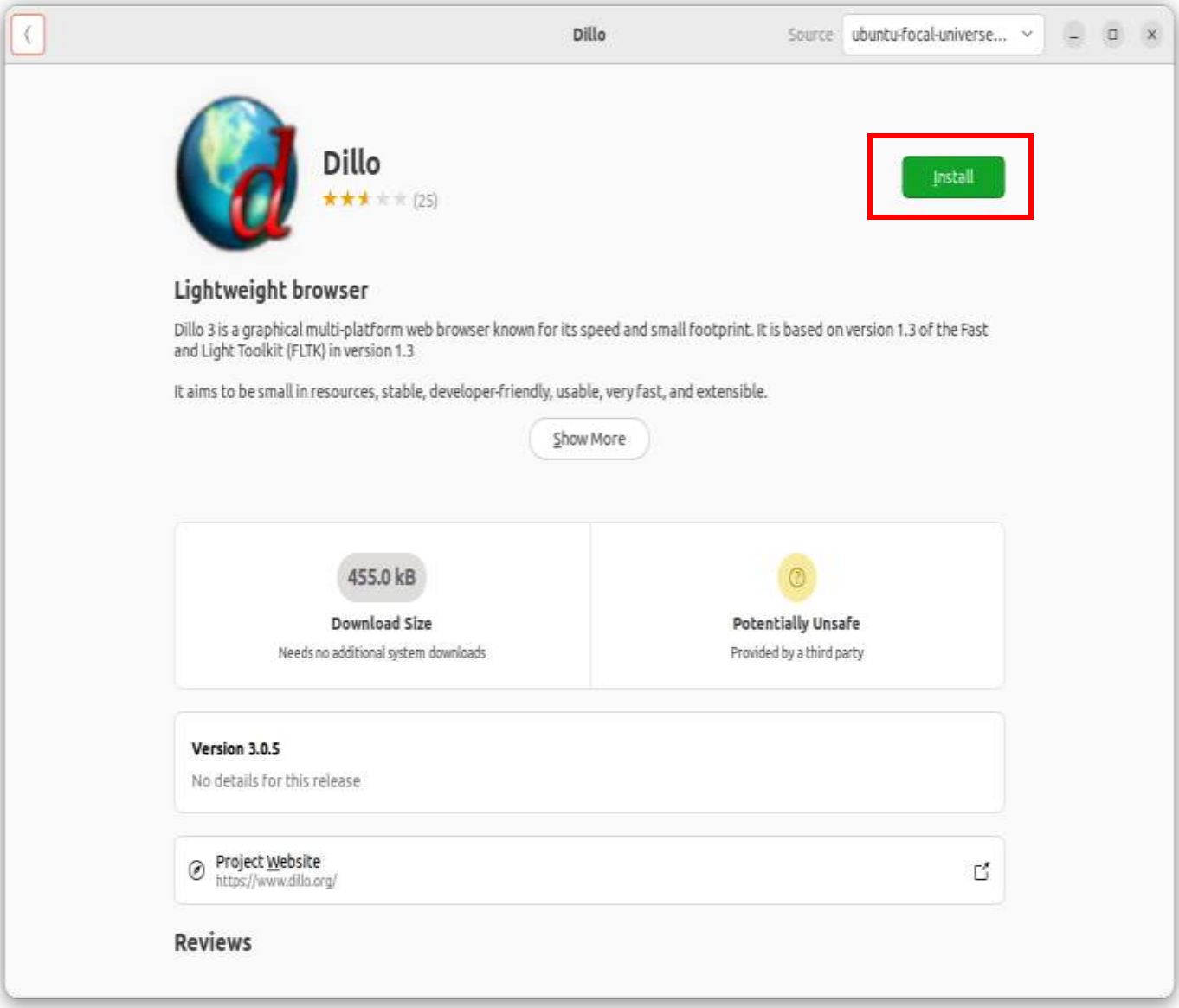
Package	:	Dillo Browser
Type of Install	:	**Automatic (Visual Installer)**
Type of the Package	:	**.deb**
Tested OS	:	Ubuntu OS

Step 1: download the DEB package of dillo browser and copy it to input directory named soft

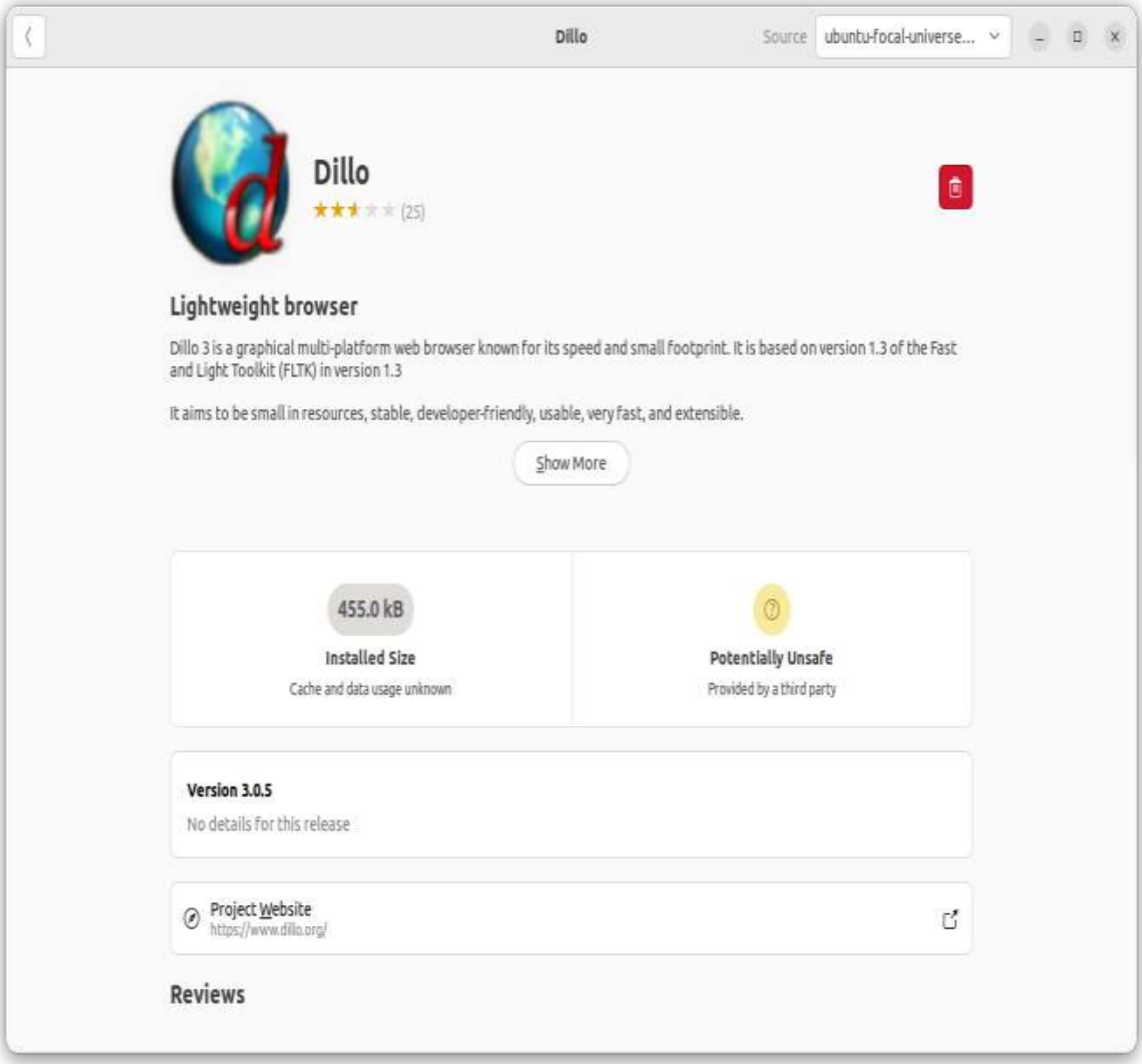
Step 2: Contents of Directory named soft



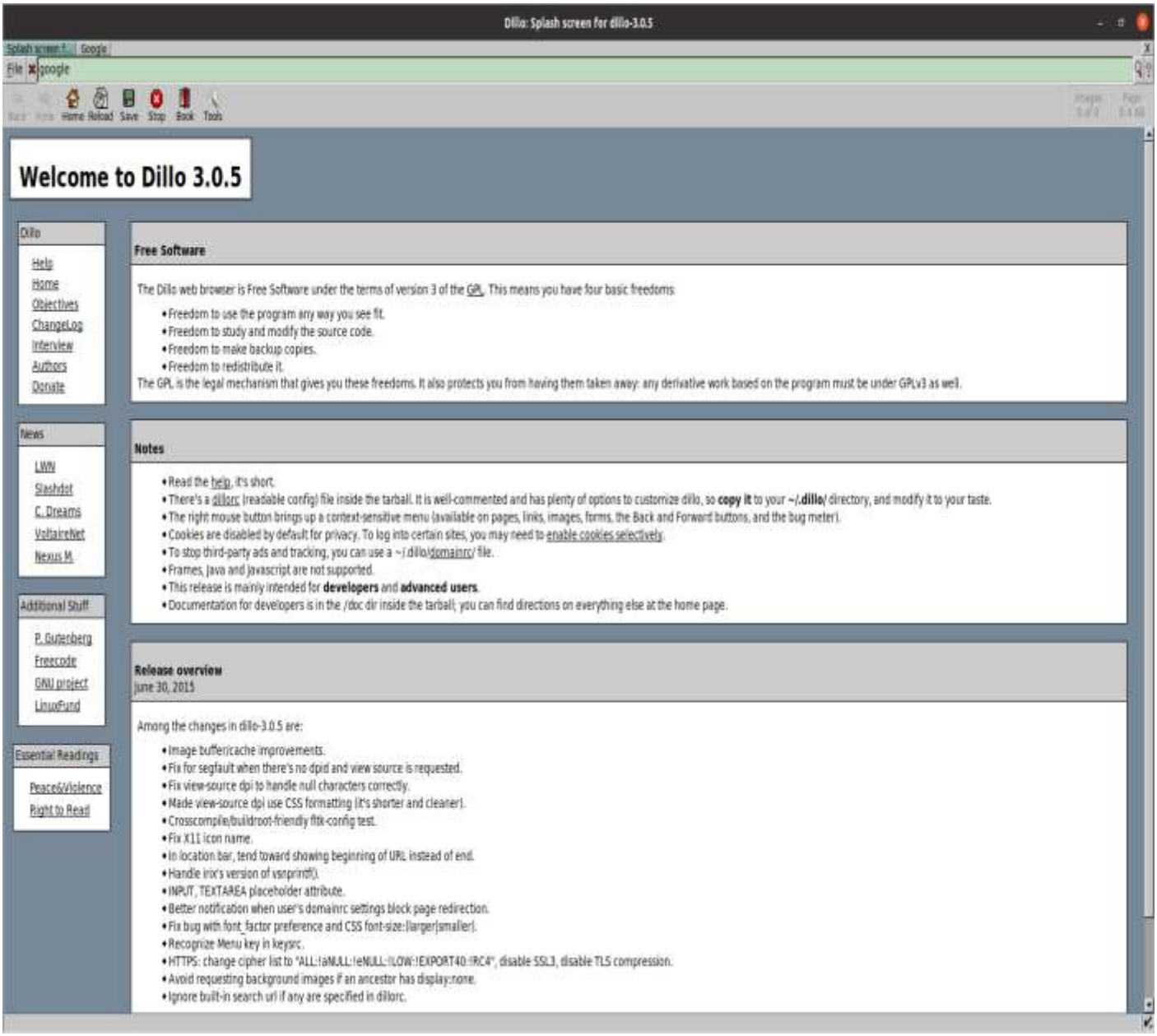
Step 3: Installing Dillo Browser via “Software Install” option



INSTALLED DETAILS OF DILLO BROWSER



Home Page of Dillo Brower



Search Results of Dillo Browser – Google Image Search