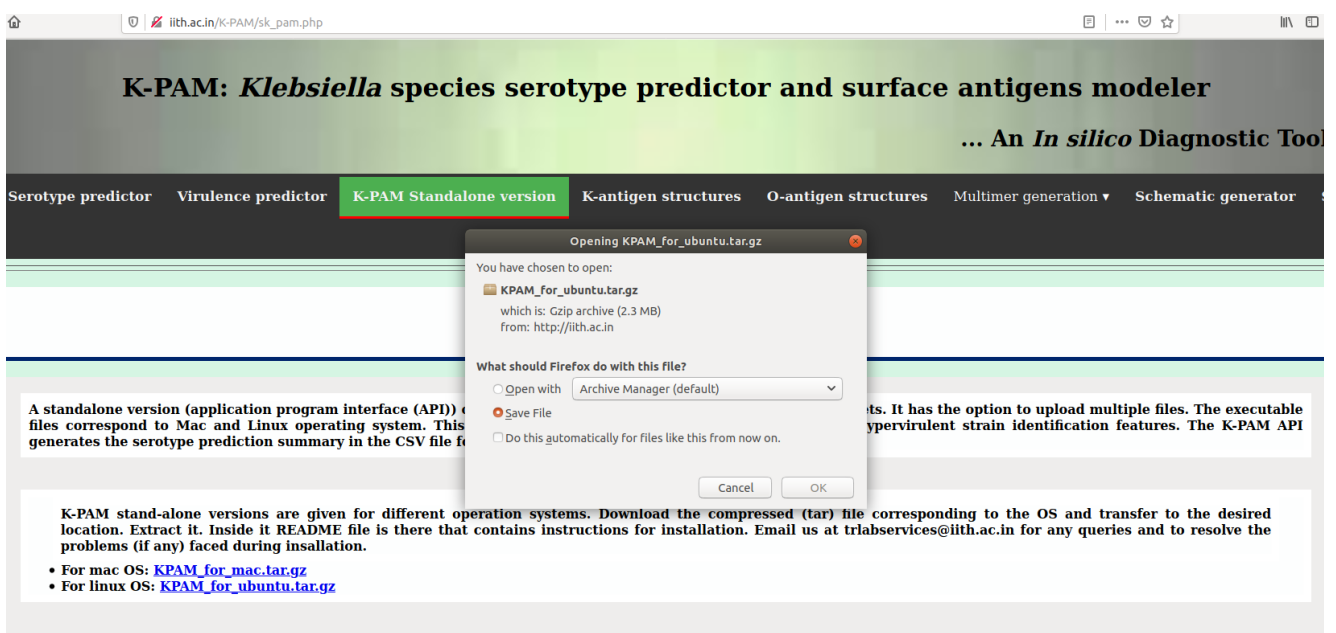
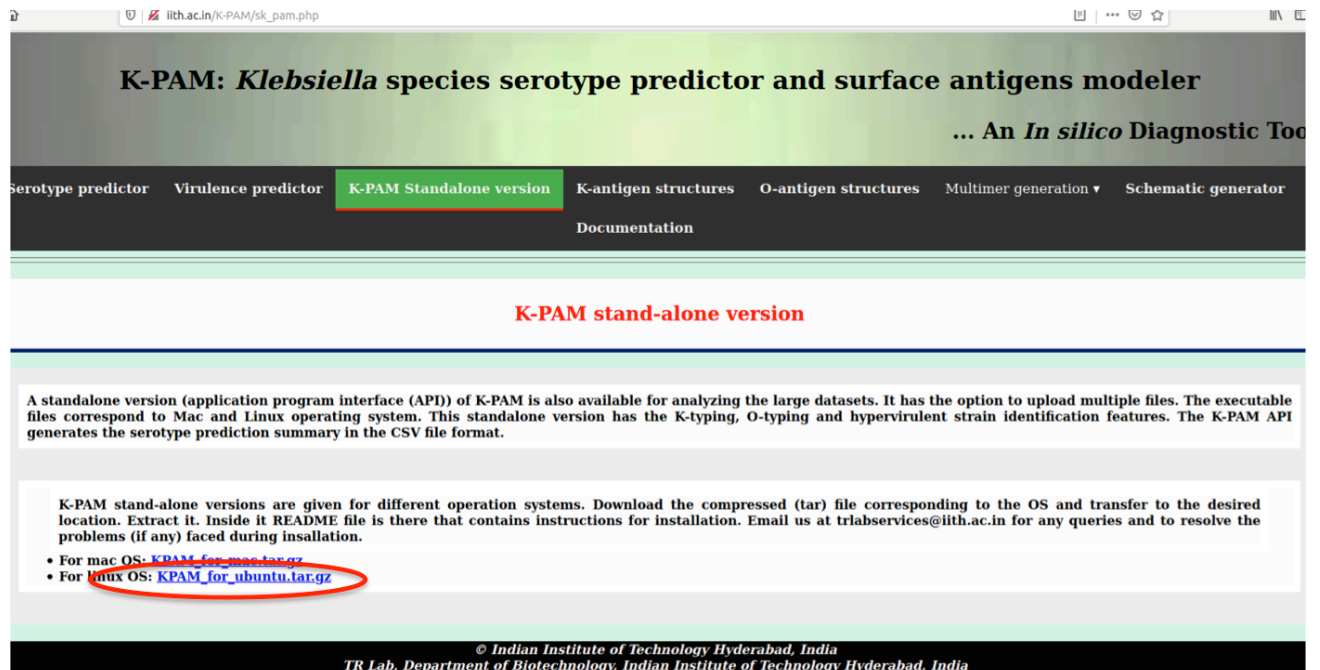
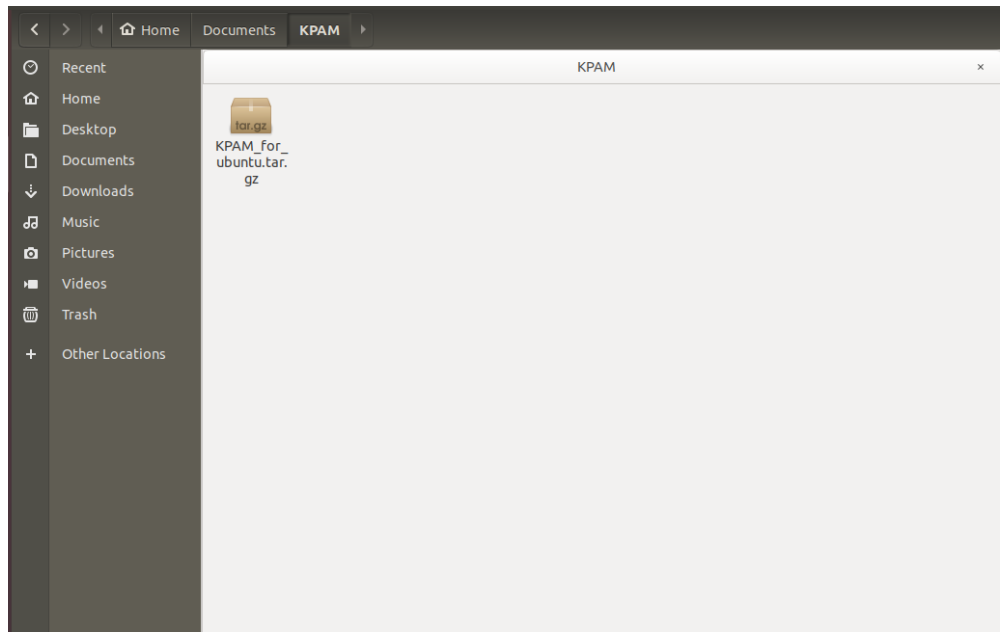


Stepwise guideline for installation of K-PAM standalone version in Ubuntu

1. Download the compressed file from the link given on the page:
http://iith.ac.in/K-PAM/sk_pam.php



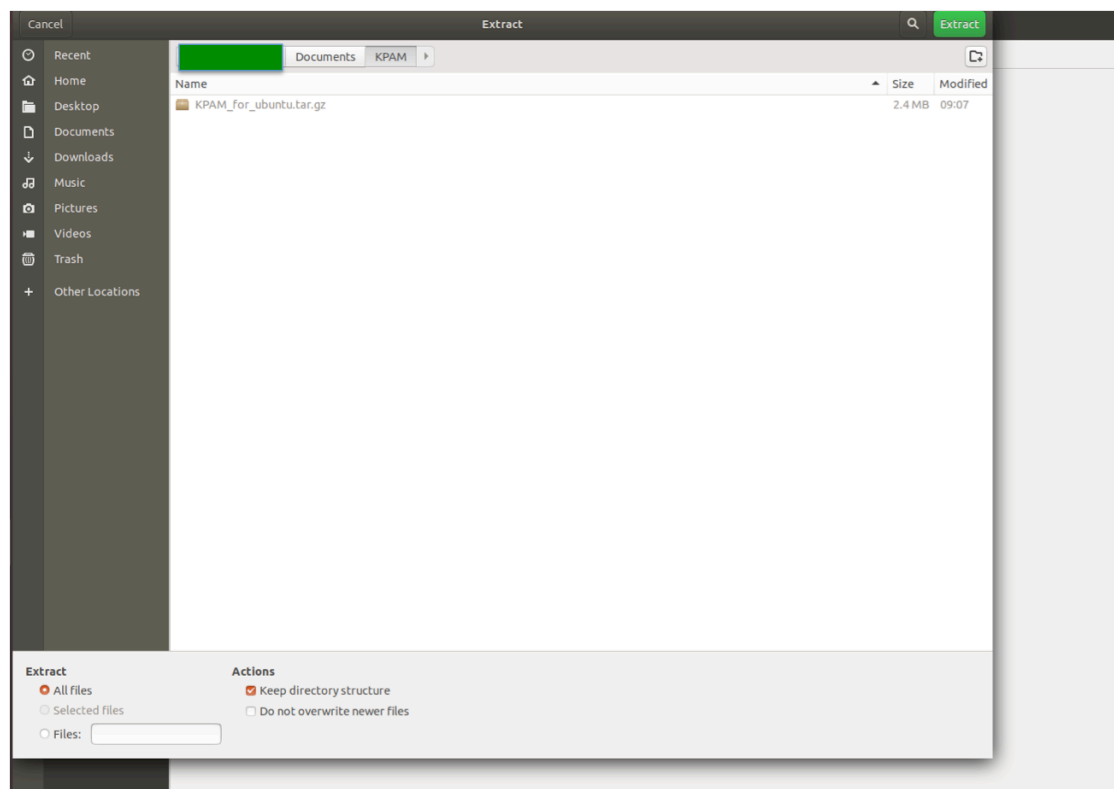
2. Move the downloaded *tar* file from the default download directory ("Downloads" folder) to the desired location.

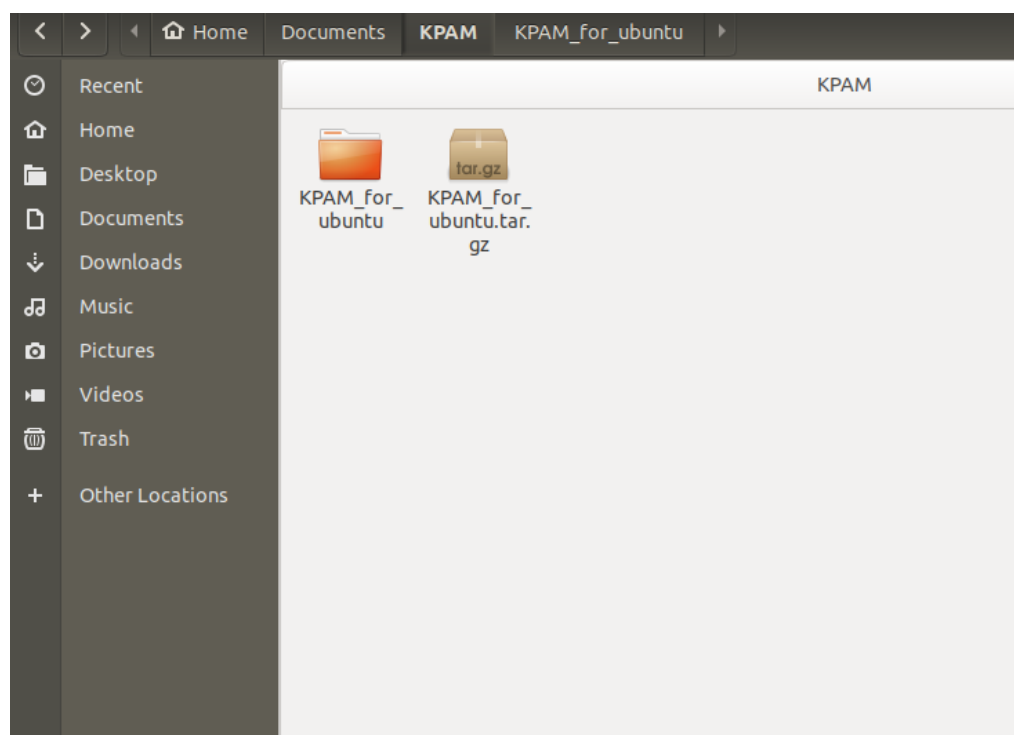
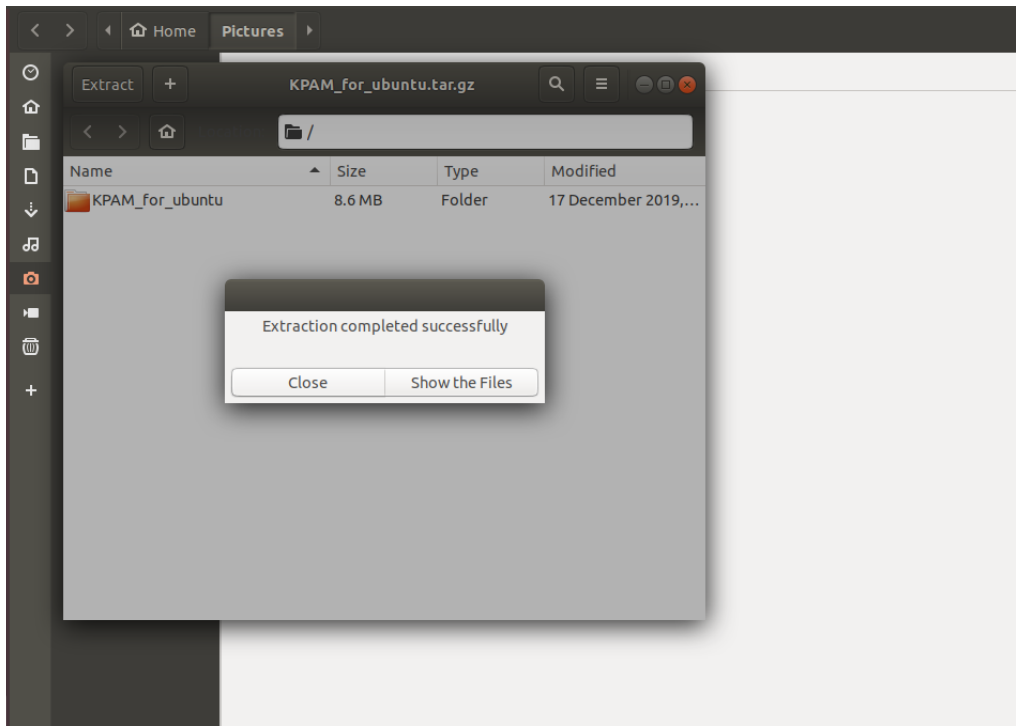


3. Extract the content in the same location by double click on the *tar* file or if you are doing it from terminal give any of the following commands.

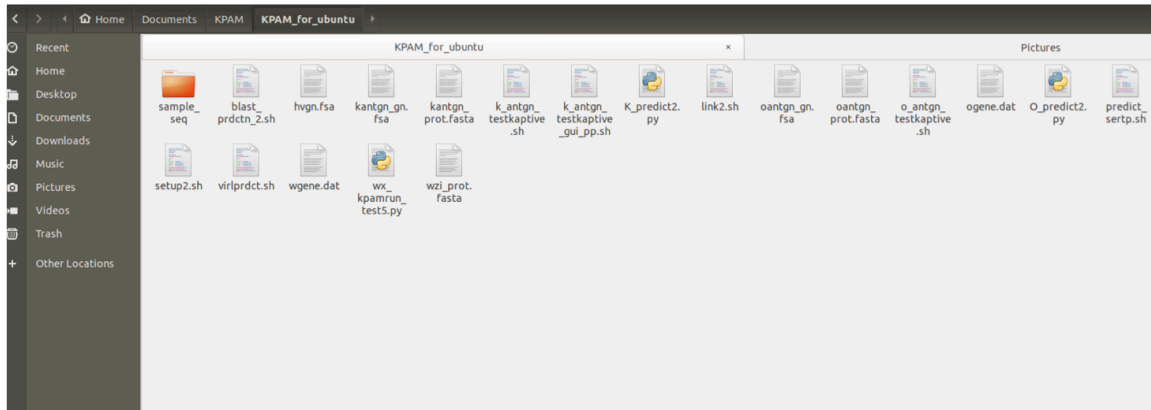
```
$ tar -xvzf KPAM_for_ubuntu.tar.gz
```

```
$ tar -xvf KPAM_for_ubuntu.tar.gz
```

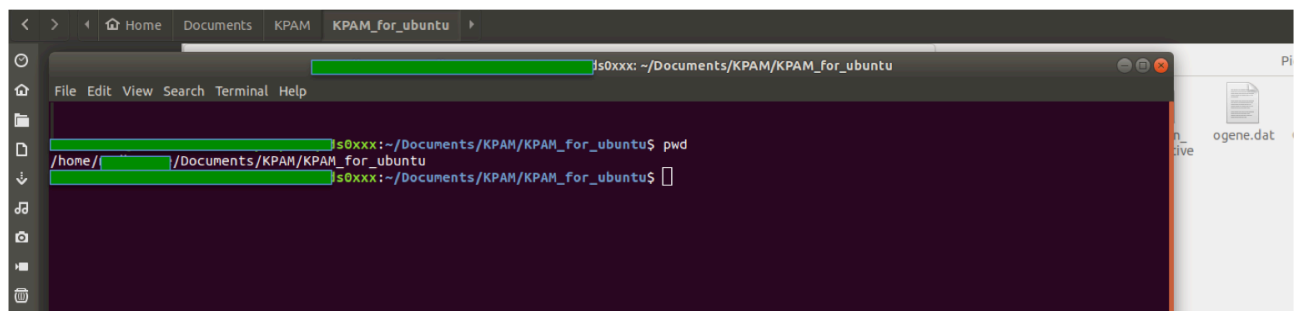




4. Go inside the extracted directory "KPAM_for_ubuntu". A instruction manual for KPAM installation is also given in a text file ("README") or you can follow the steps written in this document.



5. Open the terminal for installation of K-PAM in local machine. Then, go to the “KPAM_for_ubuntu” directory. You can also directly go to terminal from the folder “KPAM_for_ubuntu” by clicking right button on mouse any black space in the directory and select “Open in Terminal”.



6. To run the installation, the account must be a *sudo* user (not applicable if the *sudo* user account is not setup and the system has only one account) and confirm that the current directory is inside the directory “KPAM_for_ubuntu”.
7. Give the command to start the installation:

```
$ bash setup1.sh
```

```

s0xxx: ~/Documents/KPAM/KPAM_for_ubuntu
File Edit View Search Terminal Help
s0xxx:~/Documents/KPAM/KPAM_for_ubuntu$ bash setup1.sh
****K-PAM standalone Version****
Environment building
Provide sudo user password if necessary and the account should have sudo accessibility
If Some error messages come during installation. Ignore them till no major problem comes in running the script
[sudo] password for [redacted]:

```

8. Give the *sudo* user password or the password used for log in to the system (if the *sudo* user account is not setup and the system has only one account).
9. During installation, the user permission would be asked sometimes to continue the installation, like “*Press [ENTER] to continue*” or “*select <OK> to continue*”. Click [ENTER] or select <OK> and click [ENTER] to continue the installation process.

```

File Edit View Search Terminal Help
Reporting Issues
=====
Issues can be reported in the master issue tracker at:
https://github.com/deadsnakes/issues/issues

Supported Ubuntu and Python Versions
=====
- Ubuntu 16.04 (xenial) Python 2.3 - Python 2.6, Python 3.1 - Python3.4, Python 3.6 - Python3.9
- Ubuntu 18.04 (bionic) Python2.3 - Python 2.6, Python 3.1 - Python 3.5, Python3.7 - Python3.9
- Note: Python2.7 (both), Python 3.5 (xenial), Python 3.6 (bionic) are not provided by deadsnakes as upstream ubuntu provides those pack
ages.

The packages may also work on other versions of Ubuntu or Debian, but that is not tested or supported.

Packages
=====
The packages provided here are loosely based on the debian upstream packages with some modifications to make them more usable as non-def
ault python3 and on ubuntu. As such, the packages follow debian's patterns and often do not include a full python distribution with jus
t 'apt install python#.#'. Here is a list of packages that may be useful along with the default install:

- 'python#.#-dev': includes development headers for building C extensions
- 'python#.#-venv': provides the standard library 'venv' module
- 'python#.#-distutils': provides the standard library 'distutils' module
- 'python#.#-lib2to3': provides the '2to3-#.#' utility as well as the standard library 'lib2to3' module
- 'python#.#-gdbm': provides the standard library 'gnu.dbm' module
- 'python#.#-tk': provides the standard library 'tkinter' module

Third-Party Python Modules
=====
Python modules in the official Ubuntu repositories are packaged to work with the Python interpreters from the official repositories. Acc
ordingly, they generally won't work with the Python interpreters from this PPA. As an exception, pure-Python modules for Python 3 will w
ork, but any compiled extension modules won't.

To install third-party Python modules, you should use the common Python packaging tools. For an introduction into the Python packaging ec
osystem and its tools, refer to the Python Packaging User Guide:
https://packaging.python.org/installing/

Sources
=====
The package sources are available at:
https://github.com/deadsnakes/
More info: https://launchpad.net/~deadsnakes/+archive/ubuntu/ppa
Press [ENTER] to continue or Ctrl-c to cancel adding it.

```

```

python-pip is already the newest version (9.0.1-2.3-ubuntu1.18.04.1).
0 upgraded, 0 newly installed, 0 to remove and 14 not upgraded.
The directory /home/[redacted]/.cache/pip/http or its parent directory is not owned by the current user and the cache has been disabled. Please check the permissions
and owner of that directory. If executing pip with sudo, you may want sudo's -H flag.
The directory /home/[redacted]/.cache/pip or its parent directory is not owned by the current user and caching wheels has been disabled. check the permissions and ow
ner of that directory. If executing pip with sudo, you may want sudo's -H flag.
Requirement already satisfied: wxpython in /usr/local/lib/python2.7/dist-packages
Requirement already satisfied: pillow in /usr/local/lib/python2.7/dist-packages (from wxpython)
Requirement already satisfied: six in /usr/lib/python2.7/dist-packages (from wxpython)
Requirement already satisfied: numpy>1.17 in /usr/local/lib/python2.7/dist-packages (from wxpython)
Download the latest version of ncbi blast+ (ncbi-blast-2.10.0+-x64-linux.tar.gz, as of December 2019) file from ftp://ftp.ncbi.nlm.nih.gov/blast/executables/blast+/L
ATEST/ using a web browser for installing blast+ in the local machine. Then copy the downloaded file to current location and execute setup2.sh

```

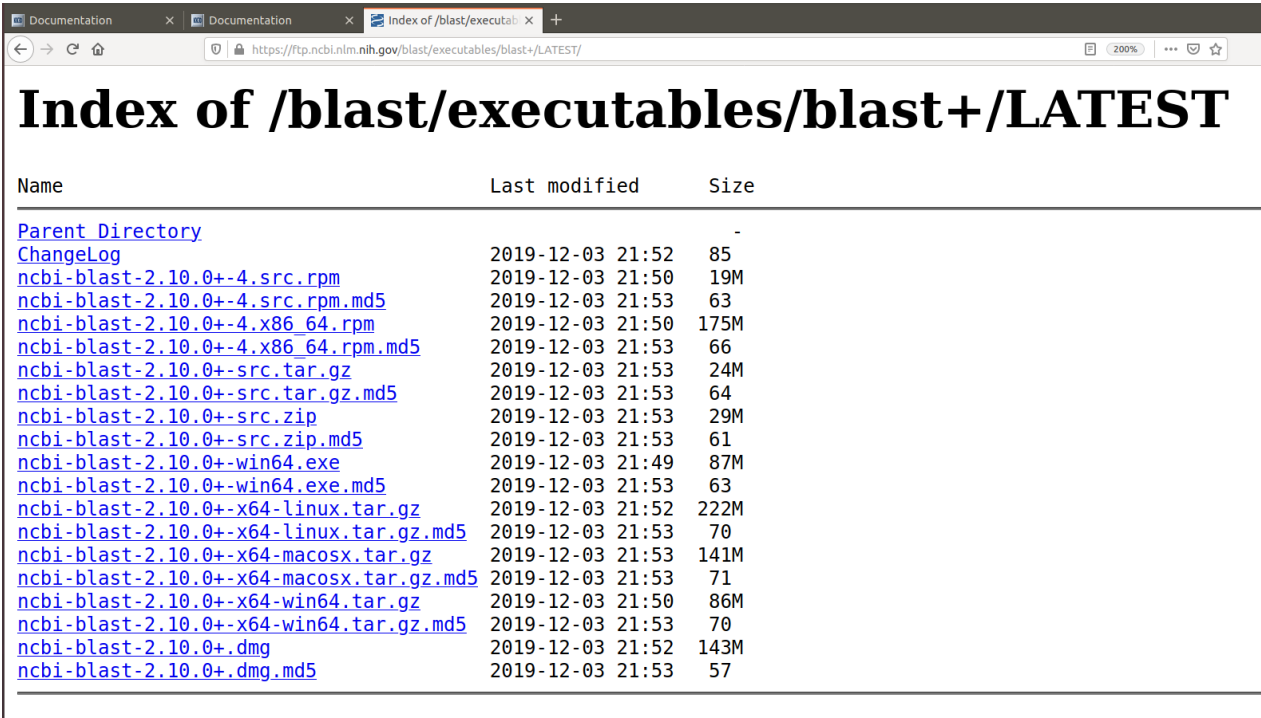
10. When first part of the installation completes, a message stating following will appear in terminal.

“Download the latest version of ncbi blast+ (ncbi-blast-2.10.0+-x64-linux.tar.gz, as of December 2019) file from ftp://ftp.ncbi.nlm.nih.gov/blast/executables/blast+/LATEST/ using a web browser for installing blast+ in the local machine. Then copy the downloaded file to current location and execute setup2.sh”

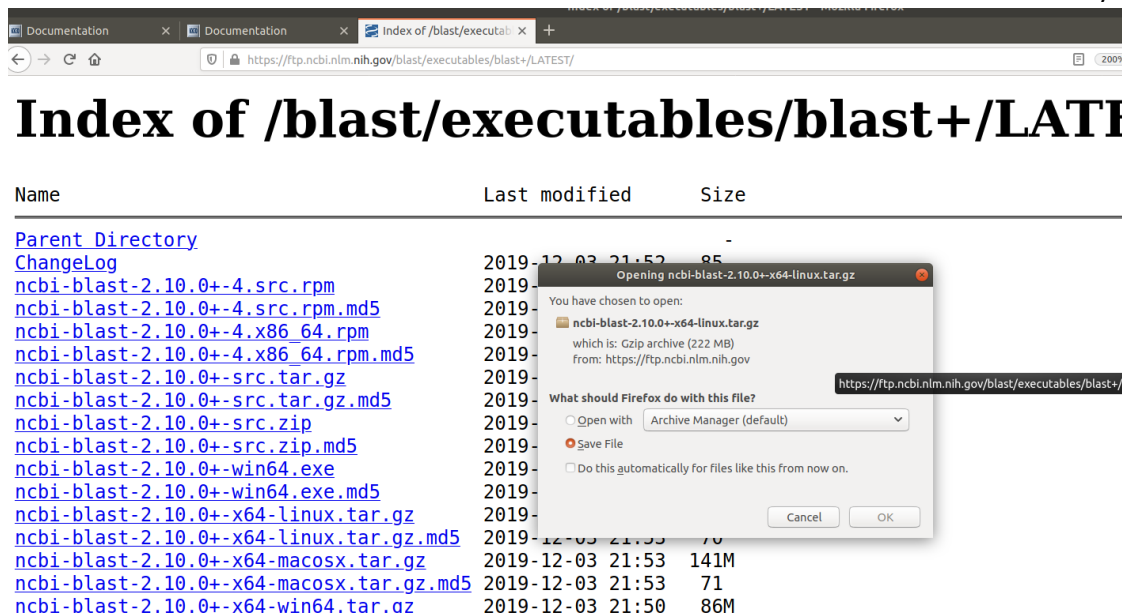
[Note: if

<ftp://ftp.ncbi.nlm.nih.gov/blast/executables/blast+/LATEST/> is giving error then use following address:

<http://ftp.ncbi.nlm.nih.gov/blast/executables/blast+/LATEST/>]

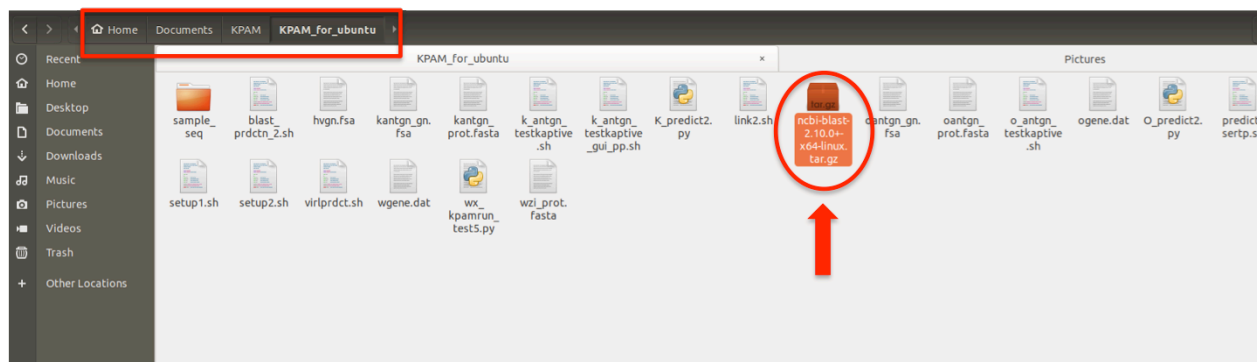


Name	Last modified	Size
Parent Directory		-
ChangeLog	2019-12-03 21:52	85
ncbi-blast-2.10.0+-4.src.rpm	2019-12-03 21:50	19M
ncbi-blast-2.10.0+-4.src.rpm.md5	2019-12-03 21:53	63
ncbi-blast-2.10.0+-4.x86_64.rpm	2019-12-03 21:50	175M
ncbi-blast-2.10.0+-4.x86_64.rpm.md5	2019-12-03 21:53	66
ncbi-blast-2.10.0+-src.tar.gz	2019-12-03 21:53	24M
ncbi-blast-2.10.0+-src.tar.gz.md5	2019-12-03 21:53	64
ncbi-blast-2.10.0+-src.zip	2019-12-03 21:53	29M
ncbi-blast-2.10.0+-src.zip.md5	2019-12-03 21:53	61
ncbi-blast-2.10.0+-win64.exe	2019-12-03 21:49	87M
ncbi-blast-2.10.0+-win64.exe.md5	2019-12-03 21:53	63
ncbi-blast-2.10.0+-x64-linux.tar.gz	2019-12-03 21:52	222M
ncbi-blast-2.10.0+-x64-linux.tar.gz.md5	2019-12-03 21:53	70
ncbi-blast-2.10.0+-x64-macosx.tar.gz	2019-12-03 21:53	141M
ncbi-blast-2.10.0+-x64-macosx.tar.gz.md5	2019-12-03 21:53	71
ncbi-blast-2.10.0+-x64-win64.tar.gz	2019-12-03 21:50	86M
ncbi-blast-2.10.0+-x64-win64.tar.gz.md5	2019-12-03 21:53	70
ncbi-blast-2.10.0+.dmg	2019-12-03 21:52	143M
ncbi-blast-2.10.0+.dmg.md5	2019-12-03 21:53	57



Name	Last modified	Size
Parent Directory		
ChangeLog		
ncbi-blast-2.10.0+-4.src.rpm	2019-12-03 21:52	95
ncbi-blast-2.10.0+-4.src.rpm.md5	2019-12-03 21:52	
ncbi-blast-2.10.0+-4.x86_64.rpm	2019-12-03 21:52	
ncbi-blast-2.10.0+-4.x86_64.rpm.md5	2019-12-03 21:52	
ncbi-blast-2.10.0+-src.tar.gz	2019-12-03 21:52	
ncbi-blast-2.10.0+-src.tar.gz.md5	2019-12-03 21:52	
ncbi-blast-2.10.0+-src.zip	2019-12-03 21:52	
ncbi-blast-2.10.0+-src.zip.md5	2019-12-03 21:52	
ncbi-blast-2.10.0+-win64.exe	2019-12-03 21:52	
ncbi-blast-2.10.0+-win64.exe.md5	2019-12-03 21:52	
ncbi-blast-2.10.0+-x64-linux.tar.gz	2019-12-03 21:52	
ncbi-blast-2.10.0+-x64-linux.tar.gz.md5	2019-12-03 21:52	
ncbi-blast-2.10.0+-x64-macosx.tar.gz	2019-12-03 21:53	141M
ncbi-blast-2.10.0+-x64-macosx.tar.gz.md5	2019-12-03 21:53	71
ncbi-blast-2.10.0+-x64-win64.tar.gz	2019-12-03 21:50	86M

- Transfer the downloaded *tar* file of blast+ from the default download directory (“Downloads” folder) to the K-PAM folder (“KPAM_for_ubuntu” folder).



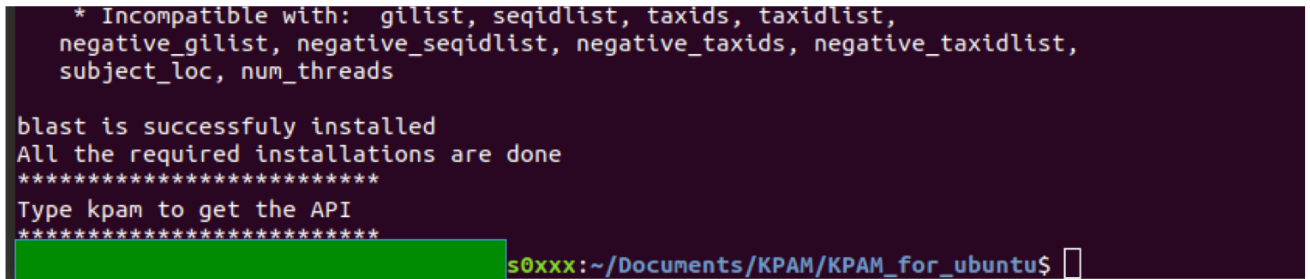
- Ensure that only one blast+ tar file is there in the folder. Run the following command in the terminal to complete the final part of the installation.

```
$ bash setup2.sh
```

```
s0xxx:~/Documents/KPAM/KPAM_for_ubuntu$ bash setup2.sh
*****
Make sure that only one ncbi-blast tar file is there in the directory.
*****
ncbi-blast-2.10.0+/
ncbi-blast-2.10.0+/ChangeLog
ncbi-blast-2.10.0+/LICENSE
ncbi-blast-2.10.0+/README
ncbi-blast-2.10.0+/bin/
ncbi-blast-2.10.0+/bin/blast_formatter
ncbi-blast-2.10.0+/bin/blastdb_aliastool
ncbi-blast-2.10.0+/bin/blastdbcheck
```

13. Once the installation of K-PAM completes, the following message will appear in the terminal.

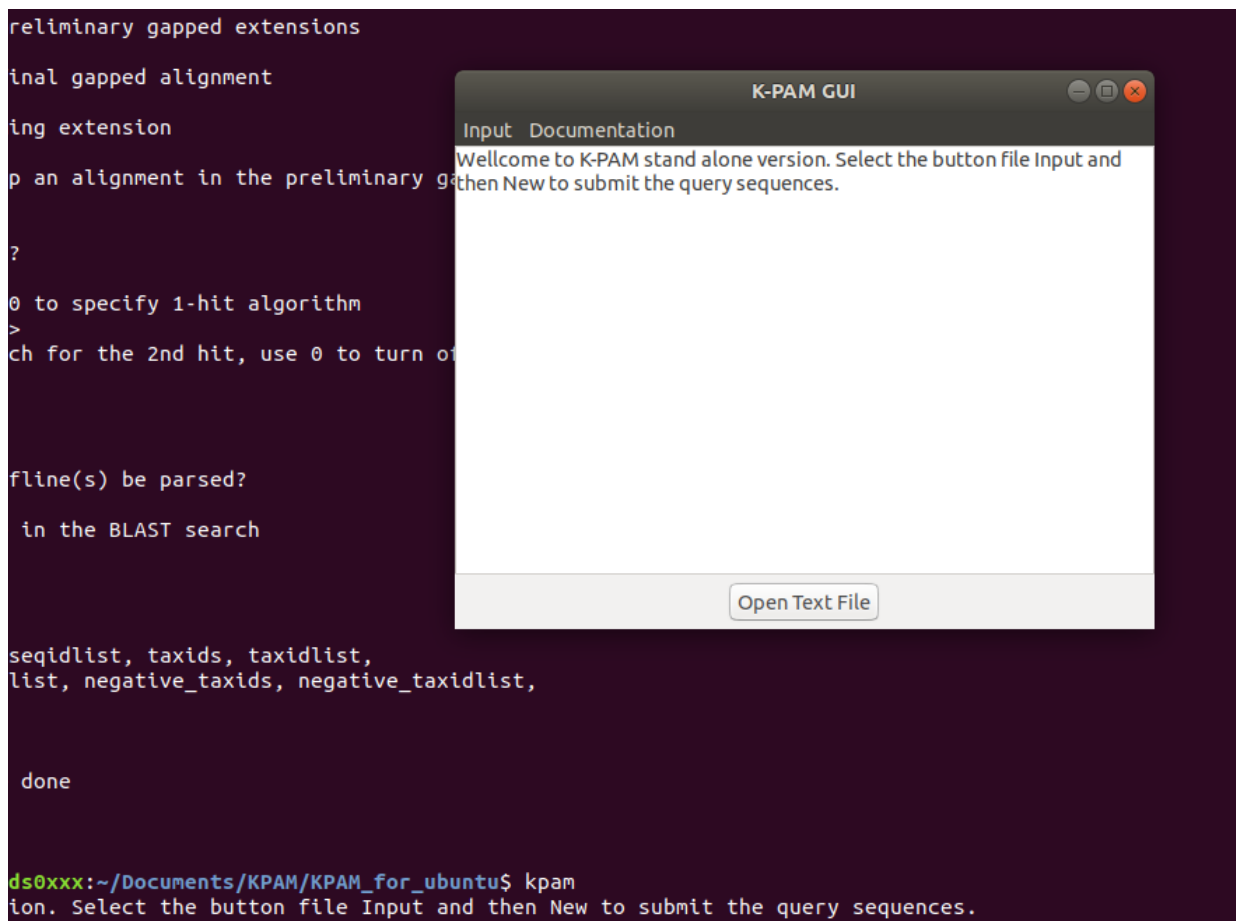
```
echo "All the required installations are done"
echo "*****"
echo "Type kpam to get the API"
echo "*****"
```



```
* Incompatible with:  gilist, seqidlist, taxids, taxidlist,
negative_gilist, negative_seqidlist, negative_taxids, negative_taxidlist,
subject_loc, num_threads

blast is successfully installed
All the required installations are done
*****
Type kpam to get the API
*****
s0xxx:~/Documents/KPAM/KPAM_for_ubuntu$
```

14. Now, just type “kpam” in the terminal from any location, the GUI window will pop-up. Submit your query sequences to predict serotype or to identify virulence of the strains corresponding to submitted query sequences.



```
reliminary gapped extensions
final gapped alignment
ing extension
p an alignment in the preliminary g
?
0 to specify 1-hit algorithm
>
ch for the 2nd hit, use 0 to turn of
fline(s) be parsed?
in the BLAST search
seqidlist, taxids, taxidlist,
list, negative_taxids, negative_taxidlist,
done
ds0xxx:~/Documents/KPAM/KPAM_for_ubuntu$ kpam
ion. Select the button file Input and then New to submit the query sequences.
```

The K-PAM GUI window is titled "K-PAM GUI" and contains the following text:

```
Input Documentation
Wellcome to K-PAM stand alone version. Select the button file Input and
then New to submit the query sequences.
Open Text File
```