#### CREATION OF DEB EXECUTABLE IN LINUX

### **CREATION OF DEB FILE (PY to DEB)**

- It is possible to convert the python file into executable debian package file (deb) in linux
- The package manager dpkg is used to convert python file into deb file in the debian based linux OS like Debian, ubuntu, mint, kali, etc,...

#### **REQUIREMENTS**

- Python Script (.py)
- Debian Based Linux Distros

### **DEB (Software Package)**

- It stands for Debian
- It is similar to windows executable files like .exe, .msi
- It is called as debian software package file used by the debian linux distribution and its variants like ubuntu, kali, mint, etc,...
- DEB files are mainly used to install or update linux / unix applications
- Each DEB file is a standard unix archive file which contains two .tar files
  - 1. One for software installer control information (control)
  - 2. Another for installable data (data).

#### dpkg command tool

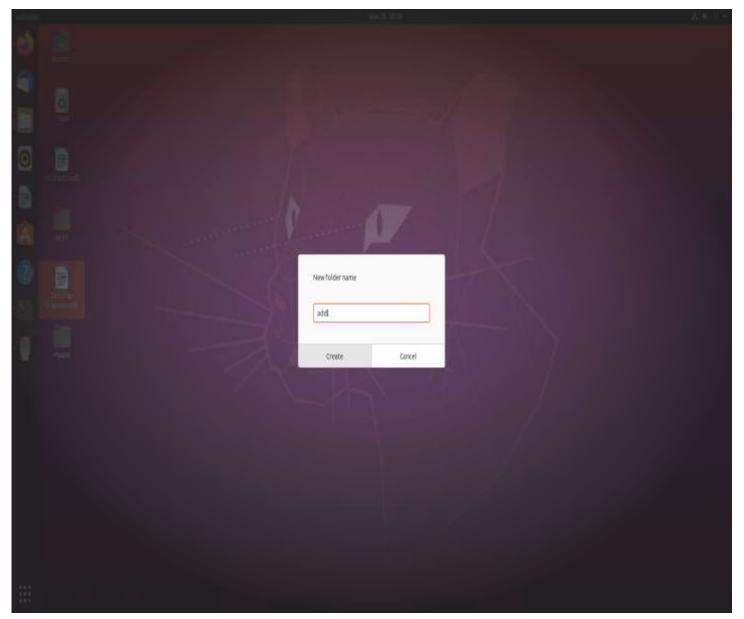
- Dpkg stands for Debian Package Manager
- It is a command line package manager used in DEB linux
- It is used to install and manipulate debian packages (softwares)

# I. CONVERSION OF PYTHON SCRIPT TO DEB FILE

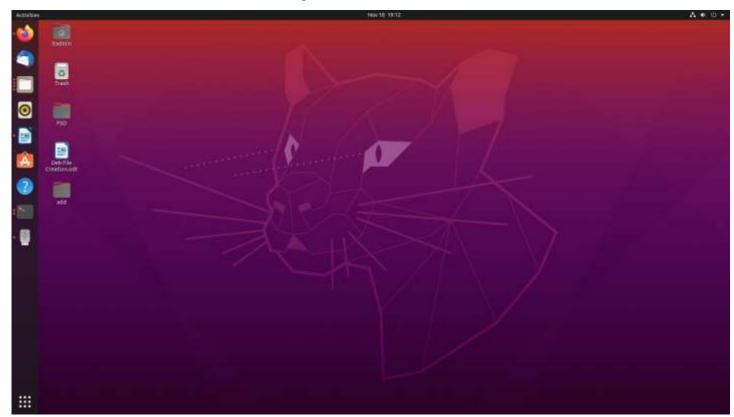
Input File : add.py (python-wxpython file)

Tested OS : Ubuntu Linux

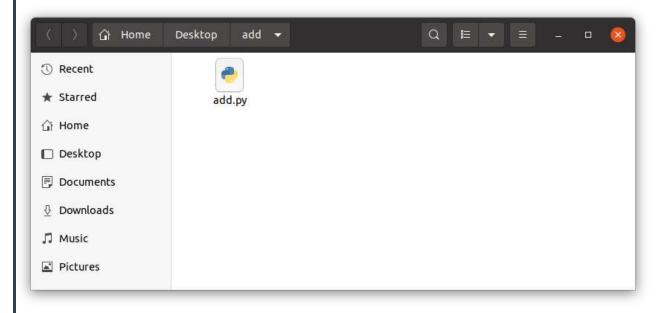
Step 1: Create a Folder on Desktop in Ubuntu OS



# **Folder Verification in Desktop**



# Contents of add directory

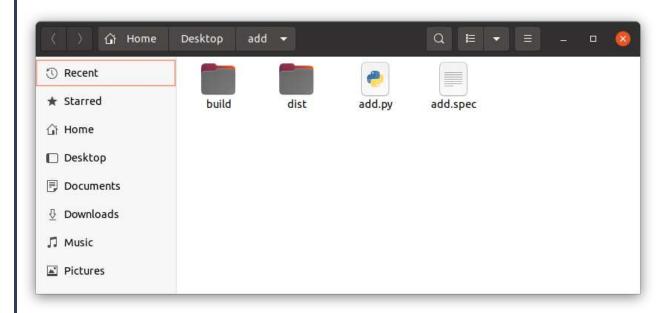


# Step 2: Navigate to the directory add and run the following command in terminal

pyinstaller -w filename.py pyinstaller -w add.py

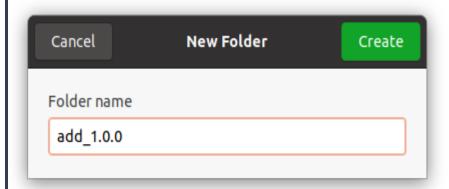
```
itadmin@PRLAB-6: -/Desktop/add
   tadmingPHLAB-6:-/Desktop$ cd add/
   todologPRLAE-62-/Desktop/ord$ pyinstaller -w add.py
1636 INFO: PyInstaller: 5.6.2
1636 IMFO: Python: 3.8.18
1642 INFO: Platform: Linux-5.15.6-52-generic-x86_64-with-glibc2.29
1642 INFD: wrote /home/ttadmin/Desktop/add/add.spec
1644 INFO: UPX is not available.
1645 INFO: Extending PYTHOMPATH with paths
  '/home/itadmin/Desktop/add']
1949 INFO: checking Analysis
1949 INFO: Building Analysis because Analysis-00.toc is non existent
1949 INFO: Initializing module dependency graph...
1971 IMFO: Caching module graph hooks...
1979 IMFO: Analyzing base_library.zip ..
2653 TMFO: Loading module hook 'hook-heapo.py' from '/home/itadmin/.local/lib/python3.8/site-packages/PyInstaller/hooks'...
2712 IMFO: Loading module hook 'hook-encodings.py' from '/home/itadmin/.local/lib/python3.8/site-packages/PyInstaller/hooks'...
1373 IMFO: Loading module hook 'hook-pickle.py' from '/home/itadmin/.local/lib/python3.8/site-packages/PyInstaller/hooks'...
4812 IMFO: Caching module dependency graph...
4089 INFO: running Analysis Analysis-00.toc
4164 INFO: Analyzing /home/itadmin/Desktop/add/add.py
4251 IMPD: Processing module hooks...
4257 INFO: Looking for ctypes DLLs
4259 INFO: Analyzing run-time hooks ...
4266 INFO: Including run-time hook '/home/itadmin/.local/lib/python3.8/site-packages/PyInstaller/hooks/rthooks/pyi_rth_subprocess.py'
4266 INFO: Including run-time hook '/home/itadmin/.local/lib/python3.8/site-packages/PyInstaller/hooks/rthooks/pyi_rth_inspect.py'
4261 INFO: Including run-time hook '/home/itadmin/.local/lib/python3.8/site-packages/PyInstaller/hooks/rthooks/pyi_rth_pkgutil.py'
4264 INFO: Looking for dynamic libraries
4685 INFO: Looking for eggs
4685 INFO: Python library not in binary dependencies. Doing additional searching...
4692 INFO: Using Python library /lib/x86_64-linux-gnu/libpython3.8.so.1.8
4693 INFO: Warnings written to /home/itadmin/Desktop/add/bulld/add/warn-add.txt
4781 INFO: Graph cross-reference written to /home/itadmin/Desktop/add/bulld/add/wref-add.html
4767 INFO: checking PYZ
4787 INFO: Building PYZ because PYZ-00.toc is non existent
4767 INFD: Building PYZ (ZiihArchive) /home/itadmin/Desktop/add/build/add/PYZ-86.pyz
4852 INFD: Building PYZ (ZiihArchive) /home/itadmin/Desktop/add/build/add/PYZ-86.pyz completed successfully.
4853 IMFD: checking PKG
4853 INFO: Building PKG because PKG-88.toc is non existent
4853 INFO: Building PKG (CArchive) add.pkg
4864 INFO: Building PKG (Carchive) add.pkg completed successfully.
4864 INFO: Bootloader /home/itadmin/.local/lib/python3.8/site-packages/PyInstaller/bootloader/Linux-64bit-intel/run
4864 INFO: checking EXE
4864 IMFD: Building EXE because EXE-60.toc is non existent
4864 INFO: Building EXE from EXE-08.toc
4864 INFO: Copying bootloader EXE to /home/itadmin/Desktop/add/auild/add/add
4864 INFO: Appending FKG archive to custom ELF section in EXE
4867 INFO: Building EXE from EXE-80.toc completed successfully
4868 IMFO: checking COLLECT
4868 INFO: Building COLLECT because COLLECT-00.toc is non existent
4868 INFO: Building COLLECT COLLECT-00.toc
4875 IMFO: Building COLLECT COLLECT-86.toc completed successfully.
htm/stagPEL88-62-/Deshtop/medS
```

 Executable (.exe) file will be created in the dist folder after the execution of the above command Contents of directory add after the execution of above command.

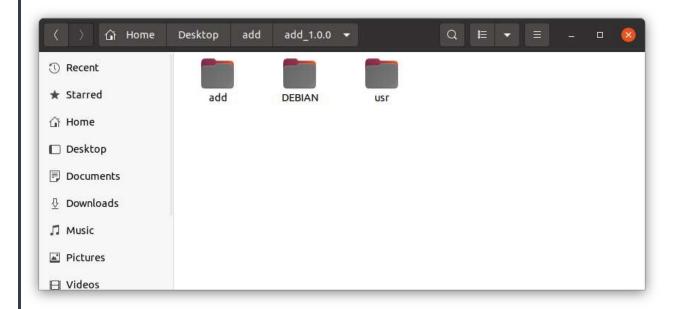


# Step 3: Create the following directories in the current directory "add"

- add\_1.0.0/DEBIAN
- add\_1.0.0/add
- add\_1.0.0/usr/share/applications



# Contents of directory add\_1.0.0



# Step 4: Create a new text file add\_1.0.0/DEBIAN/control and add the following contents into it

# **Syntax**

Package: my-app

Version: 1.0.0

Architecture: all

Maintainer: [Your name]

Copyright: [year] [Your name]

License: MIT

Homepage: [homepage url]

Description: My deb package.

# **Example: control text file**

Package: add

Version: 1.0.0

Architecture: all

Maintainer: MIT

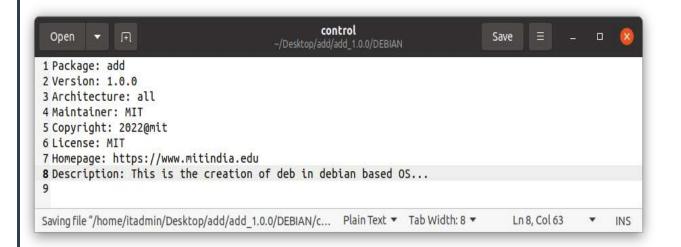
Copyright: 2022@mit

License: MIT

Homepage: https://www.mitindia.edu

Description: This is the creation of deb in debian based OS...

#### **Screenshot**



# Step 5: Create a new file add\_1.0.0/usr/share/applications/add.desktop and include the following contents into it

## **Syntax**

[Desktop Entry]

Type=Application

Exec=Folder Path

Hidden=false

NoDisplay=false

Name=App Name

Comment=Description about application / software.

### **Example**

[Desktop Entry]

Type=Application

Exec=/add/add

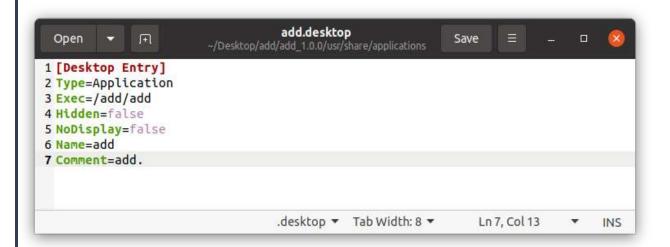
Hidden=false

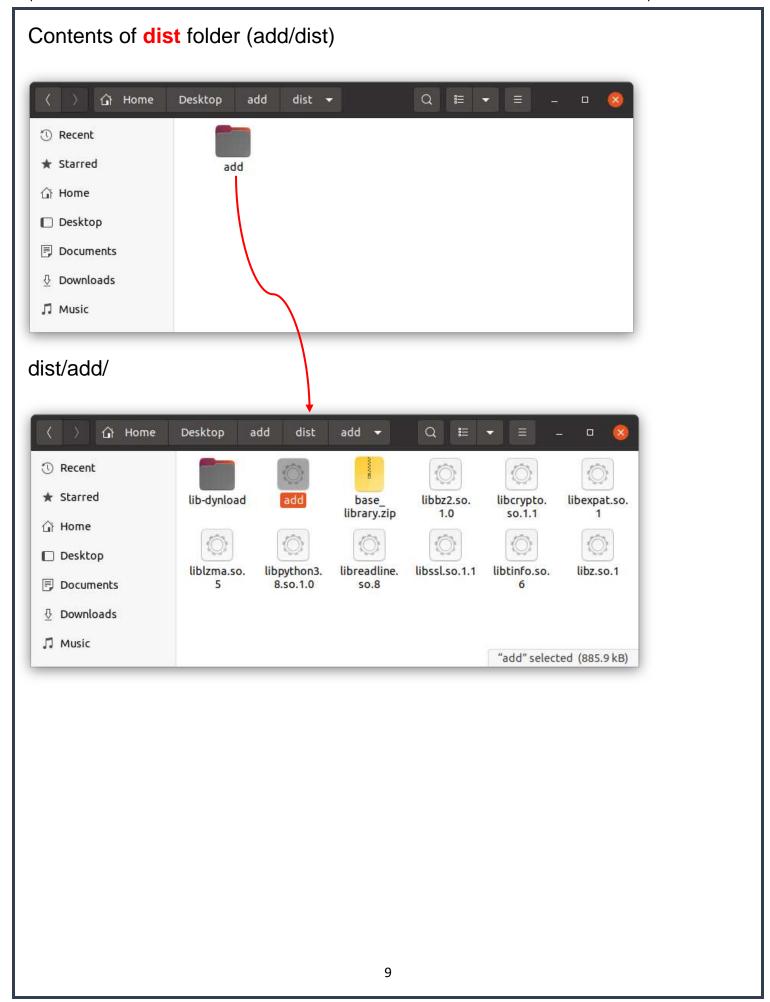
NoDisplay=false

Name=add

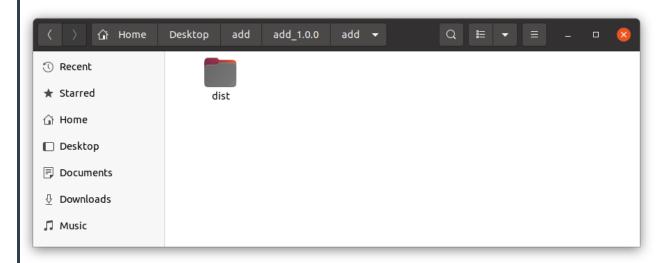
Comment=add.

### **Screenshot**





# Step 6: Copy all files and directories from add/dist to add\_1.0.0/add



# Step 7: Navigate to the parent directory of add\_1.0.0 and enter the following command like below

### **Syntax**

dpkg-deb --build <application folder>

# **Example**

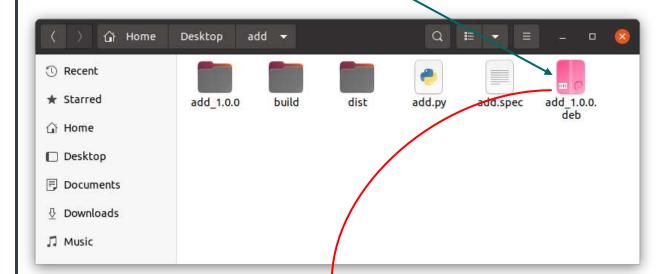
dpkg-deb --build add\_1.0.0

#### **Screenshot**



# Step 8: Wait for it to complete and check the .deb package named add\_1.0.0.deb in the directory input add

# VERIFICATION OF NEWLY CREATED .DEB EXECUTABLE FILE IN THE DIRECTORY ADD



## PROPERTIES OF NEWLY CREATED .DEB EXECUTABLE FILE

