

# COURSE: Software Tools and Techniques for AI

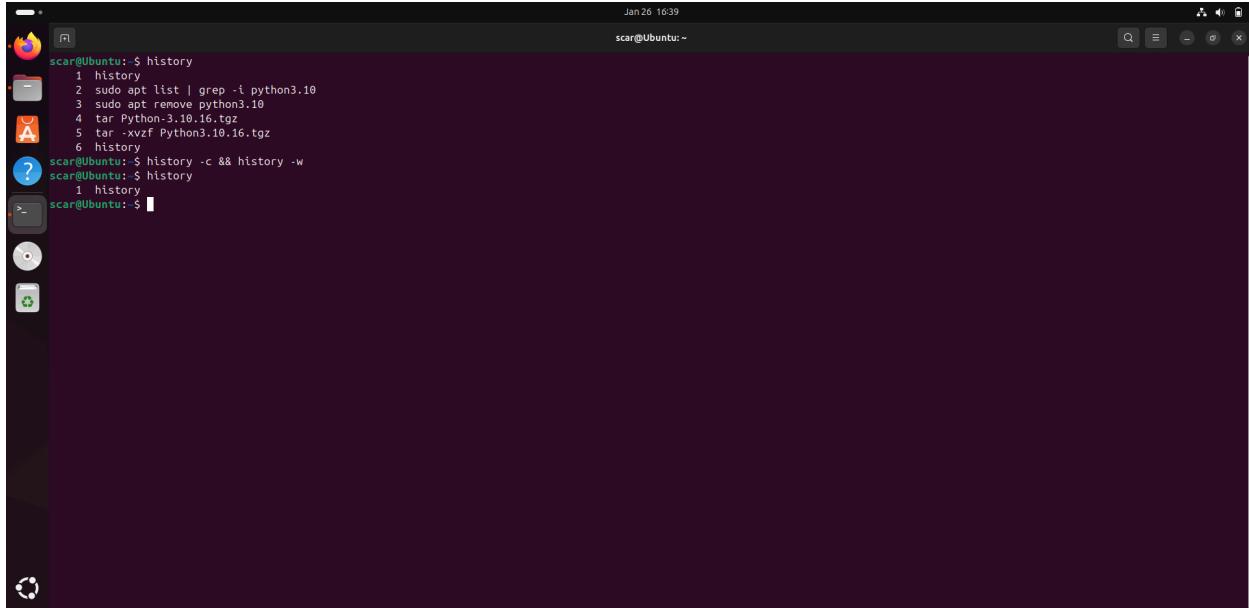
## LAB 03 Assignment

### Group 08

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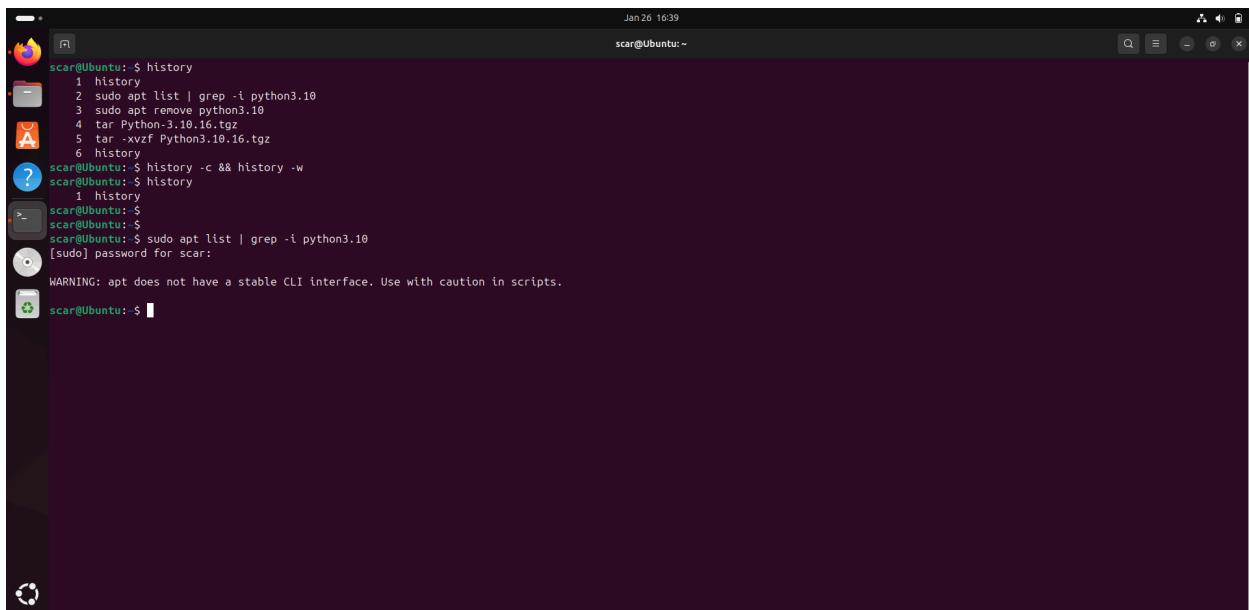
#### Task 1: Environment Setup



```
scar@Ubuntu:~$ history
1 history
2 sudo apt list | grep -i python3.10
3 sudo apt remove python3.10
4 tar Python-3.10.16.tgz
5 tar -xvf Python3.10.16.tgz
6 history
scar@Ubuntu:~$ history -c && history -w
scar@Ubuntu:~$ history
1 history
scar@Ubuntu:~$
```

using history command to view previous history

Using commands to clear the history.

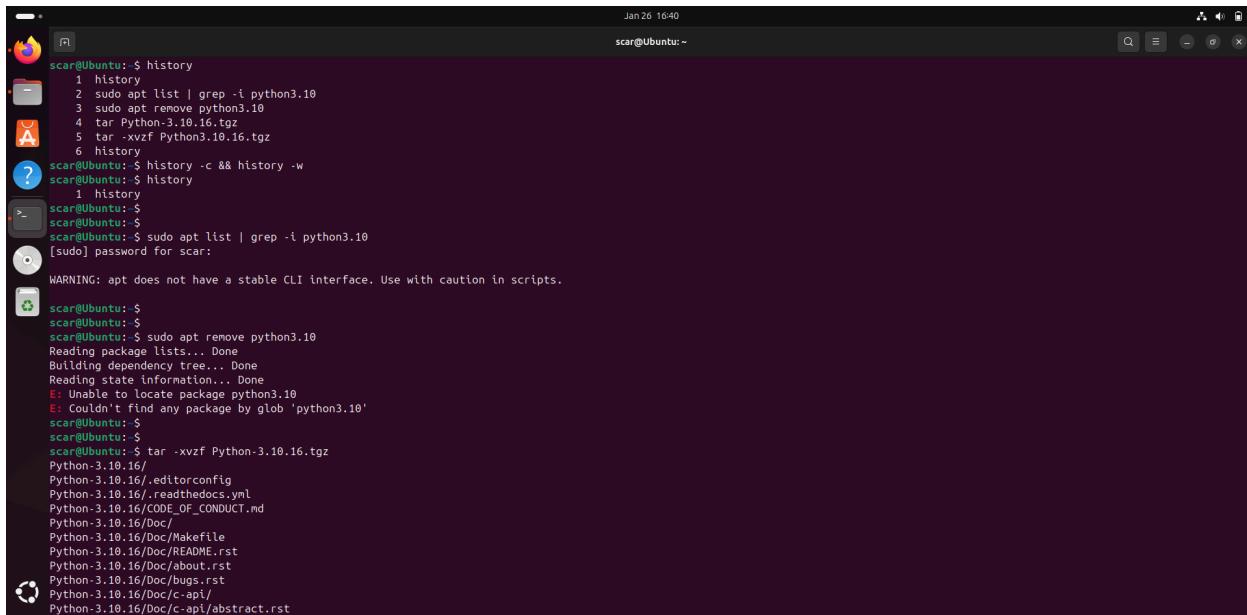


```
scar@Ubuntu:~$ history
1 history
2 sudo apt list | grep -i python3.10
3 sudo apt remove python3.10
4 tar Python-3.10.16.tgz
5 tar -xvf Python3.10.16.tgz
6 history
scar@Ubuntu:~$ history -c && history -w
scar@Ubuntu:~$ history
1 history
scar@Ubuntu:~$ sudo apt list | grep -i python3.10
[sudo] password for scar:
WARNING: apt does not have a stable CLI interface. Use with caution in scripts.
scar@Ubuntu:~$
```

checking if python3.10 is available, removing if it is available.

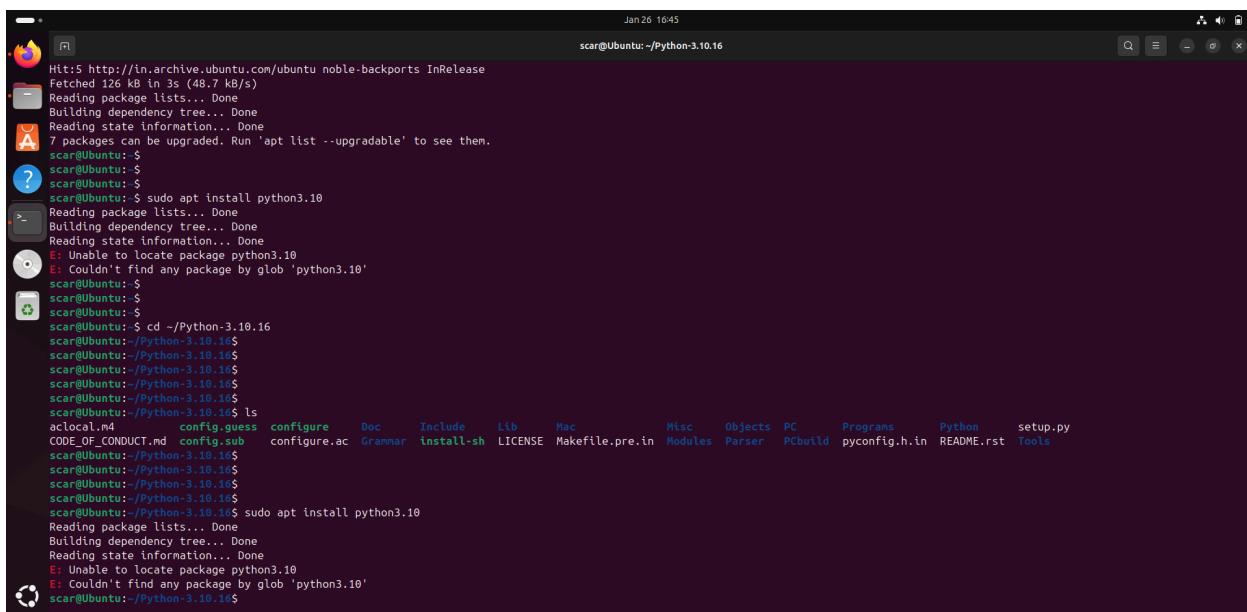
## Downloading and installing Python-3.10.16

### Using tar to unzip model Python-3.10.16



```
scar@Ubuntu:~$ history
1 history
2 sudo apt list | grep -i python3.10
3 sudo apt remove python3.10
4 tar Python-3.10.16.tgz
5 tar -xvf Python3.10.16.tgz
6 history
scar@Ubuntu:~$ history -c && history -w
scar@Ubuntu:~$ history
1 history
scar@Ubuntu:~$ sudo apt list | grep -i python3.10
[sudo] password for scar:
WARNING: apt does not have a stable CLI interface. Use with caution in scripts.
scar@Ubuntu:~$ sudo apt remove python3.10
Reading package lists... Done
Building dependency tree... Done
Reading state information... Done
E: Unable to locate package python3.10
E: Couldn't find any package by glob 'python3.10'
scar@Ubuntu:~$ sudo apt remove python3.10
Reading package lists... Done
Building dependency tree... Done
Reading state information... Done
E: Unable to locate package python3.10
E: Couldn't find any package by glob 'python3.10'
scar@Ubuntu:~$ tar -xvf Python-3.10.16.tgz
Python-3.10.16/
Python-3.10.16/.editorconfig
Python-3.10.16/.readthedocs.yml
Python-3.10.16/CODE_OF_CONDUCT.md
Python-3.10.16/Doc/
Python-3.10.16/Doc/Makefile
Python-3.10.16/Doc/README.rst
Python-3.10.16/Doc/about.rst
Python-3.10.16/Doc/bugs.rst
Python-3.10.16/Doc/c-api/
Python-3.10.16/Doc/c-api/abstract.rst
```

e



```
scar@Ubuntu:~$ Hit:5 http://in.archive.ubuntu.com/ubuntu noble-backports InRelease
Fetched 126 kB in 3s (48.7 kB/s)
scar@Ubuntu:~$ Reading package lists... Done
Building dependency tree... Done
Reading state information... Done
7 packages can be upgraded. Run 'apt list --upgradable' to see them.
scar@Ubuntu:~$ scar@Ubuntu:~$ sudo apt install python3.10
Reading package lists... Done
Building dependency tree... Done
Reading state information... Done
E: Unable to locate package python3.10
E: Couldn't find any package by glob 'python3.10'
scar@Ubuntu:~$ scar@Ubuntu:~$ scar@Ubuntu:~$ sudo apt install python3.10
Reading package lists... Done
Building dependency tree... Done
Reading state information... Done
E: Unable to locate package python3.10
E: Couldn't find any package by glob 'python3.10'
scar@Ubuntu:~$ scar@Ubuntu:~$ scar@Ubuntu:~$ cd ~/Python-3.10.16
scar@Ubuntu:~/Python-3.10.16$ scar@Ubuntu:~/Python-3.10.16$ scar@Ubuntu:~/Python-3.10.16$ scar@Ubuntu:~/Python-3.10.16$ scar@Ubuntu:~/Python-3.10.16$ ls
aclocal.m4 config.guess configure Doc Include Lib Mac Misc Objects PC Programs Python setup.py
CODE_OF_CONDUCT.md config.sub configure.ac Grammar install-sh LICENSE Makefile.pre.in Modules Parser PCbuild pyconfig.h.in README.rst Tools
scar@Ubuntu:~/Python-3.10.16$ scar@Ubuntu:~/Python-3.10.16$ sudo apt install python3.10
Reading package lists... Done
Building dependency tree... Done
Reading state information... Done
E: Unable to locate package python3.10
E: Couldn't find any package by glob 'python3.10'
```

installing python 3.10.16 using sudo command

```
Jan 26 16:46
scar@Ubuntu:~/Python-3.10.16

Building dependency tree... Done
Reading state information... Done
7 packages can be upgraded. Run 'apt list --upgradable' to see them.
scar@Ubuntu:~$ 
scar@Ubuntu:~$ 
scar@Ubuntu:~$ sudo apt install python3.10
Reading package lists... Done
Building dependency tree... Done
Reading state information... Done
E: Unable to locate package python3.10
E: Couldn't find any package by glob 'python3.10'
scar@Ubuntu:~$ 
scar@Ubuntu:~$ 
scar@Ubuntu:~$ 
scar@Ubuntu:~$ cd ~/Python-3.10.16
scar@Ubuntu:~/Python-3.10.16$ 
scar@Ubuntu:~/Python-3.10.16$ 
scar@Ubuntu:~/Python-3.10.16$ 
scar@Ubuntu:~/Python-3.10.16$ 
scar@Ubuntu:~/Python-3.10.16$ 
scar@Ubuntu:~/Python-3.10.16$ ls
aclocal.m4  config.guess  configure  Doc  Include  Lib  Mac  Misc  Objects  PC  Programs  Python  setup.py
CODE_OF_CONDUCT.md  config.sub  configure.ac  Grammar  install-sh  LICENSE  Makefile.pre.in  Modules  Parser  PCbuild  pyconfig.h.in  README.rst  Tools
scar@Ubuntu:~/Python-3.10.16$ 
scar@Ubuntu:~/Python-3.10.16$ 
scar@Ubuntu:~/Python-3.10.16$ 
scar@Ubuntu:~/Python-3.10.16$ 
scar@Ubuntu:~/Python-3.10.16$ 
scar@Ubuntu:~/Python-3.10.16$ sudo apt install python3.10
Reading package lists... Done
Building dependency tree... Done
Reading state information... Done
E: Unable to locate package python3.10
E: Couldn't find any package by glob 'python3.10'
scar@Ubuntu:~/Python-3.10.16$ 
scar@Ubuntu:~/Python-3.10.16$ 
scar@Ubuntu:~/Python-3.10.16$ 
scar@Ubuntu:~/Python-3.10.16$ ./configure
```

```
Jan 26 16:49
scar@Ubuntu:~/Python-3.10.16

checking for shm_unlink... yes
checking for pkg-config... no
checking for openssl/ssl.h in /usr/local/ssl... no
checking for openssl/ssl.h in /usr/lib/ssl... no
checking for openssl/ssl.h in /usr/ssl... no
checking for openssl/ssl.h in /usr/pkg... no
checking for openssl/ssl.h in /usr/local... no
checking for openssl/ssl.h in /usr... yes
checking whether compiling and linking against OpenSSL works... yes
checking for --with-openssl-rpath...
checking whether OpenSSL provides required APIs... yes
checking for --with-ssl-default-suites... python
checking for --with-builtin-hashlib-hashes... md5,sha1,sha256,sha512,sha3,blake2
checking for --with-experimental-isolated-subinterpreters... no
checking for --with-static-ibpython... yes
checking for --disable-test-modules... no
configure: creating ./config.status
config.status: creating Makefile.pre
config.status: creating Misc/python.pc
config.status: creating Misc/python-embed.pc
config.status: creating Misc/python-config.sh
config.status: creating Modules/ld_so_aix
config.status: creating pyconfig.h
creating Modules/Setup.local
creating Makefile

If you want a release build with all stable optimizations active (PGO, etc),
please run ./configure --enable-optimizations

scar@Ubuntu:~/Python-3.10.16$ --enable-optimizations
--enable-optimizations: command not found
scar@Ubuntu:~/Python-3.10.16$ 
scar@Ubuntu:~/Python-3.10.16$ 
scar@Ubuntu:~/Python-3.10.16$ 
scar@Ubuntu:~/Python-3.10.16$ ./configure --enable-optimizations
```

```
Jan 26 16:51
scar@Ubuntu:~/Python-3.10.16

  checking for ensurepip... upgrade
  checking if the dirent structure of a d_type field... yes
  checking for the Linux getrandom() syscall... yes
  checking for the getrandom() function... yes
  checking for library containing shm_open... none required
  checking for sys/mman.h... (cached) yes
  checking for shm_open... yes
  checking for shm_unlink... yes
  checking for pkg-config... no
  checking for openssl/ssl.h in /usr/local/ssl... no
  checking for openssl/ssl.h in /usr/lib/ssl... no
  checking for openssl/ssl.h in /usr/ssl... no
  checking for openssl/ssl.h in /usr/pkg... no
  checking for openssl/ssl.h in /usr/local... no
  checking for openssl/ssl.h in /usr... yes
  checking whether compiling and linking against OpenSSL works... yes
  checking for --with-openssl-rpath...
  checking whether OpenSSL provides required APIs... yes
  checking for --with-ssl-default-suites... python
  checking for --with-builtin-hashlib-hashes... md5,sha1,sha256,sha512,sha3,blake2
  checking for --with-experimental-isolated-subinterpreters... no
  checking for --with-static-libpython... yes
  checking for --enable-test-modules... no
  configure: creating ./config.status
  config.status: creating Makefile.pre
  config.status: creating Misc/python.pc
  config.status: creating Misc/python-embed.pc
  config.status: creating Misc/python-config.sh
  config.status: creating Modules/ld_so_aix
  config.status: creating pyconfig.h
  config.status: pyconfig.h is unchanged
  creating Modules/Setup.local
  creating Makefile
scar@Ubuntu:~/Python-3.10.16$ 
scar@Ubuntu:~/Python-3.10.16$ 
scar@Ubuntu:~/Python-3.10.16$ 
scar@Ubuntu:~/Python-3.10.16$ 
scar@Ubuntu:~/Python-3.10.16$ make
```

```
Jan 26 17:01
scar@Ubuntu:~/Python-3.10.16

make[3]: Leaving directory '/home/scar/Python-3.10.16'
make[2]: Leaving directory '/home/scar/Python-3.10.16'
make[1]: Leaving directory '/home/scar/Python-3.10.16'
# Next, run the profile task to generate the profile information.
make run_profile_task
make[1]: Entering directory '/home/scar/Python-3.10.16'
./python -m test --ppg --timeout=1200 || true
0:00:00 load avg: 1.59 Run tests sequentially (timeout: 20 min)
0:00:00 load avg: 1.59 [ 1/44] test_array
0:00:01 load avg: 1.59 [ 2/44] test_base64
0:00:02 load avg: 1.59 [ 3/44] test_basicscil
0:00:03 load avg: 1.59 [ 4/44] test_binop
0:00:03 load avg: 1.59 [ 5/44] test_bisect
0:00:03 load avg: 1.59 [ 6/44] test_bytes
0:00:11 load avg: 1.58 [ 7/44] test_bz2
0:00:13 load avg: 1.58 [ 8/44] test_cmath
0:00:13 load avg: 1.58 [ 9/44] test_codecs
0:00:17 load avg: 1.46 [10/44] test_collections
0:00:20 load avg: 1.42 [11/44] test_complex
0:00:20 load avg: 1.42 [12/44] test_dataclasses
0:00:21 load avg: 1.42 [13/44] test_datetime
0:00:30 load avg: 1.28 [14/44] test_decimal
0:00:40 load avg: 1.23 [15/44] test_difflib
0:00:42 load avg: 1.23 [16/44] test_embed
0:00:55 load avg: 1.25 [17/44] test_float
0:00:56 load avg: 1.25 [18/44] test_fstring
0:00:58 load avg: 1.25 [19/44] test_functools
0:00:59 load avg: 1.23 [20/44] test_generators
0:01:00 load avg: 1.23 [21/44] test_hashlib
0:01:02 load avg: 1.23 [22/44] test_heapq
0:01:04 load avg: 1.23 [23/44] test_int
0:01:05 load avg: 1.29 [24/44] test_itertools
0:01:15 load avg: 1.25 [25/44] test_json
0:01:20 load avg: 1.31 [26/44] test_long
0:01:27 load avg: 1.28 [27/44] test_lzma
0:01:27 load avg: 1.28 [28/44] test_math -- test_lzma skipped
```

```

Jan 26 17:08
scar@Ubuntu:~/Python-3.10.16
```

gcc -fPIC -Wno-unused-result -Wsign-compare -DNDEBUG -g -fwrapv -O3 -Wall -fno-semantic-interposition -std=c99 -Wextra -Wno-unused-parameter -Wno-missing-field-initi  
alizers -Werror=implicit-function-declaration -fvisibility-hidden -fprofile-use -fprofile-correction -I./Include/internal -I/usr/include/x86\_64-linux-gnu -I./Include  
/x86\_64-linux-gnu -I/usr/local/include -I/home/scar/Python-3.10.16/include -I/home/scar/Python-3.10.16 -c /home/scar/Python-3.10.16/Modules/\_ctypes/stgdict.c -o build/temp.linux-x86\_64  
-3.10/home/scar/Python-3.10.16/Modules/\_ctypes/stgdict.o -DPY\_BUILD\_CORE\_MODULE -DHAVE\_FFI\_PREP\_CIF\_VAR=1 -DHAVE\_FFI\_PREP\_CLOSURE\_LOC=1 -DHAVE\_FFI\_CLOSURE\_ALLOC=1  
gcc -shared -fno-semantic-interposition build/temp.linux-x86\_64-3.10/home/scar/Python-3.10.16/Modules/\_ctypes/stgdict.o build/temp.linux-x86\_64-3.10/home/scar/Python-3.10.16/Modules/\_c  
types/callbacks.o build/temp.linux-x86\_64-3.10/home/scar/Python-3.10.16/Modules/\_ctypes/calproc.o build/temp.linux-x86\_64-3.10/home/scar/Python-3.10.16/Modules/\_ctypes/cfield.o build/  
temp.linux-x86\_64-3.10/home/scar/Python-3.10.16/Modules/\_ctypes/stgdict.o -L/usr/libt -lffi -ldl -o build/lib.linux-x86\_64-3.10/\_ctypes.cpython-310-x86  
\_64-linux-gnu.so

The necessary bits to build these optional modules were not found:  
\_dbm \_gdbm \_lzma  
\_tkinter \_uuid \_nis

To find the necessary bits, look in setup.py in detect\_modules() for the module's name.

The following modules found by detect\_modules() in setup.py, have been  
built by the Makefile instead, as configured by the Setup files:  
\_abc \_pwd \_time

running build\_scripts  
copying and adjusting /home/scar/Python-3.10.16/Tools/scripts/pydoc3 -> build/scripts-3.10  
copying and adjusting /home/scar/Python-3.10.16/Tools/scripts/idle3 -> build/scripts-3.10  
copying and adjusting /home/scar/Python-3.10.16/Tools/scripts/tk3 -> build/scripts-3.10  
changing mode of build/scripts-3.10/pydoc3 from 664 to 775  
changing mode of build/scripts-3.10/tk3 from 664 to 775  
renaming build/scripts-3.10/pydoc3 to build/scripts-3.10/pydoc3.10  
renaming build/scripts-3.10/tk3 to build/scripts-3.10/tk3.10  
renaming build/scripts-3.10/2tk3 to build/scripts-3.10/2tk3-3.10  
gcc -c -Wno-unused-result -Wsign-compare -DNDEBUG -g -fwrapv -O3 -Wall -fno-semantic-interposition -std=c99 -Wextra -Wno-unused-parameter -Wno-missing-field-initi  
alizers -Werror=implicit-function-declaration -fvisibility-hidden -fprofile-use -fprofile-correction -I./Include/internal -I. -I./Include -DPY\_BUILD\_CORE -o Programs/\_testembed.c  
/Programs/\_testembed.c  
gcc -fno-semantic-interposition -Xlinker -export-dynamic -o Programs/\_testembed Programs/\_testembed.o libpython3.10.a -lcrypt -ldl -lm  
make[1]: Leaving directory '/home/scar/Python-3.10.16'  
scar@Ubuntu:~/Python-3.10.16\$  
scar@Ubuntu:~/Python-3.10.16\$  
scar@Ubuntu:~/Python-3.10.16\$  
scar@Ubuntu:~/Python-3.10.16\$

```

Jan 26 17:13
scar@Ubuntu:~/Python-3.10.16
```

temp.linux-x86\_64-3.10/home/scar/Python-3.10.16/Modules/\_ctypes/stgdict.o -L/usr/lib/x86\_64-linux-gnu -L/usr/local/lib -lffi -ldl -o build/lib.linux-x86\_64-3.10/\_ctypes.cpython-310-x86  
\_64-linux-gnu.so

The necessary bits to build these optional modules were not found:  
\_dbm \_gdbm \_lzma  
\_tkinter \_uuid \_nis

To find the necessary bits, look in setup.py in detect\_modules() for the module's name.

The following modules found by detect\_modules() in setup.py, have been  
built by the Makefile instead, as configured by the Setup files:  
\_abc \_pwd \_time

running build\_scripts  
copying and adjusting /home/scar/Python-3.10.16/Tools/scripts/pydoc3 -> build/scripts-3.10  
copying and adjusting /home/scar/Python-3.10.16/Tools/scripts/idle3 -> build/scripts-3.10  
copying and adjusting /home/scar/Python-3.10.16/Tools/scripts/tk3 -> build/scripts-3.10  
changing mode of build/scripts-3.10/pydoc3 from 664 to 775  
changing mode of build/scripts-3.10/tk3 from 664 to 775  
renaming build/scripts-3.10/pydoc3 to build/scripts-3.10/pydoc3.10  
renaming build/scripts-3.10/tk3 to build/scripts-3.10/tk3.10  
renaming build/scripts-3.10/2tk3 to build/scripts-3.10/2tk3-3.10  
gcc -c -Wno-unused-result -Wsign-compare -DNDEBUG -g -fwrapv -O3 -Wall -fno-semantic-interposition -std=c99 -Wextra -Wno-unused-parameter -Wno-missing-field-initi  
alizers -Werror=implicit-function-declaration -fvisibility-hidden -fprofile-use -fprofile-correction -I./Include/internal -I. -I./Include -DPY\_BUILD\_CORE -o Programs/\_testembed.c  
/Programs/\_testembed.c  
gcc -fno-semantic-interposition -Xlinker -export-dynamic -o Programs/\_testembed Programs/\_testembed.o libpython3.10.a -lcrypt -ldl -lm  
make[1]: Leaving directory '/home/scar/Python-3.10.16'  
scar@Ubuntu:~/Python-3.10.16\$  
scar@Ubuntu:~/Python-3.10.16\$  
scar@Ubuntu:~/Python-3.10.16\$  
scar@Ubuntu:~/Python-3.10.16\$ sudo apt install  
[sudo] password for scar:  
Reading package lists... Done  
Building dependency tree... Done  
Reading state information... Done  
0 upgraded, 0 newly installed, 0 to remove and 7 not upgraded.  
scar@Ubuntu:~/Python-3.10.16\$

checking the python3.10 version installed

```
Jan 26 17:15
scar@Ubuntu:~/Python-3.10.16$ Reading state information... Done
0 upgraded, 0 newly installed, 0 to remove and 7 not upgraded.
scar@Ubuntu:~/Python-3.10.16$ scar@Ubuntu:~/Python-3.10.16$ scar@Ubuntu:~/Python-3.10.16$ scar@Ubuntu:~/Python-3.10.16$ python3.10 --version
Python 3.10.16
scar@Ubuntu:~/Python-3.10.16$ scar@Ubuntu:~/Python-3.10.16$ scar@Ubuntu:~/Python-3.10.16$ scar@Ubuntu:~/Python-3.10.16$ python3.10 -m ensurepip --upgrade
Traceback (most recent call last):
  File "<frozen zipimport>", line 577, in _get_decompress_func
    ModuleNotFoundError: module named 'zlib'

During handling of the above exception, another exception occurred:

Traceback (most recent call last):
  File "<frozen zipimport>", line 625, in _get_data
    File "<frozen zipimport>", line 588, in _get_decompress_func
      zipimport.ZipImportError: can't decompress data; zlib not available

During handling of the above exception, another exception occurred:

Traceback (most recent call last):
  File "<string>", line 6, in <module>
    File "/usr/local/lib/python3.10/runpy.py", line 220, in run_module
      mod_name, mod_spec, code = _get_module_details(mod_name)
    File "/usr/local/lib/python3.10/runpy.py", line 146, in _get_module_details
      return _get_module_details(pkg_main_name, error)
    File "/usr/local/lib/python3.10/runpy.py", line 110, in _get_module_details
      _import_(__pkg_name)
    File "<frozen zipimport>", line 196, in get_code
    File "<frozen zipimport>", line 759, in _get_module_code
      File "<frozen zipimport>", line 627, in _get_data
      zipimport.ZipImportError: can't decompress data; zlib not available
Traceback (most recent call last):
  File "/usr/local/lib/python3.10/runpy.py", line 196, in _run_module_as_main
    return _run_code(code, main_globals, None)

scar@Ubuntu:~/Python-3.10.16$
```

checking if pip is installed.

Error faced.

Zlib module is unavailable which is used to unzip the pip.py file

```
Jan 26 17:16
scar@Ubuntu:~$ cd
scar@Ubuntu:~$ sudo apt update
Hit:1 https://download.docker.com/linux/ubuntu noble InRelease
Hit:2 http://security.ubuntu.com/ubuntu noble-security InRelease
Hit:3 http://in.archive.ubuntu.com/ubuntu noble InRelease
Get:4 http://in.archive.ubuntu.com/ubuntu noble-updates InRelease [126 kB]
Get:5 http://in.archive.ubuntu.com/ubuntu noble-backports InRelease [126 kB]
Get:6 http://in.archive.ubuntu.com/ubuntu noble-updates/main amd64 Components [151 kB]
Get:7 http://in.archive.ubuntu.com/ubuntu noble-updates/restricted amd64 Components [232 kB]
Get:8 http://in.archive.ubuntu.com/ubuntu noble-updates/universe amd64 Components [312 kB]
Get:9 http://in.archive.ubuntu.com/ubuntu noble-updates/multiverse amd64 Components [940 kB]
Get:10 http://security.ubuntu.com/ubuntu noble-security/main amd64 Components [7,244 kB]
Get:11 http://security.ubuntu.com/ubuntu noble-security/restricted amd64 Components [212 kB]
Get:12 http://in.archive.ubuntu.com/ubuntu noble-backports/main amd64 Components [208 kB]
Get:13 http://security.ubuntu.com/ubuntu noble-security/universe amd64 Components [52,0 kB]
Get:14 http://security.ubuntu.com/ubuntu noble-security/multiverse amd64 Components [212 kB]
Get:15 http://in.archive.ubuntu.com/ubuntu noble-backports/restricted amd64 Components [212 kB]
Get:16 http://in.archive.ubuntu.com/ubuntu noble-backports/universe amd64 Components [17,6 kB]
Get:17 http://in.archive.ubuntu.com/ubuntu noble-backports/multiverse amd64 Components [212 kB]
Fetched 921 kB in 4s (236 kB/s)
Reading package lists... Done
Building dependency tree... Done
Reading state information... Done
7 packages can be upgraded. Run 'apt list --upgradable' to see them.
scar@Ubuntu:~$ scar@Ubuntu:~$ scar@Ubuntu:~$ scar@Ubuntu:~$ sudo apt install -y zlib1g-dev
Reading package lists... Done
Building dependency tree... Done
Reading state information... Done
zlib1g-dev is already the newest version (1:1.3.ds-3.1ubuntu2.1).
0 upgraded, 0 newly installed, 0 to remove and 7 not upgraded.
scar@Ubuntu:~$ scar@Ubuntu:~$ scar@Ubuntu:~$ scar@Ubuntu:~$
```

installing the zlib module

```
Jan 26 17:18
scar@Ubuntu:~/Python-3.10.16
Get:16 http://in.archive.ubuntu.com/ubuntu noble-backports/universe amd64 Components [17.6 kB]
Get:17 http://in.archive.ubuntu.com/ubuntu noble-backports/multiverse amd64 Components [212 B]
Fetched 921 kB in 4s (236 kB/s)
Reading package lists... Done
Building dependency tree... Done
Reading state information... Done
7 packages can be upgraded. Run 'apt list --upgradable' to see them.
scar@Ubuntu:~$ scar@Ubuntu:~$ scar@Ubuntu:~$ scar@Ubuntu:~$ scar@Ubuntu:~$ sudo apt install -y zlib1g-dev
Reading package lists... Done
Building dependency tree... Done
Reading state information... Done
zlib1g-dev is already the newest version (1:1.3.dfsg-3.1ubuntu2.1).
0 upgraded, 0 newly installed, 0 to remove and 7 not upgraded.
scar@Ubuntu:~$ scar@Ubuntu:~$ scar@Ubuntu:~$ scar@Ubuntu:~$ scar@Ubuntu:~$ cd ~/Python-3.10.16
scar@Ubuntu:~/Python-3.10.16$ scar@Ubuntu:~/Python-3.10.16$ scar@Ubuntu:~/Python-3.10.16$ ./configure --with-zlib=/user/include
configure: WARNING: unrecognized options: --with-zlib
checking build system type... x86_64-pc-linux-gnu
checking host system type... x86_64-pc-linux-gnu
checking for python3.10... python3.10
checking for --enable-universalsdk... no
checking for --with-universal-archs... no
checking for MACHDEP... "linux"
checking for gcc... gcc
checking whether the C compiler works... yes
checking for C compiler default output file name... a.out
checking for suffix of executables...
checking whether we are cross compiling... no
checking for suffix of object files... o
checking whether we are using the GNU C compiler... yes
```

## reinstalling python3.10.16

```
Jan 26 17:20
scar@Ubuntu:~/Python-3.10.16
checking for the getrandom() function... yes
checking for library containing shn_open... none required
checking for sys/mman.h... (cached) yes
checking for shn_open... yes
checking for pkg-config... no
checking for openssl/ssl.h in /usr/local/ssl... no
checking for openssl/ssl.h in /usr/lib/ssl... no
checking for openssl/ssl.h in /usr/ssl... no
checking for openssl/ssl.h in /usr/pkg... no
checking for openssl/ssl.h in /usr/local... no
checking for openssl/ssl.h in /usr... yes
checking whether compiling and linking against OpenSSL works... yes
checking for --with-openssl-rpath.
checking whether OpenSSL provides required APIs... yes
checking for --with-ssl-default-suites... python
checking for --with-builtin-hashlib-hashes... md5,sha1,sha256,sha512,sha3,blake2
checking for --with-experimental-isolated-subinterpreters... no
checking for --with-static-libpython... yes
checking for --disable-test-modules... no
configure: creating ./config.status
config.status: creating Makefile.pre
config.status: creating Misc/python.pc
config.status: creating Misc/python-embed.pc
config.status: creating Misc/python-config.sh
config.status: creating Modules/ld_so_aix
config.status: creating pyconfig.h
config.status: pyconfig.h is unchanged
configure: WARNING: unrecognized options: --with-zlib
creating Modules/Setup.local
creating Makefile

If you want a release build with all stable optimizations active (PGO, etc),
please run ./configure --enable-optimizations

scar@Ubuntu:~/Python-3.10.16$ ./configure --enable-optimizations
```

```
Jan 26 17:22
scar@Ubuntu:~/Python-3.10.16$ ./configure
  checking for builtin __atomic_load_n and __atomic_store_n functions... yes
  checking for ensurepip... upgrade
  checking if the dirent structure of a d_type field... yes
  checking for the linux getrandom() syscall... yes
  checking for the getrandom() function... yes
  checking for library containing shm_open... none required
  checking for sys/mman.h... (cached) yes
  checking for shm_open... yes
  checking for shm_unlink... yes
  checking for pkg-config... no
  checking for openssl/ssl.h in /usr/local/ssl... no
  checking for openssl/ssl.h in /usr/lib/ssl... no
  checking for openssl/ssl.h in /usr/ssl... no
  checking for openssl/ssl.h in /usr/pkg... no
  checking for openssl/ssl.h in /usr/local... no
  checking for openssl/ssl.h in /usr... yes
  checking whether compiling and linking against OpenSSL works... yes
  checking for --with-openssl-rpath...
  checking whether OpenSSL provides required APIs... yes
  checking for --with-ssl-default-suites... python
  checking for --with-builtin-hashlib-hashes... md5,sha1,sha256,sha512,blake2
  checking for --with-experimental-isolated-subinterpreters... no
  checking for --with-static-libpython... yes
  checking for --enable-test-modules... no
  configure: creating ./config.status
  config.status: creating Misc/python.pc
  config.status: creating Misc/python-embed.pc
  config.status: creating Misc/python-config.sh
  config.status: creating Modules/ld_so_aix
  config.status: creating pyconfig.h
  config.status: pyconfig.h is unchanged
  creating Modules/Setup.local
  creating Makefile
scar@Ubuntu:~/Python-3.10.16$ 
scar@Ubuntu:~/Python-3.10.16$ 
scar@Ubuntu:~/Python-3.10.16$ 
scar@Ubuntu:~/Python-3.10.16$ make
```

```
Jan 26 17:30
scar@Ubuntu:~$ 
scar@Ubuntu:~$ 
scar@Ubuntu:~$ 
scar@Ubuntu:~$ 
scar@Ubuntu:~$ sudo apt install zlib1g-dev
Reading package lists... Done
Building dependency tree... Done
Reading state information... Done
zlib1g-dev is already the newest version (1:1.3.12-1ubuntu2.1).
0 upgraded, 0 newly installed, 0 to remove and 7 not upgraded.
scar@Ubuntu:~$ 
scar@Ubuntu:~$ 
scar@Ubuntu:~$ 
scar@Ubuntu:~$ 
scar@Ubuntu:~$ wget https://www.python.org/ftp/python/3.10.16/Python-3.10.16.tgz
--2025-01-26 17:29:37-- https://www.python.org/ftp/python/3.10.16/Python-3.10.16.tgz
Resolving www.python.org (www.python.org)... 151.101.128.223, 151.101.192.223, 151.101.0.223, ...
Connecting to www.python.org (www.python.org)|151.101.128.223|:443... connected.
HTTP request sent, awaiting response... 200 OK
Length: 25942994 (25M) [application/octet-stream]
Saving to: 'Python-3.10.16.tgz.1'

Python-3.10.16.tgz.1 100%[=====] 24.74M 5.03MB/s in 4.9s
2025-01-26 17:29:42 (5.08 MB/s) - 'Python-3.10.16.tgz.1' saved [25942994/25942994]

scar@Ubuntu:~$ 
scar@Ubuntu:~$ 
scar@Ubuntu:~$ 
scar@Ubuntu:~$ tar -xvf Python-3.10.16.tgz
Python-3.10.16/
Python-3.10.16/.editorconfig
Python-3.10.16/.readthedocs.yml
Python-3.10.16/CODE_OF_CONDUCT.md
Python-3.10.16/Doc/
Python-3.10.16/Doc/Makefile
Python-3.10.16/Doc/README.rst
Python-3.10.16/Doc/about.rst
Python-3.10.16/Doc/bugs.rst
```

```
Jan 26 17:31
scar@Ubuntu:~/Python-3.10.16

Python-3.10.16/Tools/unicode/genmap_schinese.py
Python-3.10.16/Tools/unicode/genmap_support.py
Python-3.10.16/Tools/unicode/genmvincodec.py
Python-3.10.16/Tools/unicode/genmvincodecs.bat
Python-3.10.16/Tools/unicode/listcodecs.py
Python-3.10.16/Tools/unicode/makeunicodecode.py
Python-3.10.16/Tools/unicode/mkstringprep.py
Python-3.10.16/Tools/unicode/python-mappings/
Python-3.10.16/Tools/unicode/python-mappings/CP1140.TXT
Python-3.10.16/Tools/unicode/python-mappings/CP273.TXT
Python-3.10.16/Tools/unicode/python-mappings/GB2312.TXT
Python-3.10.16/Tools/unicode/python-mappings/KOI8-U.TXT
Python-3.10.16/Tools/unicode/python-mappings/TIS-620.TXT
Python-3.10.16/Tools/unicode/python-mappings/difff
Python-3.10.16/Tools/unicode/python-mappings/difff_jisx0213-2000-std.txt.diff
Python-3.10.16/Tools/unicode/python-mappings/difff_jisx0213-2004-std.txt.diff
Python-3.10.16/Tools/unicode/python-mappings/gb-18030-2000.xml
Python-3.10.16/Tools/unicode/python-mappings/jisx0213-2004-std.txt
Python-3.10.16/Tools/unittestgui/
Python-3.10.16/Tools/unittestgui/README.txt
Python-3.10.16/Tools/unittestgui/unittestgui.py
Python-3.10.16/aclocal.m4
Python-3.10.16/config.guess
Python-3.10.16/config.sub
Python-3.10.16/configure
Python-3.10.16/configure.ac
Python-3.10.16/install-sh
Python-3.10.16/pyconfig.h.in
Python-3.10.16/setup.py
scar@Ubuntu:~$ scar@Ubuntu:~$ scar@Ubuntu:~$ scar@Ubuntu:~$ scar@Ubuntu:~$ cd ~/Python-3.10.16
scar@Ubuntu:~/Python-3.10.16$ scar@Ubuntu:~/Python-3.10.16$ scar@Ubuntu:~/Python-3.10.16$ scar@Ubuntu:~/Python-3.10.16$ scar@Ubuntu:~/Python-3.10.16$ ./configure --enable-optimizations
```

```
Jan 26 17:35
scar@Ubuntu:~/Python-3.10.16

copying and adjusting /home/scar/Python-3.10.16/Tools/scripts/2to3 -> build/scripts-3.10
changing mode of build/scripts-3.10/pydoc3 from 664 to 775
changing mode of build/scripts-3.10/idle3 from 664 to 775
changing mode of build/scripts-3.10/2to3 from 664 to 775
renaming build/scripts-3.10/pydoc3 to build/scripts-3.10/pydoc3.10
renaming build/scripts-3.10/idle3 to build/scripts-3.10/idle3.10
renaming build/scripts-3.10/2to3 to build/scripts-3.10/2to3-3.10
gcc -fno-semantic-interposition -Xlinker -export-dynamic -o Programs/_testembed Programs/_testembed.o libpython3.10.a -lcrypt -ldl -lm -l
sed -e '$,${EXENAME}!./usr/local/bin/python3.10,' < ./Misc/python-config.in >python-config.py
LC_ALL=C sed -e 's,\${\([A-Za-z0-9_]*\)},\$\\1,g' < Misc/python-config.sh >python-config
make[1]: Leaving directory '/home/scar/Python-3.10.16'
scar@Ubuntu:~/Python-3.10.16$ scar@Ubuntu:~/Python-3.10.16$ scar@Ubuntu:~/Python-3.10.16$ scar@Ubuntu:~/Python-3.10.16$ make -j $(nproc)
Rebuilding with profile guided optimizations:
rm -f profile-clean-stamp
make_all_CFLAGS_NODIST="-fprofile-use -fprofile-correction" LDFLAGS_NODIST=""
make[1]: Entering directory '/home/scar/Python-3.10.16'
CC="gcc" LDSHARED="gcc -shared" -fno-semantic-interposition ' OPT=-DNDEBUG -g -fwrapv -O3 -Wall' _TCLTK_INCLUDES='' _TCLTK_LIBS='' ./python -E ./setup.py build
running build
running build_ext
INFO: Can't locate Tcl/Tk libs and/or headers
The necessary bits to build these optional modules were not found:
dbm          gdbm          lzma
_tkinter      _uuid          nis
To find the necessary bits, look in setup.py in detect_modules() for the module's name.

The following modules found by detect_modules() in setup.py, have been
built by the Makefile instead, as configured by the Setup files:
_abc          pwd           time

running build_scripts
copying and adjusting /home/scar/Python-3.10.16/Tools/scripts/pydoc3 -> build/scripts-3.10
copying and adjusting /home/scar/Python-3.10.16/Tools/scripts/idle3 -> build/scripts-3.10
copying and adjusting /home/scar/Python-3.10.16/Tools/scripts/2to3 -> build/scripts-3.10
changing mode of build/scripts-3.10/pydoc3 from 664 to 775
```

```
Jan 26 17:36
scar@Ubuntu:~/Python-3.10.16$ 
  changing mode of /usr/local/lib/python3.10/lib-dynload/_curses_panel.cpython-310-x86_64-linux-gnu.so to 755
  changing mode of /usr/local/lib/python3.10/lib-dynload/_zoneinfo.cpython-310-x86_64-linux-gnu.so to 755
  changing mode of /usr/local/lib/python3.10/lib-dynload/_select.cpython-310-x86_64-linux-gnu.so to 755
  changing mode of /usr/local/lib/python3.10/lib-dynload/_testbuffer.cpython-310-x86_64-linux-gnu.so to 755
  changing mode of /usr/local/lib/python3.10/lib-dynload/_pyexpat.cpython-310-x86_64-linux-gnu.so to 755
  changing mode of /usr/local/lib/python3.10/lib-dynload/_hashlib.cpython-310-x86_64-linux-gnu.so to 755
  changing mode of /usr/local/lib/python3.10/lib-dynload/_datetime.cpython-310-x86_64-linux-gnu.so to 755
  changing mode of /usr/local/lib/python3.10/lib-dynload/_ssl.cpython-310-x86_64-linux-gnu.so to 755
  changing mode of /usr/local/lib/python3.10/lib-dynload/_heapq.cpython-310-x86_64-linux-gnu.so to 755
  changing mode of /usr/local/lib/python3.10/lib-dynload/_ to 755
  changing mode of /usr/local/lib/python3.10/lib-dynload/_pycache_ to 755

  running install_scripts
  copying build/scripts-3.10/2to3-3.10 -> /usr/local/bin
  copying build/scripts-3.10/pydoc3.10 -> /usr/local/bin
  copying build/scripts-3.10/idle3.10 -> /usr/local/bin
  changing mode of /usr/local/bin/2to3-3.10 to 755
  changing mode of /usr/local/bin/pydoc3.10 to 755
  changing mode of /usr/local/bin/idle3.10 to 755
  rm /usr/local/lib/python3.10/lib-dynload/_sysconfigdata_linux_x86_64-linux-gnu.py
  rm -r /usr/local/lib/python3.10/lib-dynload/_pycache_/
  /usr/bin/install -c -m 644 ./Misc/python.man \
    /usr/local/share/man/man1/python3.10.1
  if test "xupgrade" != "xno" ; then \
    case upgrade in \
      upgrade) ensurepip="--altinstall --upgrade" ;; \
      install*) ensurepip="--altinstall" ;; \
    esac; \
    ./python -E -m ensurepip \
      --ensurepip --root=/ ; \
  fi
  Looking in links: /tmp/tmpB8fsn0qt
  Processing /tmp/tmpB8fsn0qt/setuptools-65.5.0-py3-none-any.whl
  Processing /tmp/tmpB8fsn0qt/pip-23.0.1-py3-none-any.whl
  Installing collected packages: setuptools, pip
  Successfully installed pip-23.0.1 setuptools-65.5.0
  WARNING: Running pip as the 'root' user can result in broken permissions and conflicting behaviour with the system package manager. It is recommended to use a virtual environment instead:
  ad: https://pip.pypa.io/warnings/venv
scar@Ubuntu:~/Python-3.10.16$ 
```

## Setting the pip installing environment

```
Jan 26 17:37
scar@Ubuntu:~/Python-3.10.16$ 
  changing mode of /usr/local/lib/python3.10/lib-dynload/_pycache_ to 755
  running install_scripts
  copying build/scripts-3.10/2to3-3.10 -> /usr/local/bin
  copying build/scripts-3.10/pydoc3.10 -> /usr/local/bin
  copying build/scripts-3.10/idle3.10 -> /usr/local/bin
  changing mode of /usr/local/bin/2to3-3.10 to 755
  changing mode of /usr/local/bin/pydoc3.10 to 755
  changing mode of /usr/local/bin/idle3.10 to 755
  rm /usr/local/lib/python3.10/lib-dynload/_sysconfigdata_linux_x86_64-linux-gnu.py
  rm -r /usr/local/lib/python3.10/lib-dynload/_pycache_/
  /usr/bin/install -c -m 644 ./Misc/python.man \
    /usr/local/share/man/man1/python3.10.1
  if test "xupgrade" != "xno" ; then \
    case upgrade in \
      upgrade) ensurepip="--altinstall --upgrade" ;; \
      install*) ensurepip="--altinstall" ;; \
    esac; \
    ./python -E -m ensurepip \
      --ensurepip --root=/ ; \
  fi
  Looking in links: /tmp/tmpB8fsn0qt
  Processing /tmp/tmpB8fsn0qt/setuptools-65.5.0-py3-none-any.whl
  Processing /tmp/tmpB8fsn0qt/pip-23.0.1-py3-none-any.whl
  Installing collected packages: setuptools, pip
  Successfully installed pip-23.0.1 setuptools-65.5.0
  WARNING: Running pip as the 'root' user can result in broken permissions and conflicting behaviour with the system package manager. It is recommended to use a virtual environment instead:
  ad: https://pip.pypa.io/warnings/venv
scar@Ubuntu:~/Python-3.10.16$ 
scar@Ubuntu:~/Python-3.10.16$ python3.10 -m ensurepip --upgrade
Defaulting to user installation because normal site-packages is not writeable
Looking in links: /tmp/tmpde26wmer
Requirement already satisfied: setuptools in /usr/local/lib/python3.10/site-packages (65.5.0)
Requirement already satisfied: pip in /usr/local/lib/python3.10/site-packages (23.0.1)
scar@Ubuntu:~/Python-3.10.16$ 
scar@Ubuntu:~/Python-3.10.16$ 
scar@Ubuntu:~/Python-3.10.16$ 
scar@Ubuntu:~/Python-3.10.16$ 
```

```
Jan 26 17:38
scar@Ubuntu:~/Python-3.10.16

changing mode of /usr/local/bin/pydoc3.10 to 755
changing mode of /usr/local/bin/ldc3.10 to 755
rm /usr/local/lib/python3.10/lib-dynload/_sysconfigdata_linux_x86_64-linux-gnu.py
rm -r /usr/local/lib/python3.10/lib-dynload/_pycache_
/usr/bin/install -c -m 644 ./Misc/python.man \
/usr/local/share/man/man1/python3.10.1
if test "xupgrade" != "xno" ; then \
    case upgrade in \
        upgrade) ensurepip="--altinstall --upgrade" ;; \
        install*) ensurepip="--altinstall" ;; \
    esac; \
    ./python -E -m ensurepip \
        --ensurepip --root= ; \
fi
Looking in links: /tmp/tmpB8bfsn0qt
Processing /tmp/tmpB8bfsn0qt/setuptools-65.5.0-py3-none-any.whl
Processing /tmp/tmpB8bfsn0qt/pip-23.0.1-py3-none-any.whl
Installing collected packages: setuptools, pip
Successfully installed pip-23.0.1 setuptools-65.5.0
WARNING: Running pip as the 'root' user can result in broken permissions and conflicting behaviour with the system package manager. It is recommended to use a virtual environment instead
ad: https://pip.pypa.io/warnings/venv
scar@Ubuntu:~/Python-3.10.16$ 
scar@Ubuntu:~/Python-3.10.16$ python3.10 -m ensurepip --upgrade
Defaulting to user installation because normal site-packages is not writeable
Looking in links: /tmp/tmpde26wmer
Requirement already satisfied: setuptools in /usr/local/lib/python3.10/site-packages (65.5.0)
Requirement already satisfied: pip in /usr/local/lib/python3.10/site-packages (23.0.1)
scar@Ubuntu:~/Python-3.10.16$ 
scar@Ubuntu:~/Python-3.10.16$ 
scar@Ubuntu:~/Python-3.10.16$ 
scar@Ubuntu:~/Python-3.10.16$ source myenv/bin/activate
(myenv) scar@Ubuntu:~/Python-3.10.16$ 
(myenv) scar@Ubuntu:~/Python-3.10.16$ 
(myenv) scar@Ubuntu:~/Python-3.10.16$ 
(myenv) scar@Ubuntu:~/Python-3.10.16$ 
(myenv) scar@Ubuntu:~/Python-3.10.16$ 
(myenv) scar@Ubuntu:~/Python-3.10.16$ 
```

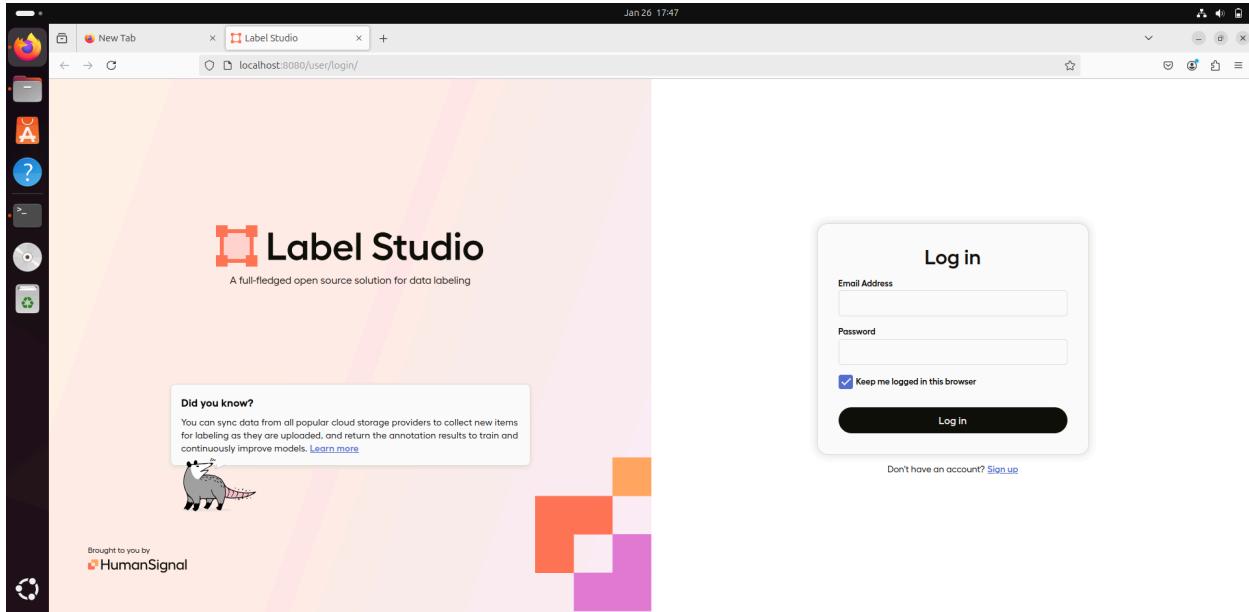
## installing label-studio using pip

```
Jan 26 17:44
scar@Ubuntu:~/Python-3.10.16

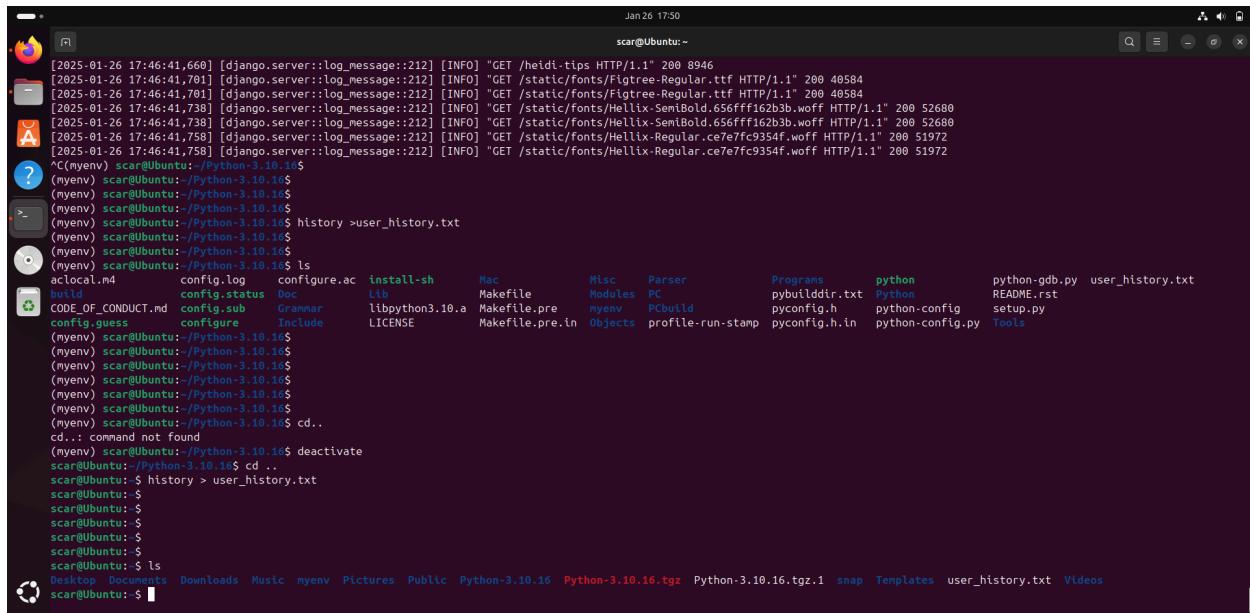
Sensurepip --root=/ ; \
fi
Looking in links: /tmp/tmpB8bfsn0qt
Processing /tmp/tmpB8bfsn0qt/setuptools-65.5.0-py3-none-any.whl
Processing /tmp/tmpB8bfsn0qt/pip-23.0.1-py3-none-any.whl
Installing collected packages: setuptools, pip
Successfully installed pip-23.0.1 setuptools-65.5.0
WARNING: Running pip as the 'root' user can result in broken permissions and conflicting behaviour with the system package manager. It is recommended to use a virtual environment instead
ad: https://pip.pypa.io/warnings/venv
scar@Ubuntu:~/Python-3.10.16$ 
scar@Ubuntu:~/Python-3.10.16$ python3.10 -m ensurepip --upgrade
Defaulting to user installation because normal site-packages is not writeable
Looking in links: /tmp/tmpde26wmer
Requirement already satisfied: setuptools in /usr/local/lib/python3.10/site-packages (65.5.0)
Requirement already satisfied: pip in /usr/local/lib/python3.10/site-packages (23.0.1)
scar@Ubuntu:~/Python-3.10.16$ 
scar@Ubuntu:~/Python-3.10.16$ 
scar@Ubuntu:~/Python-3.10.16$ 
scar@Ubuntu:~/Python-3.10.16$ python3.10 -m venv myenv
scar@Ubuntu:~/Python-3.10.16$ source myenv/bin/activate
(myenv) scar@Ubuntu:~/Python-3.10.16$ 
(myenv) scar@Ubuntu:~/Python-3.10.16$ 
(myenv) scar@Ubuntu:~/Python-3.10.16$ 
(myenv) scar@Ubuntu:~/Python-3.10.16$ 
(myenv) scar@Ubuntu:~/Python-3.10.16$ 
(myenv) scar@Ubuntu:~/Python-3.10.16$ pip install label-studio
Collecting label-studio
  Downloading label_studio-1.15.0-py3-none-any.whl (60.6 MB)
    60.6/60.6 MB 640.5 kB/s eta 0:00:00
Collecting humanignal-drf-yasg>=1.21.10.post1
  Downloading humanignal_drf_yasg-1.21.10.post1-py3-none-any.whl (4.3 MB)
    4.3/4.3 MB 613.5 kB/s eta 0:00:00
Collecting azure-storage-blob>=12.6.0
  Downloading azure_storage_blob-12.24.1-py3-none-any.whl (408 kB)
    408.4/408.4 kB 678.0 kB/s eta 0:00:00
Collecting django-migration-linter<6.0.0,>=5.1.0
  Downloading django_migration_linter-5.1.0-py3-none-any.whl (27 kB)
Collecting drf-dynamic-fields<0.3.0
  Downloading drf_dynamic_fields-0.3.0-py2.py3-none-any.whl (6.6 kB) 
```

```
Jan 26 17:47
scar@Ubuntu:~$ Python-3.10.16
1 pyboxen-1.3.0 pyparser-2.22 pydantic-2.10.6 pydantic-core-2.27.2 pygments-2.19.1 python-dateutil-2.9.0.post0 python-json-logger-2.0.4 pytz-2022.7.1 pyyaml-6.0.2 redis-3.5.3 referencing-0.36.2 regex-2024.11.6 requests-2.32.3 requests-mock-1.12.1 rich-13.9.4 rpdbs-py-0.22.3 rq-1.10.1 rsa-4.9 rstr-3.2.2 rules-3.4 s3transfer-0.11.2 semver-sdk-2.20.0 setup-tools-75.8.0 six-1.17.0 smart-open-7.1.0 snfflo-1.3.1 sqllparse-0.5.3 toml-0.10.2 tomll-2.2.1 tqdm-4.67.1 typing_extensions-4.12.2 tzdata-2025.1 ua-parser-1.0.0 ua-parser-builtins-0.18 .0.post1 ujson-5.10.0 uritemplate-4.1.1 urllib3-1.26.20 user-agents-2.2.0 webencodings-0.5.1 wheel-0.40.0 wrapt-1.17.2 xmljson-0.2.1 zipp-3.21.0
[A] [notice] A new release of pip is available: 23.0.1 -> 25.0
[notice] To update, run: pip install --upgrade pip
(menyen) scar@Ubuntu:~$ Python-3.10.16$ label-studio start
-- Database and media directory: /home/scar/.local/share/label-studio
-- Static URL is set to: /static/
-- Database and media directory: /home/scar/.local/share/label-studio
-- Static URL is set to: /static/
-- Database and media directory: /home/scar/.local/share/label-studio
-- Static URL is set to: /static/
-- Database and media directory: /home/scar/.local/share/label-studio/.env not found - if you're not configuring your environment separately, check this.
get 'SECRET_KEY' casted as <class 'str'> with default ''
Warning: SECRET_KEY not found in environment variables. Will generate a random key.
Starting new HTTPS connection (1): pypi.org:443
https://pypi.org:443 "GET /pypi/label-studio/json HTTP/1.1" 200 33651
Initialzing database...
January 26, 2025 - 17:46:34
Django version 4.2.1b, using settings 'label_studio.core.settings.label_studio'
Starting development server at http://0.0.0.0:8080/
Quit the server with CONTROL-C.

[2025-01-26 17:46:38,591] [django.server:log_message:212] [INFO] "GET / HTTP/1.1" 302 0
[2025-01-26 17:46:38,591] [django.server:log_message:212] [INFO] "GET / HTTP/1.1" 302 0
[2025-01-26 17:46:39,040] [django.server:log_message:212] [INFO] "GET /user/login/ HTTP/1.1" 200 11151
[2025-01-26 17:46:39,040] [django.server:log_message:212] [INFO] "GET /user/login/ HTTP/1.1" 200 11151
[2025-01-26 17:46:39,040] [django.server:log_message:212] [INFO] "GET /static/css/main.03e0d1342adfc.css HTTP/1.1" 200 15925
[2025-01-26 17:46:39,040] [django.server:log_message:212] [INFO] "GET /static/css/main.03e0d1342adfc.css HTTP/1.1" 200 15925
[2025-01-26 17:46:39,020] [django.server:log_message:212] [INFO] "GET /static/css/login.f0ad478bae25.css HTTP/1.1" 200 6155
[2025-01-26 17:46:39,020] [django.server:log_message:212] [INFO] "GET /static/css/login.f0ad478bae25.css HTTP/1.1" 200 6155
[2025-01-26 17:46:39,912] [django.server:log_message:212] [INFO] "GET /static/css/fonts.hellix.adb4997f14b9.css HTTP/1.1" 200 366
[2025-01-26 17:46:39,912] [django.server:log_message:212] [INFO] "GET /static/css/fonts.hellix.adb4997f14b9.css HTTP/1.1" 200 366
[2025-01-26 17:46:40,117] [django.server:log_message:212] [INFO] "GET /react-app/main.css?v=df34d5 HTTP/1.1" 200 97894
[2025-01-26 17:46:40,117] [django.server:log_message:212] [INFO] "GET /react-app/main.css?v=df34d5 HTTP/1.1" 200 97894
[2025-01-26 17:46:40,489] [django.server:log_message:212] [INFO] "GET /static/icons/logo-black.64a55656e13e.svg HTTP/1.1" 200 9254
[2025-01-26 17:46:40,489] [django.server:log_message:212] [INFO] "GET /static/icons/logo-black.64a55656e13e.svg HTTP/1.1" 200 9254
[2025-01-26 17:46:40,418] [django.server:log_message:212] [INFO] "GET /static/images/human_signal_logo.97adff6f9a70c.svg HTTP/1.1" 200 5248
[2025-01-26 17:46:40,418] [django.server:log_message:212] [INFO] "GET /static/images/human_signal_logo.97adff6f9a70c.svg HTTP/1.1" 200 5248
```



## Creating user\_history file containing history

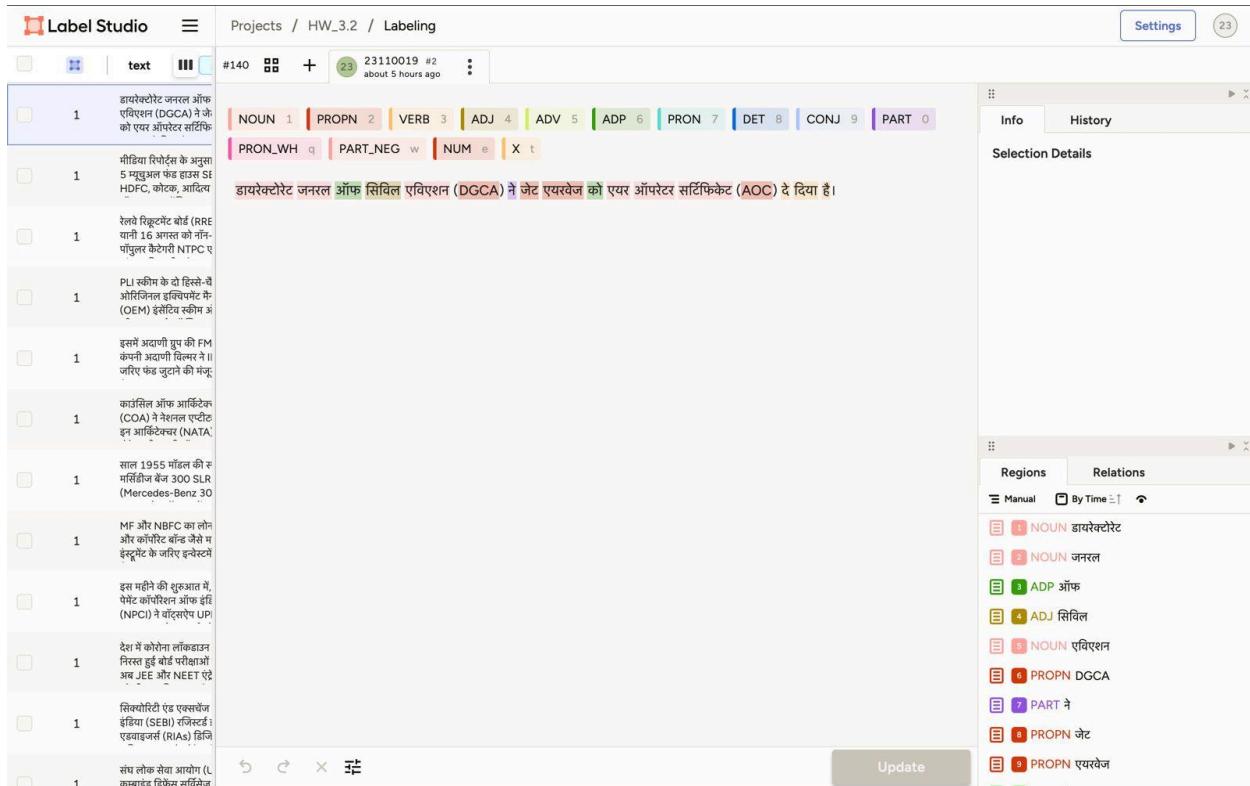


```

Jan 26 17:50
scar@Ubuntu:~ [2025-01-26 17:46:41,660] [django.server:log_message:212] [INFO] "GET / Heidi-Tips HTTP/1.1" 200 8946
[2025-01-26 17:46:41,701] [django.server:log_message:212] [INFO] "GET /static/fonts/figtree-Regular.ttf HTTP/1.1" 200 40584
[2025-01-26 17:46:41,738] [django.server:log_message:212] [INFO] "GET /static/fonts/figtree-Regular.ttf HTTP/1.1" 200 40584
[2025-01-26 17:46:41,738] [django.server:log_message:212] [INFO] "GET /static/fonts/Helix-SemiBold.656ffff162b3b.woff HTTP/1.1" 200 52680
[2025-01-26 17:46:41,758] [django.server:log_message:212] [INFO] "GET /static/fonts/Helix-Regular.ce7efc9354f.woff HTTP/1.1" 200 51972
[2025-01-26 17:46:41,758] [django.server:log_message:212] [INFO] "GET /static/fonts/Helix-Regular.ce7efc9354f.woff HTTP/1.1" 200 51972
scar@Ubuntu:~ [myenv] scar@Ubuntu:~/Python-3.10.1$ history >user_history.txt
scar@Ubuntu:~ [myenv] scar@Ubuntu:~/Python-3.10.1$ ls
scar@Ubuntu:~ [myenv] scar@Ubuntu:~/Python-3.10.1$ build config_log configure.ac install-sh Mac Misc Parser Programs python python-gdb.py user_history.txt
scar@Ubuntu:~ [myenv] scar@Ubuntu:~/Python-3.10.1$ CODE_OF_CONDUCT.md config_sub Grammar libpython3.10.a Makefile Modules PC pybuilddir.txt Python README.rst
scar@Ubuntu:~ [myenv] scar@Ubuntu:~/Python-3.10.1$ config_guess configure Include LICENSE Makefile.pre myenv PCBuild pyconfig.h python-config
scar@Ubuntu:~ [myenv] scar@Ubuntu:~/Python-3.10.1$ ls
scar@Ubuntu:~ [myenv] scar@Ubuntu:~/Python-3.10.1$ cd..
scar@Ubuntu:~ [myenv] scar@Ubuntu:~/Python-3.10.1$ deactivate
scar@Ubuntu:~ [myenv] scar@Ubuntu:~/Python-3.10.1$ cd ..
scar@Ubuntu:~ [myenv] scar@Ubuntu:~/Python-3.10.1$ history > user_history.txt
scar@Ubuntu:~ [myenv] scar@Ubuntu:~/Python-3.10.1$ ls
scar@Ubuntu:~ [myenv] scar@Ubuntu:~/Python-3.10.16 Python-3.10.16 Python-3.10.16.tgz Python-3.10.16.tgz.1 snap Templates user_history.txt Videos
scar@Ubuntu:~ [myenv]

```

## Task 2: Annotating a Dataset Using Label Studio



The screenshot shows the Label Studio interface for a labeling project named "HW\_3.2". The main area displays a list of 140 annotated text samples. Each sample is a sentence with its tokens annotated using Part-of-Speech (POS) tags. The annotations are color-coded: NOUN (pink), PROPN (orange), VERB (blue), ADJ (green), ADV (yellow), ADP (light blue), PRON (purple), DET (teal), CONJ (light teal), PART (light orange), PRON\_WH (light purple), PART\_NEG (light orange), NUM (light teal), and X (light blue). The right side of the interface features a sidebar with "Selection Details" and "Regions" sections, showing the distribution of annotated tokens across different parts of speech and regions.

Text Sample (Annotation)	Annotations
डायरेक्टोर जनरल ऑफ एपिएशन (DGCA) ने जेट एयरवेज को एयर ऑपरेटर सर्टिफिकेट (AOC) दे दिया है।	NOUN 1   PROPN 2   VERB 3   ADJ 4   ADV 5   ADP 6   PRON 7   DET 8   CONJ 9   PART 0 PRON_WH q   PART_NEG w   NUM e   X t
डायरेक्टोर जनरल ऑफ सिविल एविएशन (DGCA) ने जेट एयरवेज को एयर ऑपरेटर सर्टिफिकेट (AOC) दे दिया है।	NOUN 1   PROPN 2   VERB 3   ADJ 4   ADV 5   ADP 6   PRON 7   DET 8   CONJ 9   PART 0 PRON_WH q   PART_NEG w   NUM e   X t
रेलवे रिक्वारेंट बोर्ड (RRE) ने 16 अगस्त को नैनीं-पान्चुल कोटीरी NTPC ए	NOUN 1   PROPN 2   VERB 3   ADJ 4   ADV 5   ADP 6   PRON 7   DET 8   CONJ 9   PART 0 PRON_WH q   PART_NEG w   NUM e   X t
PLI स्ट्रॉग के लिए विस्तर-वै शोलिंग इविंग्पेट मैं (OEM) इंडिया स्ट्रॉग अ	NOUN 1   PROPN 2   VERB 3   ADJ 4   ADV 5   ADP 6   PRON 7   DET 8   CONJ 9   PART 0 PRON_WH q   PART_NEG w   NUM e   X t
इसमें अद्यती प्राप्त की FM कमानी अपार्टी विलेने ॥ जरिए फैल जुटान की मंजू	NOUN 1   PROPN 2   VERB 3   ADJ 4   ADV 5   ADP 6   PRON 7   DET 8   CONJ 9   PART 0 PRON_WH q   PART_NEG w   NUM e   X t
कार्यसिल ऑफ आर्किक्यू (COA) ने ब्रेकल एंटरेंट इन आर्किक्यू (NATA)	NOUN 1   PROPN 2   VERB 3   ADJ 4   ADV 5   ADP 6   PRON 7   DET 8   CONJ 9   PART 0 PRON_WH q   PART_NEG w   NUM e   X t
साता 1955 मोहल की रूपरेखा बैंग 300 SLR (Mercedes-Benz 3.0	NOUN 1   PROPN 2   VERB 3   ADJ 4   ADV 5   ADP 6   PRON 7   DET 8   CONJ 9   PART 0 PRON_WH q   PART_NEG w   NUM e   X t
MF और NBFC का लोन और कार्डिंग वाल जैसे महाराष्ट्र के लिए इन्वेस्टमें	NOUN 1   PROPN 2   VERB 3   ADJ 4   ADV 5   ADP 6   PRON 7   DET 8   CONJ 9   PART 0 PRON_WH q   PART_NEG w   NUM e   X t
इस महीने की शुरुआत में, ऐमेंट कोर्पोरेशन ऑफ हीर्स (NPCI) ने बॉल्डरेंप्ट UP	NOUN 1   PROPN 2   VERB 3   ADJ 4   ADV 5   ADP 6   PRON 7   DET 8   CONJ 9   PART 0 PRON_WH q   PART_NEG w   NUM e   X t
देश में कोरोना लॉकडाउन रिस्टर हुई हैं योग्यतामी अब JEE और NEET हुईं	NOUN 1   PROPN 2   VERB 3   ADJ 4   ADV 5   ADP 6   PRON 7   DET 8   CONJ 9   PART 0 PRON_WH q   PART_NEG w   NUM e   X t
सिस्टेमेटिक एंड एजेंटेज इंडिया (SEBI) नियर्कर्ड इंडियाइर्स (RIAS) द्विती	NOUN 1   PROPN 2   VERB 3   ADJ 4   ADV 5   ADP 6   PRON 7   DET 8   CONJ 9   PART 0 PRON_WH q   PART_NEG w   NUM e   X t
संघ लोक सेवा आयोग (L समाजिक विकास संस्थान	NOUN 1   PROPN 2   VERB 3   ADJ 4   ADV 5   ADP 6   PRON 7   DET 8   CONJ 9   PART 0 PRON_WH q   PART_NEG w   NUM e   X t

Label Studio Projects / HW\_3.2 / Settings / Labeling Interface (23)

**General**

**Labeling Interface**

**Annotation**

**Model**

**Predictions**

**Cloud Storage**

**Webhooks**

**Danger Zone**

**Labeling Interface**

**Browse Templates**

**Code** **Visual**

**Configure data**  
Use text from field <set manually>

**Add label names**  
Use new line as a separator to add multiple labels

**Labels (14)**

NOUN	1
PROPN	2
VERB	3
ADJ	4
ADV	5
ADP	6
PRON	7
DET	8
CONJ	9
PART	0
PRON_WH	q
PART_NEG	w
NUM	e
X	t

**Configure settings**

Select text by words

Display labels: **top**

Add filter for long list of labels

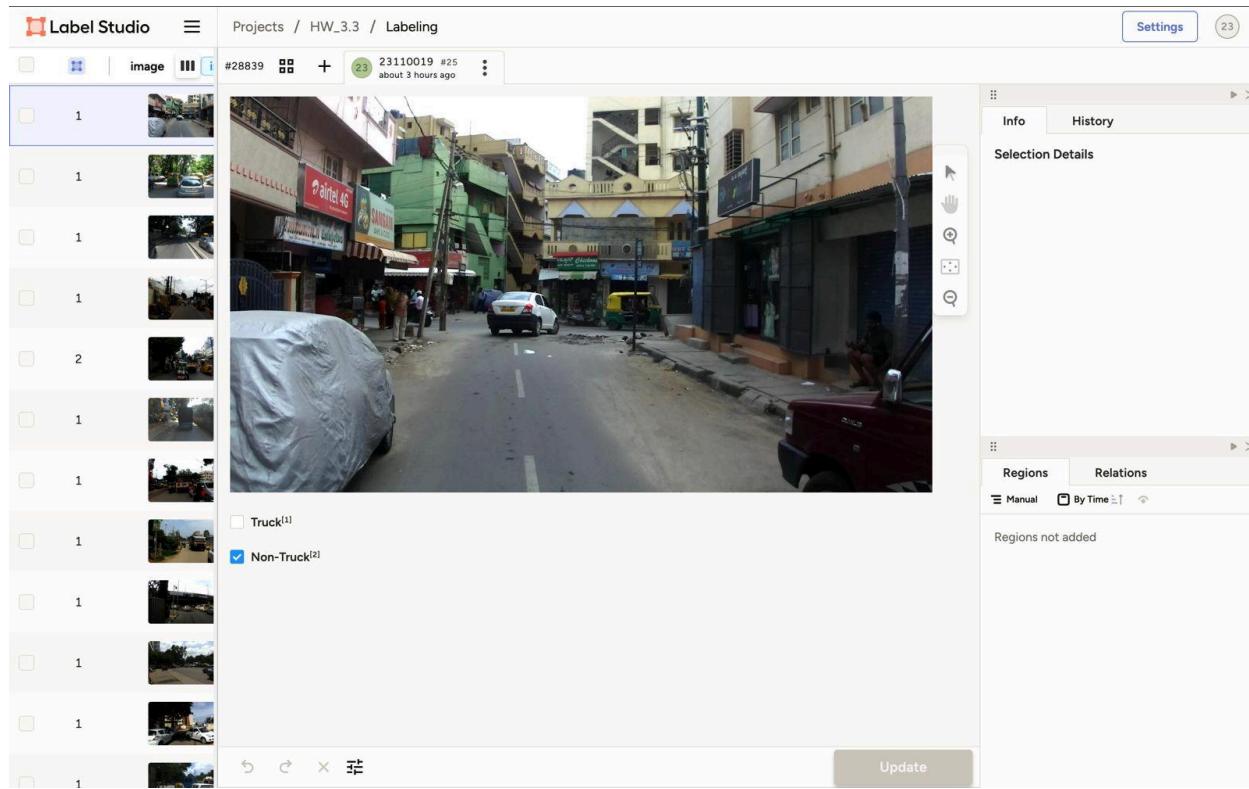
**UI Preview**

Sample: Your text will go here.

**Regions** **History** **Relations** **Info**

Regions not added

**Save**



Label Studio

Projects / HW\_3.3 / Settings / Labeling Interface

General

**Labeling Interface**

Annotation

Model

Predictions

Cloud Storage

Webhooks

Danger Zone

**Labeling Interface**

Browse Templates

Code Visual

Configure data

Use image from <set manually> \$image

Add choices

Use new line as a separator to add multiple labels

Choices (2)

Truck

Non-Truck

Add

Configure settings

Width of region borders 1

Allow image zoom (ctrl+wheel)

Show controls to zoom in and out

Show controls to rotate image

UI Preview

Truck<sup>[1]</sup>

Non-Truck<sup>[2]</sup>

Regions History Relations Info

Manual By Time

Regions not added

Save