

STT FOR AI Assignment 3

Group Members:

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Task 1: Environment Setup

- Cleared the user-specific history to ensure no previous commands are accessible. This command clears the current session's history and writes the changes to the history file.
- Verified that the history was cleared successfully by displaying the command history. The output was empty, confirming the history was cleared.

```
Ubuntu 24.04.1 LTS linux1 tty1
linux1 login: Akhilesh
Password:
Welcome to Ubuntu 24.04.1 LTS (GNU/Linux 6.8.0-51-generic x86_64)

 * Documentation:  https://help.ubuntu.com
 * Management:    https://landscape.canonical.com
 * Support:       https://ubuntu.com/pro

System information as of Sun Jan 26 07:06:51 AM UTC 2025

System load: 0.06          Memory usage: 6%    Processes:      101
Usage of /:  23.7% of 24.44GB Swap usage:   0%    Users logged in: 0

Expanded Security Maintenance for Applications is not enabled.

70 updates can be applied immediately.
To see these additional updates run: apt list --upgradable

Enable ESM Apps to receive additional future security updates.
See https://ubuntu.com/esm or run: sudo pro status

The list of available updates is more than a week old.
To check for new updates run: sudo apt update
Failed to connect to https://changelogs.ubuntu.com/meta-release-lts. Check your Internet connection or proxy settings

Akhilesh@linux1:~$ history -c && history -w
Akhilesh@linux1:~$ history
  1 history
Akhilesh@linux1:~$ sudo apt list | grep -i python3.10
[sudo] password for Akhilesh:

WARNING: apt does not have a stable CLI interface. Use with caution in scripts.

Akhilesh@linux1:~$
```

- successfully installed Python 3.10 from the source tarball

```
Ubuntu 24.04.1 LTS linux1 tty1
linux1 login: akhilesh
Password:
Welcome to Ubuntu 24.04.1 LTS (GNU/Linux 6.8.0-51-generic x86_64)

 * Documentation:  https://help.ubuntu.com
 * Management:    https://landscape.canonical.com
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akhilesh@linux1:~$ history -c && history -w
akhilesh@linux1:~$ history
  1 history
akhilesh@linux1:~$ sudo apt list | grep -i python3.10
[sudo] password for akhilesh:

WARNING: apt does not have a stable CLI interface. Use with caution in scripts.

akhilesh@linux1:~$ wget https://www.python.org/ftp/python/3.10.8/Python-3.10.8.tar.xz
```

```

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Akhilesh@linux1:~$ history -c && history -u
Akhilesh@linux1:~$ history
  1 history
Akhilesh@linux1:~$ sudo apt list | grep -i python3.10
[sudo] password for Akhilesh:

WARNING: apt does not have a stable CLI interface. Use with caution in scripts.

Akhilesh@linux1:~$ wget https://www.python.org/ftp/python/3.10.8/Python-3.10.8.tar.xz
--2025-01-26 07:09:31-- https://www.python.org/ftp/python/3.10.8/Python-3.10.8.tar.xz
Resolving www.python.org (www.python.org)... failed: Temporary failure in name resolution.
wget: unable to resolve host address www.python.org
Akhilesh@linux1:~$ wget https://www.python.org/ftp/python/3.10.8/Python-3.10.8.tar.xz
--2025-01-26 07:09:50-- https://www.python.org/ftp/python/3.10.8/Python-3.10.8.tar.xz
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Akhilesh@linux1:~$ wget https://www.python.org/ftp/python/3.10.8/Python-3.10.8.tar.xz
--2025-01-26 07:09:54-- https://www.python.org/ftp/python/3.10.8/Python-3.10.8.tar.xz
Resolving www.python.org (www.python.org)... 146.75.44.223, 2a04:4e42:48::223
Connecting to www.python.org (www.python.org)[146.75.44.223]:443... connected.
HTTP request sent, awaiting response... 200 OK
Length: 19619508 (19M) [application/octet-stream]
Saving to: 'Python-3.10.8.tar.xz.8'

Python-3.10.8.tar.xz.8      100%[=====>] 18.71M  3.99MB/s   in 4.7s

2025-01-26 07:10:01 (3.98 MB/s) - 'Python-3.10.8.tar.xz.8' saved [19619508/19619508]

Akhilesh@linux1:~$

```

- Extracted Python
- tar: The command used to work with tarball files (archive files).
- -x(extract): It tells tar to extract the contents of the archive.
- -v(verbose): It shows the extraction process in detail by listing the files being extracted.
- -f(file): It specifies the name of the tarball file to work with (Python-3.10.8.tar.xz).

```

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Length: 19619508 (19M) [application/octet-stream]
Saving to: 'Python-3.10.8.tar.xz.8'

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2025-01-26 07:10:01 (3.98 MB/s) - 'Python-3.10.8.tar.xz.8' saved [19619508/19619508]

Akhilesh@linux1:~$ tar -xvf Python-3.10.8.tar.xz
Python-3.10.8/Objects/stringlib/unicode_format.h
Python-3.10.8/Objects/stringlib/asciiilib.h
Python-3.10.8/Objects/stringlib/eq.h
Python-3.10.8/Objects/stringlib/find_max_char.h
Python-3.10.8/Objects/stringlib/undef.h
Python-3.10.8/Objects/stringlib/split.h
Python-3.10.8/Objects/stringlib/stringlib_find_two_way_notes.txt
Python-3.10.8/Objects/stringlib/transmogrify.h
Python-3.10.8/Objects/stringlib/find.h
Python-3.10.8/Objects/stringlib/ucs4lib.h
Python-3.10.8/Objects/stringlib/replace.h
Python-3.10.8/Objects/stringlib/join.h
Python-3.10.8/Objects/stringlib/ucs2lib.h
Python-3.10.8/Objects/stringlib/localeutil.h
Python-3.10.8/Objects/stringlib/fastsearch.h
Python-3.10.8/Objects/setobject.c
Python-3.10.8/Objects/funcobject.c
Python-3.10.8/Objects/rangeobject.c
Python-3.10.8/Objects/unicodectype.c
Python-3.10.8/Objects/abstract.c
Python-3.10.8/Objects/tupleobject.c
Python-3.10.8/Objects/obmalloc.c
Python-3.10.8/Objects/bytes_methods.c
Python-3.10.8/Objects/classobject.c
Python-3.10.8/Objects/interpreteridobject.c
Python-3.10.8/Objects/typeslots.py
Python-3.10.8/Objects/codeobject.c
Python-3.10.8/Objects/typeobject.c
Python-3.10.8/Objects/picklebufobject.c
Python-3.10.8/Objects/accu.c
Python-3.10.8/Objects/listobject.c
Python-3.10.8/Objects/dictobject.c
Python-3.10.8/Objects/genobject.c
Python-3.10.8/Objects/methodobject.c
Python-3.10.8/Objects/boolobject.c
Python-3.10.8/Objects/memoryobject.c
Python-3.10.8/Objects/namespaceobject.c
Python-3.10.8/Objects/listsort.txt
Python-3.10.8/Objects/dictnotes.txt
Python-3.10.8/Programs/
Python-3.10.8/Programs/README
Python-3.10.8/Programs/python.c
Python-3.10.8/Programs/_testembed.c
Python-3.10.8/Programs/_freeze_importlib.c
Akhilesh@linux1:~$ cd Python3.10.8
-bash: cd: Python3.10.8: No such file or directory
Akhilesh@linux1:~$ cd python3.10.8
-bash: cd: python3.10.8: No such file or directory
Akhilesh@linux1:~$ cd Python-3.10.8
Akhilesh@linux1:~/Python-3.10.8$ ./configure --prefix=$HOME/python3.10 --enable-optimizations

```

- The `--enable-optimizations` flag makes Python run faster by using extra steps during installation to improve how the code is built and executed.

```

checking for typeahead... no
checking for use_env... no
configure: checking for device files
checking for /dev/ptmx... yes
checking for /dev/ptc... no
checking for %zd printf() format support... yes
checking for socklen_t... yes
checking for broken mbstowcs... no
checking for --with-computed-gotos... no value specified
checking whether gcc supports computed gotos... yes
checking for build directories... done
checking for -O2... yes
checking for glibc _FORTIFY_SOURCE/memmove bug... no
checking for gcc ipa-pure-const bug... no
checking for stdatomic.h... yes
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 sha_open... none required
checking for sys/mman.h... (cached) yes
checking for sha_open... yes
checking for sha_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... no
checking whether compiling and linking against OpenSSL works... no
checking for --with-openssl-rpath...
checking whether OpenSSL provides required APIs... no
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
creating Modules/Setup.local
creating Makefile
Akhilesh@linux1:~/Python-3.10.8$ make -j$(nproc) _

```

```

running build
running build_ext
INFO: Can't locate Tcl/Tk libs and/or headers
building '_ctypes' extension
gcc -fPIC -Wno-unused-result -Wsign-compare -DNDEBUG -g -fwrapup -O3 -Wall -fno-semantic-interposition -std=c99 -Wextra -Wno-unused-result -Wno-unused-parameter -Wno-missing-field-initializers -Werror=implicit-function-declaration -fvisibility=hidden -fprofile-use -fprofile-correction -I./Include/internal -I./Include -I/home/Akhilesh/python3.10/Include -I./usr/include/x86_64-linux-gnu -I/usr/local/include -I/home/Akhilesh/Python-3.10.8/Include -I/home/Akhilesh/Python-3.10.8 -c /home/Akhilesh/Python-3.10.8/Modules/_ctypes/_ctypes.c -o build/temp.linux-x86_64-3.10/home/Akhilesh/Python-3.10.8/Modules/_ctypes/_ctypes.o -DPy_BUILD_CORE_MODULE
/home/Akhilesh/Python-3.10.8/Modules/_ctypes/_ctypes.c:107:10: fatal error: ffi.h: No such file or directory
 107 | #include <ffi.h>
      |
      |
compilation terminated.

The necessary bits to build these optional modules were not found:
_bz2          _curses          _curses_panel
_dbm          _gdbm            _hashlib
_lzma         _sqlite3         _ssl
_tkinter      _uuid            nis
readline

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          pud              time

Failed to build these modules:
_ctypes

Could not build the ssl module!
Python requires a OpenSSL 1.1.1 or newer

running build_scripts
copying and adjusting /home/Akhilesh/Python-3.10.8/Tools/scripts/pydoc3 -> build/scripts-3.10
copying and adjusting /home/Akhilesh/Python-3.10.8/Tools/scripts/idle3 -> build/scripts-3.10
copying and adjusting /home/Akhilesh/Python-3.10.8/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 -ln
sed -e 's,@EXENAME@,/home/Akhilesh/python3.10/bin/python3.10,' < ./Misc/python-config.in >python-config.py
LC_ALL=C sed -e 's,\${(fa-2a-z0-9_)*},\${(fa-2a-z0-9_)*},g' < Misc/python-config.sh >python-config
make[1]: Leaving directory '/home/Akhilesh/Python-3.10.8'
Akhilesh@linux1:~/Python-3.10.8$ make altinstall

```



```

changing mode of /home/Akhilesh/python3.10/lib/python3.10/lib-dynload/select.cpython-310-x86_64-linux-gnu.so to 755
changing mode of /home/Akhilesh/python3.10/lib/python3.10/lib-dynload/_multiprocessing.cpython-310-x86_64-linux-gnu.so to 755
changing mode of /home/Akhilesh/python3.10/lib/python3.10/lib-dynload/cmath.cpython-310-x86_64-linux-gnu.so to 755
changing mode of /home/Akhilesh/python3.10/lib/python3.10/lib-dynload/_bisect.cpython-310-x86_64-linux-gnu.so to 755
changing mode of /home/Akhilesh/python3.10/lib/python3.10/lib-dynload/_testbuffer.cpython-310-x86_64-linux-gnu.so to 755
changing mode of /home/Akhilesh/python3.10/lib/python3.10/lib-dynload/array.cpython-310-x86_64-linux-gnu.so to 755
changing mode of /home/Akhilesh/python3.10/lib/python3.10/lib-dynload/_codecs_cn.cpython-310-x86_64-linux-gnu.so to 755
changing mode of /home/Akhilesh/python3.10/lib/python3.10/lib-dynload/_unicodedata.cpython-310-x86_64-linux-gnu.so to 755
changing mode of /home/Akhilesh/python3.10/lib/python3.10/lib-dynload/_sha1.cpython-310-x86_64-linux-gnu.so to 755
changing mode of /home/Akhilesh/python3.10/lib/python3.10/lib-dynload/_pickle.cpython-310-x86_64-linux-gnu.so to 755
changing mode of /home/Akhilesh/python3.10/lib/python3.10/lib-dynload/_elementtree.cpython-310-x86_64-linux-gnu.so to 755
changing mode of /home/Akhilesh/python3.10/lib/python3.10/lib-dynload/_posixshm.cpython-310-x86_64-linux-gnu.so to 755
changing mode of /home/Akhilesh/python3.10/lib/python3.10/lib-dynload/_xxsubinterpreters.cpython-310-x86_64-linux-gnu.so to 755
changing mode of /home/Akhilesh/python3.10/lib/python3.10/lib-dynload/_codecs_tw.cpython-310-x86_64-linux-gnu.so to 755
changing mode of /home/Akhilesh/python3.10/lib/python3.10/lib-dynload/termios.cpython-310-x86_64-linux-gnu.so to 755
changing mode of /home/Akhilesh/python3.10/lib/python3.10/lib-dynload/syslog.cpython-310-x86_64-linux-gnu.so to 755
changing mode of /home/Akhilesh/python3.10/lib/python3.10/lib-dynload/_codecs_hk.cpython-310-x86_64-linux-gnu.so to 755
changing mode of /home/Akhilesh/python3.10/lib/python3.10/lib-dynload/_fcntl.cpython-310-x86_64-linux-gnu.so to 755
changing mode of /home/Akhilesh/python3.10/lib/python3.10/lib-dynload/_xxlimited_35.cpython-310-x86_64-linux-gnu.so to 755
changing mode of /home/Akhilesh/python3.10/lib/python3.10/lib-dynload/_json.cpython-310-x86_64-linux-gnu.so to 755
changing mode of /home/Akhilesh/python3.10/lib/python3.10/lib-dynload/_posixsubprocess.cpython-310-x86_64-linux-gnu.so to 755
changing mode of /home/Akhilesh/python3.10/lib/python3.10/lib-dynload/resource.cpython-310-x86_64-linux-gnu.so to 755
changing mode of /home/Akhilesh/python3.10/lib/python3.10/lib-dynload/_ to 755
changing mode of /home/Akhilesh/python3.10/lib/python3.10/lib-dynload/_pycache_ to 755
running install_scripts
copying build/scripts-3.10/2to3-3.10 -> /home/Akhilesh/python3.10/bin
copying build/scripts-3.10/pydoc3.10 -> /home/Akhilesh/python3.10/bin
copying build/scripts-3.10/idle3.10 -> /home/Akhilesh/python3.10/bin
changing mode of /home/Akhilesh/python3.10/bin/2to3-3.10 to 775
changing mode of /home/Akhilesh/python3.10/bin/pydoc3.10 to 775
changing mode of /home/Akhilesh/python3.10/bin/idle3.10 to 775
rm /home/Akhilesh/python3.10/lib/python3.10/lib-dynload/_sysconfigdata__linux_x86_64-linux-gnu.py
rm -r /home/Akhilesh/python3.10/lib/python3.10/lib-dynload/_pycache_
/usr/bin/install -c -m 644 ./Misc/python.man \
    /home/Akhilesh/python3.10/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 \
        $ensurepip --root=/ ; \
fi
Looking in links: /tmp/tmp4m288f
Requirement already satisfied: setuptools in /home/Akhilesh/python3.10/lib/python3.10/site-packages (63.2.0)
Requirement already satisfied: pip in /home/Akhilesh/python3.10/lib/python3.10/site-packages (22.2.2)
Akhilesh@linux1:~/Python-3.10.8$ export PATH=$HOME/python3.10/bin:$PATH
Akhilesh@linux1:~/Python-3.10.8$ python3.10 --version
Python 3.10.8
Akhilesh@linux1:~/Python-3.10.8$

```

```

--isolated            Run pip in an isolated mode, ignoring environment variables and user configuration.
--require-virtualenv Allow pip to only run in a virtual environment; exit with an error otherwise.
--python <python>    Run pip with the specified Python interpreter.
-u, --verbose         Give more output. Option is additive, and can be used up to 3 times.
-U, --version         Show version and exit.
-q, --quiet           Give less output. Option is additive, and can be used up to 3 times (corresponding to WARNING, ERROR, and CRITICAL logging
                        levels).
--log <path>         Path to a verbose appending log.
--no-input            Disable prompting for input.
--keyring-provider <keyring_provider>
                        Enable the credential lookup via the keyring library if user input is allowed. Specify which mechanism to use [disabled, import,
                        subprocess]. (default: disabled)
--proxy <proxy>       Specify a proxy in the form scheme://[user:passwd@]proxy.server:port.
--retries <retries>   Maximum number of retries each connection should attempt (default 5 times).
--timeout <sec>       Set the socket timeout (default 15 seconds).
--exists-action <action>
                        Default action when a path already exists: (s)witch, (i)gnore, (w)ipe, (b)ackup, (a)abort.
--trusted-host <hostname>
                        Mark this host or host:port pair as trusted, even though it does not have valid or any HTTPS.
--cert <path>         Path to PEM-encoded CA certificate bundle. If provided, overrides the default. See 'SSL Certificate Verification' in pip
                        documentation for more information.
--client-cert <path>  Path to SSL client certificate, a single file containing the private key and the certificate in PEM format.
--cache-dir <dir>     Store the cache data in <dir>.
--no-cache-dir        Disable the cache.
--disable-pip-version-check
                        Don't periodically check PyPI to determine whether a new version of pip is available for download. Implied with --no-index.
--no-color            Suppress colored output.
--no-python-version-warning
                        Silence deprecation warnings for upcoming unsupported Pythons.
--use-feature <feature>
                        Enable new functionality, that may be backward incompatible.
--use-deprecated <feature>
                        Enable deprecated functionality, that will be removed in the future.
Akhilesh@linux1:~/Python-3.10.8$ pip --version
pip 24.0 from /usr/lib/python3/dist-packages/pip (python 3.12)
Akhilesh@linux1:~/Python-3.10.8$ python3.10 -m pip --version
pip 22.2.2 from /home/Akhilesh/python3.10/lib/python3.10/site-packages/pip (python 3.10)
Akhilesh@linux1:~/Python-3.10.8$
Akhilesh@linux1:~/Python-3.10.8$
Akhilesh@linux1:~/Python-3.10.8$
Akhilesh@linux1:~/Python-3.10.8$
Akhilesh@linux1:~/Python-3.10.8$ python3.10 -m
Argument expected for the -m option
usage: python3.10 [option] ... [-c cmd | -m mod | file | -] [arg] ...
Try 'python -h' for more information.
Akhilesh@linux1:~/Python-3.10.8$ python3.10 -m ensurepip
Looking in links: /tmp/tmp17d155fm
Requirement already satisfied: setuptools in /home/Akhilesh/python3.10/lib/python3.10/site-packages (63.2.0)
Requirement already satisfied: pip in /home/Akhilesh/python3.10/lib/python3.10/site-packages (22.2.2)
Akhilesh@linux1:~/Python-3.10.8$ python3.10 -m venv label
/home/Akhilesh/python3.10/bin/python3.10: No module named -venv
Akhilesh@linux1:~/Python-3.10.8$ python3.10 -m venv label
Akhilesh@linux1:~/Python-3.10.8$ source label/bin/activate
(label) Akhilesh@linux1:~/Python-3.10.8$ pip install label-studio

```

- Installed Label Studio using pip in the Python 3.10 environment.

- Successfully registered and accessed Label Studio on the web interface to confirm proper installation and setup.

```
--cache-dir <dir>          Store the cache data in <dir>.
--no-cache-dir             Disable the cache.
--disable-pip-version-check Don't periodically check PyPI to determine whether a new version of pip is available for download. Implied with --no-index.
--no-color                 Suppress colored output.
--no-python-version-warning Silence deprecation warnings for upcoming unsupported Pythons.
--use-feature <feature>    Enable new functionality, that may be backward incompatible.
--use-deprecated <feature> Enable deprecated functionality, that will be removed in the future.
Akhilesh@linux1:~/Python-3.10.8$ pip --version
pip 24.0 from /usr/lib/python3/dist-packages/pip (python 3.12)
Akhilesh@linux1:~/Python-3.10.8$ python3.10 -m pip --version
pip 22.2.2 from /home/Akhilesh/python3.10/lib/python3.10/site-packages/pip (python 3.10)
Akhilesh@linux1:~/Python-3.10.8$
Akhilesh@linux1:~/Python-3.10.8$
Akhilesh@linux1:~/Python-3.10.8$
Akhilesh@linux1:~/Python-3.10.8$ python3.10 -m
Argument expected for the -m option
usage: python3.10 [option] ... [-c cmd | -m mod | file | -I [arg] ...
Try 'python -h' for more information.
Akhilesh@linux1:~/Python-3.10.8$ python3.10 -m ensurepip
Looking in links: /tmp/tmp17d155fm
Requirement already satisfied: setuptools in /home/Akhilesh/python3.10/lib/python3.10/site-packages (63.2.0)
Requirement already satisfied: pip in /home/Akhilesh/python3.10/lib/python3.10/site-packages (22.2.2)
Akhilesh@linux1:~/Python-3.10.8$ python3.10 -m -venv label
/home/Akhilesh/python3.10/bin/python3.10: No module named -venv
Akhilesh@linux1:~/Python-3.10.8$ python3.10 -m venv label
Akhilesh@linux1:~/Python-3.10.8$ source label/bin/activate
(label) Akhilesh@linux1:~/Python-3.10.8$ pip install label-studio
WARNING: pip is configured with locations that require TLS/SSL, however the ssl module in Python is not available.
WARNING: Retrying (Retry(total=4, connect=None, read=None, redirect=None, status=None)) after connection broken by 'SSLError("Can't connect to HTTPS URL because the SSL module is not available.")': /simple/label-studio/
WARNING: Retrying (Retry(total=3, connect=None, read=None, redirect=None, status=None)) after connection broken by 'SSLError("Can't connect to HTTPS URL because the SSL module is not available.")': /simple/label-studio/
WARNING: Retrying (Retry(total=2, connect=None, read=None, redirect=None, status=None)) after connection broken by 'SSLError("Can't connect to HTTPS URL because the SSL module is not available.")': /simple/label-studio/
WARNING: Retrying (Retry(total=1, connect=None, read=None, redirect=None, status=None)) after connection broken by 'SSLError("Can't connect to HTTPS URL because the SSL module is not available.")': /simple/label-studio/
WARNING: Retrying (Retry(total=0, connect=None, read=None, redirect=None, status=None)) after connection broken by 'SSLError("Can't connect to HTTPS URL because the SSL module is not available.")': /simple/label-studio/
Could not fetch URL https://pypi.org/simple/label-studio/: There was a problem confirming the ssl certificate: HTTPSConnectionPool(host='pypi.org', port=443): Max retries exceeded with url: /simple/label-studio/ (Caused by SSLError("Can't connect to HTTPS URL because the SSL module is not available.")) - skipping
ERROR: Could not find a version that satisfies the requirement label-studio (from versions: none)
ERROR: No matching distribution found for label-studio
WARNING: pip is configured with locations that require TLS/SSL, however the ssl module in Python is not available.
Could not fetch URL https://pypi.org/simple/pip/: There was a problem confirming the ssl certificate: HTTPSConnectionPool(host='pypi.org', port=443): Max retries exceeded with url: /simple/pip/ (Caused by SSLError("Can't connect to HTTPS URL because the SSL module is not available.")) - skipping
WARNING: There was an error checking the latest version of pip.
(label) Akhilesh@linux1:~/Python-3.10.8$
```

- Downloaded OpenSSL source code to enable secure connections and encryption support for Python.

```
Ubuntu 24.04.1 LTS linux1 tty1
linux1 login: Akhilesh
Password:
Welcome to Ubuntu 24.04.1 LTS (GNU/Linux 6.8.0-51-generic x86_64)

 * Documentation:  https://help.ubuntu.com
 * Management:    https://landscape.canonical.com
 * Support:       https://ubuntu.com/pro

System information as of Sun Jan 26 11:45:51 AM UTC 2025

System load: 0.31           Memory usage: 6%   Processes:      99
Usage of /: 23.9% of 24.4GB  Swap usage:  0%   Users logged in: 0

Expanded Security Maintenance for Applications is not enabled.

70 updates can be applied immediately.
To see these additional updates run: apt list --upgradable

Enable ESM Apps to receive additional future security updates.
See https://ubuntu.com/esm or run: sudo pro status

The list of available updates is more than a week old.
To check for new updates run: sudo apt update
Failed to connect to https://changelogs.ubuntu.com/meta-release-lts. Check your Internet connection or proxy settings

Akhilesh@linux1:~$ history -c && history -w
Akhilesh@linux1:~$ history
 1 history
Akhilesh@linux1:~$ sudo apt list | grep -i python3.10
[sudo] password for Akhilesh:

WARNING: apt does not have a stable CLI interface. Use with caution in scripts.

Akhilesh@linux1:~$ wget https://www.openssl.org/source/openssl-1.1.1.tar.gz
```



```

70 updates can be applied immediately.
To see these additional updates run: apt list --upgradable

Enable ESM Apps to receive additional future security updates.
See https://ubuntu.com/esm or run: sudo pro status

The list of available updates is more than a week old.
To check for new updates run: sudo apt update
Failed to connect to https://changelogs.ubuntu.com/meta-release-lts. Check your Internet connection or proxy settings

Akhilesh@linux1:~$ history -c && history -w
Akhilesh@linux1:~$ history
  1  history
Akhilesh@linux1:~$ sudo apt list | grep -i python3.10
[sudo] password for Akhilesh:

WARNING: apt does not have a stable CLI interface. Use with caution in scripts.

Akhilesh@linux1:~$ wget https://www.openssl.org/source/openssl-1.1.1.tar.gz
--2025-01-26 11:48:24-- https://www.openssl.org/source/openssl-1.1.1.tar.gz
Resolving www.openssl.org (www.openssl.org)... 34.49.79.89, 2600:1901:0:d50b::
Connecting to www.openssl.org (www.openssl.org)|34.49.79.89|:443... connected.
HTTP request sent, awaiting response... 301 Moved Permanently
Location: https://github.com/openssl/openssl/releases/download/OpenSSL_1_1_1/openssl-1.1.1.tar.gz [following]
--2025-01-26 11:48:24-- https://github.com/openssl/openssl/releases/download/OpenSSL_1_1_1/openssl-1.1.1.tar.gz
Resolving github.com (github.com)... 20.207.73.82
Connecting to github.com (github.com)|20.207.73.82|:443... connected.
HTTP request sent, awaiting response... 302 Found
Location: https://objects.githubusercontent.com/github-production-release-asset-2e65be/7634677/571a91b0-3c1f-46d9-8917-41758a2a8d91?X-Amz-Algorithm=AWS4-HMAC-SHA256&X-Amz-Credential=releaseassetproduction%2F20250126%2Fus-east-1%2F%3F%2Faws4_request&X-Amz-Date=20250126T115024Z&X-Amz-Expires=300&X-Amz-Signature=d1c366135e5bf530f651b3f20d6e1d34364a7116d7bb380d4f788e7ba9461f48&X-Amz-SignedHeaders=host&response-content-disposition=attachment%3B%20filename%3Dopenssl-1.1.1.tar.gz&response-content-type=application%2Foctet-stream [following]
--2025-01-26 11:48:24-- https://objects.githubusercontent.com/github-production-release-asset-2e65be/7634677/571a91b0-3c1f-46d9-8917-41758a2a8d91?X-Amz-Algorithm=AWS4-HMAC-SHA256&X-Amz-Credential=releaseassetproduction%2F20250126%2Fus-east-1%2F%3F%2Faws4_request&X-Amz-Date=20250126T115024Z&X-Amz-Expires=300&X-Amz-Signature=d1c366135e5bf530f651b3f20d6e1d34364a7116d7bb380d4f788e7ba9461f48&X-Amz-SignedHeaders=host&response-content-disposition=attachment%3B%20filename%3Dopenssl-1.1.1.tar.gz&response-content-type=application%2Foctet-stream
Resolving objects.githubusercontent.com (objects.githubusercontent.com)... 185.199.108.133, 185.199.110.133, 185.199.109.133, ...
Connecting to objects.githubusercontent.com (objects.githubusercontent.com)|185.199.108.133|:443... connected.
HTTP request sent, awaiting response... 200 OK
Length: 8337920 (8.0M) [application/octet-stream]
Saving to: 'openssl-1.1.1.tar.gz'

openssl-1.1.1.tar.gz      100%[=====>]  7.95M  6.80MB/s   in 1.2s

2025-01-26 11:48:27 (6.80 MB/s) - 'openssl-1.1.1.tar.gz' saved [8337920/8337920]

Akhilesh@linux1:~$ tar -zxvf openssl-1.1.1.tar.gz

```

- Extracted the OpenSSL source code for installation.
- Compiled OpenSSL using all available CPU cores to speed up the process.

```

openssl-1.1.1/tools/build.info
openssl-1.1.1/tools/c_rehash.in
openssl-1.1.1/.travis.yml
openssl-1.1.1/.gitmodules
openssl-1.1.1/engines/
openssl-1.1.1/engines/e_afalg_err.c
openssl-1.1.1/engines/e_afalg.ec
openssl-1.1.1/engines/build.info
openssl-1.1.1/engines/e_ossltest_err.h
openssl-1.1.1/engines/e_afalg.h
openssl-1.1.1/engines/e_capi_err.c
openssl-1.1.1/engines/e_afalg.txt
openssl-1.1.1/engines/e_capi.c
openssl-1.1.1/engines/e_capi.txt
openssl-1.1.1/engines/e_ossltest_err.c
openssl-1.1.1/engines/e_ossltest.txt
openssl-1.1.1/engines/e_padlock.c
openssl-1.1.1/engines/asm/
openssl-1.1.1/engines/asm/e_padlock-x86_64.pl
openssl-1.1.1/engines/asm/e_padlock-x86.pl
openssl-1.1.1/engines/e_ossltest.c
openssl-1.1.1/engines/e_capi_err.h
openssl-1.1.1/engines/e_capi.ec
openssl-1.1.1/engines/e_ossltest.ec
openssl-1.1.1/engines/e_dasync_err.c
openssl-1.1.1/engines/e_afalg.c
openssl-1.1.1/engines/e_afalg_err.h
openssl-1.1.1/engines/e_dasync.ec
openssl-1.1.1/engines/e_dasync_err.h
openssl-1.1.1/engines/e_dasync.txt
openssl-1.1.1/engines/e_dasync.c
openssl-1.1.1/fq0
openssl-1.1.1/e_os.h
akhilesh@linux1:~$ cd openssl-1.1.1
akhilesh@linux1:~/openssl-1.1.1$ ./config --prefix=$HOME/.local/openssl --openssldir=$HOME/.local/openssl
Operating system: x86_64-whatever-linux2
Configuring OpenSSL version 1.1.1 (0x101000fL) for linux-x86_64
Using os-specific seed configuration
Creating configdata.pm
Creating Makefile

*****
*****
*****  If you want to report a building issue, please include the  *****
*****  output from this command:                                *****
*****                                                             *****
*****      perl configdata.pm --dump                             *****
*****                                                             *****
*****
akhilesh@linux1:~/openssl-1.1.1$ make -j$(nproc)

```

```

      -lcrypto -ldl -pthread
gcc -Iinclude -pthread -m64 -Wa,--noexecstack -Wall -O3 -DDEBUG -MD -MF test/wpackettest.d.tmp -MT test/wpackettest.o -c -o test/wpackettest.o test/wpackettest.c
rm -f test/wpackettest
$(LDCHD:-gcc) -pthread -m64 -Wa,--noexecstack -Wall -O3 -L. \
-o test/wpackettest test/wpackettest.o \
libtestutil.a test/libtestutil.a -lcrypto -ldl -pthread
gcc -Iinclude -pthread -m64 -Wa,--noexecstack -Wall -O3 -DDEBUG -MD -MF test/x509_check_cert_pkey_test.d.tmp -MT test/x509_check_cert_pkey_test.o -c -o test/x509_check_cert_pkey_test.o test/x509_check_cert_pkey_test.c
rm -f test/x509_check_cert_pkey_test
$(LDCHD:-gcc) -pthread -m64 -Wa,--noexecstack -Wall -O3 -L. \
-o test/x509_check_cert_pkey_test test/x509_check_cert_pkey_test.o \
test/libtestutil.a -lcrypto -ldl -pthread
gcc -Iinclude -pthread -m64 -Wa,--noexecstack -Wall -O3 -DDEBUG -MD -MF test/x509_dup_cert_test.d.tmp -MT test/x509_dup_cert_test.o -c -o test/x509_dup_cert_test.o test/x509_dup_cert_test.c
rm -f test/x509_dup_cert_test
$(LDCHD:-gcc) -pthread -m64 -Wa,--noexecstack -Wall -O3 -L. \
-o test/x509_dup_cert_test test/x509_dup_cert_test.o \
test/libtestutil.a -lcrypto -ldl -pthread
gcc -I. -Iinclude -pthread -m64 -Wa,--noexecstack -Wall -O3 -DDEBUG -MD -MF test/x509_internal_test.d.tmp -MT test/x509_internal_test.o -c -o test/x509_internal_test.o test/x509_internal_test.c
rm -f test/x509_internal_test
$(LDCHD:-gcc) -pthread -m64 -Wa,--noexecstack -Wall -O3 -L. \
-o test/x509_internal_test test/x509_internal_test.o \
test/libtestutil.a libcrypto.a -ldl -pthread
gcc -Iinclude -pthread -m64 -Wa,--noexecstack -Wall -O3 -DDEBUG -MD -MF test/x509_time_test.d.tmp -MT test/x509_time_test.o -c -o test/x509_time_test.o test/x509_time_test.c
rm -f test/x509_time_test
$(LDCHD:-gcc) -pthread -m64 -Wa,--noexecstack -Wall -O3 -L. \
-o test/x509_time_test test/x509_time_test.o \
test/libtestutil.a -lcrypto -ldl -pthread
gcc -Iinclude -pthread -m64 -Wa,--noexecstack -Wall -O3 -DDEBUG -MD -MF test/x509aux.d.tmp -MT test/x509aux.o -c -o test/x509aux.o test/x509aux.c
rm -f test/x509aux
$(LDCHD:-gcc) -pthread -m64 -Wa,--noexecstack -Wall -O3 -L. \
-o test/x509aux test/x509aux.o \
test/libtestutil.a -lcrypto -ldl -pthread
/usr/bin/perl "-I." -Mconfigdata "util/dofile.pl" \
-o"fakefile" apps/CA.pl.in > "apps/CA.pl"
chmod a+x apps/CA.pl
/usr/bin/perl "-I." -Mconfigdata "util/dofile.pl" \
-o"fakefile" apps/tsget.in > "apps/tsget.pl"
chmod a+x apps/tsget.pl
/usr/bin/perl "-I." -Mconfigdata "util/dofile.pl" \
-o"fakefile" tools/c_rehash.in > "tools/c_rehash"
chmod a+x tools/c_rehash
/usr/bin/perl "-I." -Mconfigdata "util/dofile.pl" \
-o"fakefile" util/shlib_wrap.sh.in > "util/shlib_wrap.sh"
chmod a+x util/shlib_wrap.sh
make[1]: Leaving directory '/home/Akhilesh/openssl-1.1.1'
akhilesh@linux1:~/openssl-1.1.1$ make install

```

- Installed OpenSSL on the system after compiling it.

```

Python-3.10.0/Objects/stringlib/ucs1lib.h
Python-3.10.0/Objects/stringlib/README.txt
Python-3.10.0/Objects/stringlib/unicode_format.h
Python-3.10.0/Objects/stringlib/asciilib.h
Python-3.10.0/Objects/stringlib/eq.h
Python-3.10.0/Objects/stringlib/find_max_char.h
Python-3.10.0/Objects/stringlib/undef.h
Python-3.10.0/Objects/stringlib/split.h
Python-3.10.0/Objects/stringlib/stringlib_find_two_way_notes.txt
Python-3.10.0/Objects/stringlib/transmogrify.h
Python-3.10.0/Objects/stringlib/find.h
Python-3.10.0/Objects/stringlib/ucs4lib.h
Python-3.10.0/Objects/stringlib/replace.h
Python-3.10.0/Objects/stringlib/join.h
Python-3.10.0/Objects/stringlib/ucs2lib.h
Python-3.10.0/Objects/stringlib/localeutil.h
Python-3.10.0/Objects/stringlib/fastsearch.h
Python-3.10.0/Objects/setobject.c
Python-3.10.0/Objects/funcobject.c
Python-3.10.0/Objects/rangeobject.c
Python-3.10.0/Objects/unicodeobject.c
Python-3.10.0/Objects/abstract.c
Python-3.10.0/Objects/tupleobject.c
Python-3.10.0/Objects/obmalloc.c
Python-3.10.0/Objects/bytes_methods.c
Python-3.10.0/Objects/classobject.c
Python-3.10.0/Objects/interpreteridobject.c
Python-3.10.0/Objects/typeslots.py
Python-3.10.0/Objects/codeobject.c
Python-3.10.0/Objects/typeobject.c
Python-3.10.0/Objects/picklebufobject.c
Python-3.10.0/Objects/accu.c
Python-3.10.0/Objects/listobject.c
Python-3.10.0/Objects/dictobject.c
Python-3.10.0/Objects/genobject.c
Python-3.10.0/Objects/methodobject.c
Python-3.10.0/Objects/boolobject.c
Python-3.10.0/Objects/memoryobject.c
Python-3.10.0/Objects/namespaceobject.c
Python-3.10.0/Objects/listsort.txt
Python-3.10.0/Objects/dictnotes.txt
Python-3.10.0/Programs/
Python-3.10.0/Programs/README
Python-3.10.0/Programs/python.c
Python-3.10.0/Programs/_testembed.c
Python-3.10.0/Programs/_freeze_importlib.c
Akhilesh@linux1:~/openssl-1.1.1$ cd Python3.10
--bash: cd: Python3.10: No such file or directory
Akhilesh@linux1:~/openssl-1.1.1$ cd Python-3.10.0
Akhilesh@linux1:~/openssl-1.1.1/Python-3.10.0$ ./config --prefix=$HOME/.localpython --with-openssl=$HOME/.localopenssl

```

- Went to the Python 3.10.0 folder to start the installation.

```

checking for filter... no
checking for has_key... no
checking for typeahead... no
checking for use_env... no
configure: checking for device files
checking for /dev/ptmx... yes
checking for /dev/ptc... no
checking for %zd printf() format support... yes
checking for socklen_t... yes
checking for broken mbstowcs... no
checking for --with-computed-gotos... no value specified
checking whether gcc supports computed gotos... yes
checking for build directories... done
checking for -O2... yes
checking for glibc _FORTIFY_SOURCE/memmove bug... no
checking for gcc ipa-pure-const bug... no
checking for stdatomic.h... yes
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 sha_open... none required
checking for sys/mman.h... (cached) yes
checking for sha_open... yes
checking for sha_unlink... yes
checking for openssl/ssl.h in /home/Akhilesh/.localopenssl... yes
checking whether compiling and linking against OpenSSL works... yes
checking for --with-openssl-rpath...
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
creating Modules/Setup.local
creating Makefile

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

Akhilesh@linux1:~/openssl-1.1.1/Python-3.10.0$ make -j$(nproc)

```

```

/home/Akhilesh/openssl-1.1.1/Python-3.10.0/Include -I/home/Akhilesh/openssl-1.1.1/Python-3.10.0 -c /home/Akhilesh/openssl-1.1.1/Python-3.10.0/Modules/xxlimited_35.c -
o build/temp.linux-x86_64-3.10/home/Akhilesh/openssl-1.1.1/Python-3.10.0/Modules/xxlimited_35.o
gcc -shared build/temp.linux-x86_64-3.10/home/Akhilesh/openssl-1.1.1/Python-3.10.0/Modules/xxlimited_35.o -L/usr/lib/x86_64-linux-gnu -L/usr/local/lib -o build/
lib.linux-x86_64-3.10/xxlimited_35.cpython-310-x86_64-linux-gnu.so
building '_ctypes' extension
gcc -fPIC -Wno-unused-result -Wsign-compare -DNDEBUG -g -fwrapup -O3 -Wall -std=c99 -Wextra -Wno-unused-result -Wno-unused-parameter -Wno-missing-field-initializ
ers -Werror-implicit-function-declaration -fvisibility=hidden -I./Include/internal -I./Include -I./usr/include/x86_64-linux-gnu -I/usr/local/include -I/home/
Akhilesh/openssl-1.1.1/Python-3.10.0/Include -I/home/Akhilesh/openssl-1.1.1/Python-3.10.0 -c /home/Akhilesh/openssl-1.1.1/Python-3.10.0/Modules/_ctypes/_ctypes.
c -o build/temp.linux-x86_64-3.10/home/Akhilesh/openssl-1.1.1/Python-3.10.0/Modules/_ctypes/_ctypes.o -DPy_BUILD_CORE_MODULE
/home/Akhilesh/openssl-1.1.1/Python-3.10.0/Modules/_ctypes/_ctypes.c:107:10: fatal error: ffi.h: No such file or directory
   107 | #include <ffi.h>
       |          ^~~~~~
compilation terminated.

Python build finished successfully!
The necessary bits to build these optional modules were not found:
  _bz2      _curses      _curses_panel
  _dbm      _gdbm        _lzma
  _sqlite3  _tkinter       _uuid
  nis       readline
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      pud          time

Failed to build these modules:
  _ctypes

running build_scripts
creating build/scripts-3.10
copying and adjusting /home/Akhilesh/openssl-1.1.1/Python-3.10.0/Tools/scripts/pydoc3 -> build/scripts-3.10
copying and adjusting /home/Akhilesh/openssl-1.1.1/Python-3.10.0/Tools/scripts/idle3 -> build/scripts-3.10
copying and adjusting /home/Akhilesh/openssl-1.1.1/Python-3.10.0/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-3.10/2to3.10
/usr/bin/install -c -m 644 ./Tools/gdb/libpython.py python-gdb.py
gcc -c -Wno-unused-result -Wsign-compare -DNDEBUG -g -fwrapup -O3 -Wall -std=c99 -Wextra -Wno-unused-result -Wno-unused-parameter -Wno-missing-field-initializ
ers -Werror-implicit-function-declaration -fvisibility=hidden -I./Include/internal -I./Include -DPy_BUILD_CORE -o Programs/_testembed.o ./Programs/_tes
tembed.c
gcc -Xlinker -export-dynamic -o Programs/_testembed Programs/_testembed.o libpython3.10.a -lcrypt -ldl -lm -ln
sed -e 's,0EXENAME0,/home/Akhilesh/localpython/bin/python3.10," < ./Misc/python-config.in >python-config.py
LC_ALL=C sed -e 's,\${(fa-Za-z0-9_)*},\${(fa-Za-z0-9_)*},g' < Misc/python-config.sh >python-config
Akhilesh@linux1:~/openssl-1.1.1/Python-3.10.0$ make altinstall

```

- Installed Python 3.10.0 without overwriting the default system Python.

```

changing mode of /home/Akhilesh/.localpython/lib/python3.10/lib-dynload/ to 755
changing mode of /home/Akhilesh/.localpython/lib/python3.10/lib-dynload/_pycache_ to 755
running install_scripts
copying build/scripts-3.10/2to3-3.10 -> /home/Akhilesh/.localpython/bin
copying build/scripts-3.10/pydoc3.10 -> /home/Akhilesh/.localpython/bin
copying build/scripts-3.10/idle3.10 -> /home/Akhilesh/.localpython/bin
changing mode of /home/Akhilesh/.localpython/bin/2to3-3.10 to 775
changing mode of /home/Akhilesh/.localpython/bin/pydoc3.10 to 775
changing mode of /home/Akhilesh/.localpython/bin/idle3.10 to 775
rm /home/Akhilesh/.localpython/lib/python3.10/lib-dynload/_sysconfigdata__linux_x86_64-linux-gnu.py
rm -r /home/Akhilesh/.localpython/lib/python3.10/lib-dynload/_pycache_
Creating directory /home/Akhilesh/.localpython/share/man
Creating directory /home/Akhilesh/.localpython/share/man/man1
/usr/bin/install -c -m 644 ./Misc/python.man \
/home/Akhilesh/.localpython/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 \
        $ensurepip --root=/ : \
    fi
WARNING: Value for scheme.headers does not match. Please report this to <https://github.com/pypa/pip/issues/10151>
distutils: /home/Akhilesh/.localpython/include/python3.10/UNKNOWN
sysconfig: /home/Akhilesh/openssl-1.1.1/Python-3.10.0/include/UNKNOWN
WARNING: Additional context:
user = False
home = None
root = '/'
prefix = None
Looking in links: /tmp/tmpuo8peef3
Processing /tmp/tmpuo8peef3/setuptools-57.4.0-py3-none-any.whl
Processing /tmp/tmpuo8peef3/pip-21.2.3-py3-none-any.whl
Installing collected packages: setuptools, pip
WARNING: Value for scheme.headers does not match. Please report this to <https://github.com/pypa/pip/issues/10151>
distutils: /home/Akhilesh/.localpython/include/python3.10/setuptools
sysconfig: /home/Akhilesh/openssl-1.1.1/Python-3.10.0/include/setuptools
WARNING: Value for scheme.headers does not match. Please report this to <https://github.com/pypa/pip/issues/10151>
distutils: /home/Akhilesh/.localpython/include/python3.10/pip
sysconfig: /home/Akhilesh/openssl-1.1.1/Python-3.10.0/include/pip
WARNING: The script pip3.10 is installed in '/home/Akhilesh/.localpython/bin' which is not on PATH.
Consider adding this directory to PATH or, if you prefer to suppress this warning, use --no-warn-script-location.
Successfully installed pip-21.2.3 setuptools-57.4.0
Akhilesh@linux1:~/openssl-1.1.1/Python-3.10.0$ $HOME/.localpython/bin/python3.10 --version
Python 3.10.0
Akhilesh@linux1:~/openssl-1.1.1/Python-3.10.0$ $HOME/.localpython/bin/python3.10 -m venv myenv
Akhilesh@linux1:~/openssl-1.1.1/Python-3.10.0$ source myenv/bin/activate
(myenv) Akhilesh@linux1:~/openssl-1.1.1/Python-3.10.0$ pip install label-studio
Collecting label-studio

```

```

label-studio 0.8.1 depends on MarkupSafe==1.1.1
label-studio 0.8.0.post0 depends on MarkupSafe==1.1.1
label-studio 0.8.0 depends on MarkupSafe==1.1.1
label-studio 0.7.5.post2 depends on MarkupSafe==1.1.1
label-studio 0.7.5.post1 depends on MarkupSafe==1.1.1
label-studio 0.7.4.post1 depends on MarkupSafe==1.1.1
label-studio 0.7.4.post0 depends on MarkupSafe==1.1.1
label-studio 0.7.4 depends on MarkupSafe==1.1.1
label-studio 0.7.3 depends on MarkupSafe==1.1.1
label-studio 0.7.2 depends on MarkupSafe==1.1.1
label-studio 0.7.1 depends on MarkupSafe==1.1.1
label-studio 0.7.0 depends on MarkupSafe==1.1.1
label-studio 0.6.1 depends on MarkupSafe==1.1.1
label-studio 0.6.0 depends on MarkupSafe==1.1.1
label-studio 0.5.1 depends on MarkupSafe==1.1.1
label-studio 0.5.0 depends on MarkupSafe==1.1.1
label-studio 0.4.8 depends on MarkupSafe==1.1.1
label-studio 0.4.7 depends on MarkupSafe==1.1.1
label-studio 0.4.6.post2 depends on MarkupSafe==1.1.1
label-studio 0.4.6.post1 depends on MarkupSafe==1.1.1
label-studio 0.4.6 depends on MarkupSafe==1.1.1
label-studio 0.4.5 depends on MarkupSafe==1.1.1
label-studio 0.4.4.post2 depends on MarkupSafe==1.1.1
label-studio 0.4.4.post1 depends on MarkupSafe==1.1.1
label-studio 0.4.4 depends on MarkupSafe==1.1.1
label-studio 0.4.3 depends on MarkupSafe==1.1.1
label-studio 0.4.2 depends on MarkupSafe==1.1.1
label-studio 0.4.1 depends on MarkupSafe==1.1.1

To fix this you could try to:
1. loosen the range of package versions you've specified
2. remove package versions to allow pip attempt to solve the dependency conflict

ERROR: ResolutionImpossible: for help visit https://pip.pypa.io/en/latest/user_guide/#fixing-conflicting-dependencies
WARNING: You are using pip version 21.2.3; however, version 24.3.1 is available.
You should consider upgrading via the '/home/Akhilesh/openssl-1.1.1/Python-3.10.0/myenv/bin/python3.10 -m pip install --upgrade pip' command.
(myenv) Akhilesh@linux1:~/openssl-1.1.1/Python-3.10.0$ label-studio start
label-studio: command not found
(myenv) Akhilesh@linux1:~/openssl-1.1.1/Python-3.10.0$ python3.10 -m pip install --upgrade pip
Requirement already satisfied: pip in ./myenv/lib/python3.10/site-packages (21.2.3)
Collecting pip
  Downloading pip-25.0-py3-none-any.whl (1.8 MB)
    |#####| 1.8 MB 1.2 MB/s
Installing collected packages: pip
  Attempting uninstall: pip
    Found existing installation: pip 21.2.3
    Uninstalling pip-21.2.3:
      Successfully uninstalled pip-21.2.3
Successfully installed pip-25.0
(myenv) Akhilesh@linux1:~/openssl-1.1.1/Python-3.10.0$ pip install label-studio

```


- Installed Label Studio using pip in the newly installed Python 3.10 environment.

```

9ff0b2c
Stored in directory: /home/Akhilesh/.cache/pip/wheels/a7/c7/cd/d1c736f1f97603c2ad223db5689c9b9603c2d53890fe156fc8
Building wheel for drf-generators (pyproject.toml) ... done
Created wheel for drf-generators: filename=drf_generators-0.3.0-py2.py3-none-any.whl size=9831 sha256=499f7c705df10af124e526531a2dff7c9175053a267c3fbd657cfe5
9c22ebad
Stored in directory: /home/Akhilesh/.cache/pip/wheels/bd/b0/47/0389db14737660b01d4b8fd891921ef143296b0cce62fcbef5
Building wheel for ordered-set (pyproject.toml) ... done
Created wheel for ordered-set: filename=ordered_set-4.0.2-py2.py3-none-any.whl size=8277 sha256=a3ecf8f26dabc314194b92c279cdc007ea833006fe3771753a063fc2380660
fa
Stored in directory: /home/Akhilesh/.cache/pip/wheels/a0/7b/c7/13d28403563090b0f5a6450dc297cd6d8583358e3755670da6
Building wheel for django-ranged-fileresponse (pyproject.toml) ... done
Created wheel for django-ranged-fileresponse: filename=django_ranged_fileresponse-0.1.2-py3-none-any.whl size=3260 sha256=58871be0c2a0dc0e4ebac68910ee6b8b38da
6ddbd3f1f185c092c1a62a982cab
Stored in directory: /home/Akhilesh/.cache/pip/wheels/0a/39/8d/3e779f86f962b817d1acce58407c5a68385da4f77d73fca97
Successfully built attr drf-flex-fields drf-generators ordered-set django-ranged-fileresponse
Installing collected packages: xmljson, webencodings, rules, pytz, pyRFC3339, lockfile, ijson, genson, expiringdict, drf-flex-fields, drf-dynamic-fields, django
-ranged-fileresponse, boto, attr, appdirs, zipp, wrapt, wheel, urllib3, uritemplate, ujson, ua-parser-builtins, tzdata, typing-extensions, tqdm, tomli, toml, sq
lparse, sniffio, six, setuptools, semver, rstr, rpds-py, regex, redis, pyyaml, python-json-logger, pygments, pycparser, pyasn1, pycpg2-binary, protobuf, platf
ormdirs, Pillow, pathspec, packaging, ordered-set, numpy, mpyy-extensions, mdurl, MarkupSafe, lxml, joblib, jmespath, jiter, isort, isodate, inflection, inflect
or, idna, h11, grpcio, google-crc32c, exceptiongroup, dnspython, django-environ, distro, defusedxml, colorama, click, charset-normalizer, certifi, cachetools, att
rs, argcomplete, annotated-types, ua-parser, smart-open, sentry-sdk, rsa, rq, requests, referencing, python-dateutil, pydantic-core, pyasn1-modules, proto-plus,
nlTK, markdown-it-py, lxml-html-clean, launchdarkly-server-sdk, jinja2, importlib-metadata, httpcore, googleapis-common-protos, google-resumable-media, email-v
alidator, deprecated, cffi, bleach, black, asgiref, anyio, user-agents, rich, requests-mock, pydantic, pandas, opentelemetry-api, jsonschema-specifications, htt
px, grpcio-status, google-cloud-audit-log, google-auth, faker, Django, cryptography, botocore, azure-core, s3transfer, pyboxen, openai, jsonschema, grpc-google-
iam-v1, google-api-core, drf-generators, django-rest-framework, django-user-agents, django-storages, django-rq, django-model-utils, django-migration-linter, djang
o-filter, django-extensions, django-debug-toolbar, django-csp, django-cors-headers, django-annoying, azure-storage-blob, jsf, humansignal-drf-yasg, google-cloud
-core, datamodel-code-generator, boto3, label-studio-sdk, google-cloud-storage, google-cloud-appengine-logging, google-cloud-logging, label-studio
Attempting uninstall: setuptools
Found existing installation: setuptools 57.4.0
Uninstalling setuptools-57.4.0:
Successfully uninstalled setuptools-57.4.0
Successfully installed Django-4.2.18 MarkupSafe-3.0.2 Pillow-11.1.0 annotated-types-0.7.0 anyio-4.8.0 appdirs-1.4.4 argcomplete-3.5.3 asgiref-3.8.1 attr-0.3.1 a
ttrs-25.1.0 azure-core-1.32.0 azure-storage-blob-12.24.1 black-24.10.0 bleach-5.0.1 boto-2.49.0 boto3-1.36.6 botocore-1.36.6 cachetools-5.5.1 certifi-2024.12.14
cffi-1.17.1 charset-normalizer-3.4.1 click-8.1.8 colorama-0.4.6 cryptography-44.0.0 datamodel-code-generator-0.26.1 defusedxml-0.7.1 deprecated-1.2.17 distro-1
.9.0 django-annoying-0.10.6 django-cors-headers-3.6.0 django-csp-3.7 django-debug-toolbar-3.2.1 django-environ-0.10.0 django-extensions-3.2.3 django-filter-2.4
.0 django-migration-linter-5.1.0 django-model-utils-4.1.1 django-ranged-fileresponse-0.1.2 django-rq-2.5.1 django-storages-1.12.3 django-user-agents-0.4.0 django
-rest-framework-3.15.2 dnspython-2.7.0 drf-dynamic-fields-0.3.0 drf-flex-fields-0.9.5 drf-generators-0.3.0 email-validator-2.2.0 exceptiongroup-1.2.2 expiringdict
-1.2.2 faker-35.0.0 genson-1.3.0 google-api-core-2.24.1rc1 google-auth-2.38.0 google-cloud-appengine-logging-1.5.0 google-cloud-audit-log-0.3.0 google-cloud-cor
e-2.4.1 google-cloud-logging-3.11.3 google-cloud-storage-2.19.0 google-crc32c-1.6.0 google-resumable-media-2.7.2 googleapis-common-protos-1.66.0 grpc-google-iam
-v1-0.14.0 grpcio-1.70.0 grpcio-status-1.70.0 h11-0.14.0 httpcore-1.0.7 httpx-0.28.1 humansignal-drf-yasg-1.21.10.post1 idna-3.10 ijson-3.3.0 importlib-metadata
-8.5.0 inflect-5.6.2 inflection-0.5.1 isodate-0.7.2 isort-5.13.2 jinja2-3.1.5 jiter-0.8.2 jmespath-1.0.1 joblib-1.4.2 jsf-0.11.2 jsonschema-4.23.0 jsonschema-sp
ecifications-2024.10.1 label-studio-1.15.0 label-studio-sdk-1.0.8 launchdarkly-server-sdk-8.2.1 lockfile-0.12.2 lxml-5.3.0 lxml-html-clean-0.4.1 markdown-it-py-
3.0.0 mdurl-0.1.2 mpyy-extensions-1.0.0 nlTK-3.9.1 numpy-1.26.4 openai-1.60.1 opentelemetry-api-1.29.0 ordered-set-4.0.2 packaging-24.2 pandas-2.2.3 pathspec-0.
12.1 platformdirs-4.3.6 proto-plus-1.26.0rc1 protobuf-5.29.3 pycpg2-binary-2.9.10 pyRFC3339-2.0.1 pyasn1-0.6.1 pyasn1-modules-0.4.1 pyboxen-1.3.0 pycparser-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 rpds-py-0.22.3 rq-1.10.1 rsa-4.9 rstr-3.2.2 rules-3.4 s3transfer-0.11.2 semver-3.0.4 sen
try-sdk-2.20.0 setuptools-75.8.0 six-1.17.0 smart-open-7.1.0 sniffio-1.3.1 sqlparse-0.5.3 tomli-0.10.2 tomli-2.2.1 tqdm-4.67.1 typing-extensions-4.12.2 tzdata-20
25.1 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
(myenu) Akhilesh@linux1: ~$ pip install label-studio

```

```

_setup_eno()
File "/home/Akhilesh/openssl-1.1.1/Python-3.10.0/myenv/lib/python3.10/site-packages/label_studio/server.py", line 35, in _setup_eno
get_usgi_application()
File "/home/Akhilesh/openssl-1.1.1/Python-3.10.0/myenv/lib/python3.10/site-packages/django/core/usgi.py", line 12, in get_usgi_application
django.setup(set_prefix=False)
File "/home/Akhilesh/openssl-1.1.1/Python-3.10.0/myenv/lib/python3.10/site-packages/django/__init__.py", line 24, in setup
apps.populate(settings.INSTALLED_APPS)
File "/home/Akhilesh/openssl-1.1.1/Python-3.10.0/myenv/lib/python3.10/site-packages/django/apps/registry.py", line 116, in populate
app_config.import_models()
File "/home/Akhilesh/openssl-1.1.1/Python-3.10.0/myenv/lib/python3.10/site-packages/django/apps/config.py", line 269, in import_models
self.models_module = import_module(models_module_name)
File "/home/Akhilesh/.localpython/lib/python3.10/importlib/__init__.py", line 126, in import_module
return _bootstrap._gcd_import(name[level:], package, level)
File "<Frozen importlib._bootstrap>", line 1050, in _gcd_import
File "<Frozen importlib._bootstrap>", line 1027, in _find_and_load
File "<Frozen importlib._bootstrap>", line 1006, in _find_and_load_unlocked
File "<Frozen importlib._bootstrap>", line 688, in _load_unlocked
File "<Frozen importlib._bootstrap_external>", line 883, in exec_module
File "<Frozen importlib._bootstrap>", line 241, in call_with_frames_removed
File "/home/Akhilesh/openssl-1.1.1/Python-3.10.0/myenv/lib/python3.10/site-packages/django/contrib/auth/models.py", line 3, in <module>
from django.contrib.auth.base_user import AbstractBaseUser, BaseUserManager
File "/home/Akhilesh/openssl-1.1.1/Python-3.10.0/myenv/lib/python3.10/site-packages/django/contrib/auth/base_user.py", line 57, in <module>
class AbstractBaseUser(models.Model):
File "/home/Akhilesh/openssl-1.1.1/Python-3.10.0/myenv/lib/python3.10/site-packages/django/db/models/base.py", line 143, in __new__
new_class.add_to_class("__meta__", Options(meta, app_label))
File "/home/Akhilesh/openssl-1.1.1/Python-3.10.0/myenv/lib/python3.10/site-packages/django/db/models/base.py", line 371, in add_to_class
value.contribute_to_class(cls, name)
File "/home/Akhilesh/openssl-1.1.1/Python-3.10.0/myenv/lib/python3.10/site-packages/django/db/models/options.py", line 243, in contribute_to_class
self.db_table, connection.ops.max_name_length()
File "/home/Akhilesh/openssl-1.1.1/Python-3.10.0/myenv/lib/python3.10/site-packages/django/db/models/connection.py", line 15, in __getattr__
return getattr(self, connections[self.alias], item)
File "/home/Akhilesh/openssl-1.1.1/Python-3.10.0/myenv/lib/python3.10/site-packages/django/db/models/connection.py", line 62, in __getitem__
conn = self.create_connection(alias)
File "/home/Akhilesh/openssl-1.1.1/Python-3.10.0/myenv/lib/python3.10/site-packages/django/db/models/connection.py", line 193, in create_connection
backend = load_backend(dbl["ENGINE"])
File "/home/Akhilesh/openssl-1.1.1/Python-3.10.0/myenv/lib/python3.10/site-packages/django/db/models/connection.py", line 113, in load_backend
return import_module("%s.base" % backend_name)
File "/home/Akhilesh/.localpython/lib/python3.10/importlib/__init__.py", line 126, in import_module
return _bootstrap._gcd_import(name[level:], package, level)
File "/home/Akhilesh/openssl-1.1.1/Python-3.10.0/myenv/lib/python3.10/site-packages/django/db/backends/sqlite3/base.py", line 9, in <module>
from sqlite3 import dbapi2 as Database
File "/home/Akhilesh/.localpython/lib/python3.10/sqlite3/__init__.py", line 23, in <module>
from sqlite3.dbapi2 import *
File "/home/Akhilesh/.localpython/lib/python3.10/sqlite3/dbapi2.py", line 27, in <module>
from _sqlite3 import *
ModuleNotFoundError: No module named '_sqlite3'
Sentry is attempting to send 2 pending events
Waiting up to 2 seconds
Press Ctrl-C to quit
(myenv) Akhilesh@linux1:~/openssl-1.1.1/Python-3.10.0$

```

- When we tried to start Label Studio using the label-studio start command, we encountered a "Module not found" error

```

File "/home/Akhilesh/openssl-1.1.1/Python-3.10.0/myenv/lib/python3.10/site-packages/django/db/utils.py", line 113, in load_backend
    return import_module("%s.base" % backend_name)
File "/home/Akhilesh/.localpython/lib/python3.10/importlib/_init_.py", line 126, in import_module
    return _bootstrap._gcd_import(name[level:1], package, level)
File "/home/Akhilesh/openssl-1.1.1/Python-3.10.0/myenv/lib/python3.10/site-packages/django/db/backends/sqlite3/base.py", line 9, in <module>
    from sqlite3 import dbapi2 as Database
File "/home/Akhilesh/.localpython/lib/python3.10/sqlite3/_init_.py", line 23, in <module>
    from sqlite3.dbapi2 import *
File "/home/Akhilesh/.localpython/lib/python3.10/sqlite3/dbapi2.py", line 27, in <module>
    from _sqlite3 import *
ModuleNotFoundError: No module named '_sqlite3'
Sentry is attempting to send 2 pending events
Waiting up to 2 seconds
Press Ctrl-C to quit
(myenv) Akhilesh@linux1:~/openssl-1.1.1/Python-3.10.0$ history
 1 history
 2 sudo apt list | grep -i python3.10
 3 wget https://www.openssl.org/source/openssl-1.1.1.tar.gz
 4 tar -zxvf openssl-1.1.1.tar.gz
 5 cd openssl-1.1.1
 6 ./config --prefix=$HOME/.localopenssl --openssldir=$HOME/.localopenssl
 7 make -j$(nproc)
 8 make install
 9 $HOME/.localopenssl/bin/openssl version
10 export LD_LIBRARY_PATH=$HOME/.localopenssl/lib:$LD_LIBRARY_PATH
11 export LD_LIBRARY_PATH=$HOME/.localopenssl/lib:$LD_LIBRARY_PATH
12 echo $LD_LIBRARY_PATH
13 $HOME/.localopenssl/bin/openssl version
14 wget https://www.python.org/ftp/python/3.10.0/Python-3.10.0.tgz
15 tar -zxvf Python-3.10.0.tgz
16 cd Python3.10
17 cd Python-3.10.0
18 ./configure --prefix=$HOME/.localpython --with-openssl=$HOME/.localopenssl
19 make -j$(nproc)
20 make altinstall
21 $HOME/.localpython/bin/python3.10 --version
22 $HOME/.localpython/bin/python3.10 -m venv myenv
23 source myenv/bin/activate
24 pip install label-studio
25 label-studio start
26 label-studio
27 label-studio --version
28 which label-studio
29 pip install label-studio --upgrade
30 label-studio start
31 python3.10 -m pip install --upgrade pip
32 pip install label-studio
33 label-studio start
34 history
(myenv) Akhilesh@linux1:~/openssl-1.1.1/Python-3.10.0$

```

- Some commands were not detailed earlier in the document, so this screenshot is provided for confirmation
- This screenshot shows the steps taken to install and configure Python 3.10 and Label Studio on a custom environment using OpenSSL.
- It includes commands for downloading, extracting, compiling, and setting up the necessary dependencies, along with verification steps for successful installation.