

Team number: 24

```
Debian GNU/Linux 12 vbox tty1
vbox login: vm
Password:
Linux vbox 6.1.0-30-amd64 #1 SMP PREEMPT_DYNAMIC Debian 6.1.124-1 (2025-01-12) x86_64

The programs included with the Debian GNU/Linux system are free software;
the exact distribution terms for each program are described in the
individual files in /usr/share/doc/*/copyright.

Debian GNU/Linux comes with ABSOLUTELY NO WARRANTY, to the extent
permitted by applicable law.
Last login: Sun Jan 26 19:12:41 IST 2025 on tty4
vm@vbox:~$ history -c && history -w
vm@vbox:~$ history
  1  history
vm@vbox:~$
```

Cleared command history and then printed history to the console

```

Debian GNU/Linux 12 vbox tty1

vbox login: vm
Password:
Linux vbox 6.1.0-30-amd64 #1 SMP PREEMPT_DYNAMIC Debian 6.1.124-1 (2025-01-12) x86_64

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Last login: Sun Jan 26 19:12:41 IST 2025 on tty4
vm@vbox:~$ history -c && history -w
vm@vbox:~$ history
  1 history
vm@vbox:~$ sudo apt list| grep -i "python3.10"
[sudo] password for vm:

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

vm@vbox:~$

```

## Checking if python3.10 is already installed

```

Debian GNU/Linux 12 vbox tty1

vbox login: vm
Password:
Linux vbox 6.1.0-30-amd64 #1 SMP PREEMPT_DYNAMIC Debian 6.1.124-1 (2025-01-12) x86_64

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permitted by applicable law.
Last login: Sun Jan 26 19:12:41 IST 2025 on tty4
vm@vbox:~$ history -c && history -w
vm@vbox:~$ history
  1 history
vm@vbox:~$ sudo apt list| grep -i "python3.10"
[sudo] password for vm:

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

vm@vbox:~$ wget https://www.python.org/ftp/python/3.10.16/Python-3.10.16.tar.xz
--2025-01-26 19:34:31-- https://www.python.org/ftp/python/3.10.16/Python-3.10.16.tar.xz
Resolving www.python.org (www.python.org)... 199.232.20.223, 2a04:4e42:42::223
Connecting to www.python.org (www.python.org)[199.232.20.223]:443... connected.
HTTP request sent, awaiting response... 200 OK
Length: 19610392 (19M) [application/octet-stream]
Saving to: 'Python-3.10.16.tar.xz'

Python-3.10.16.tar.xz          100%[=====] 18.70M  8.90MB/s   in 2.1s

2025-01-26 19:34:34 (8.90 MB/s) - 'Python-3.10.16.tar.xz' saved [19610392/19610392]

vm@vbox:~$ _

```

## Fetching source code for Python3.10 using wget command

```

Debian GNU/Linux 12 vbox tty1

vbox login: vm
Password:
Linux vbox 6.1.0-30-amd64 #1 SMP PREEMPT_DYNAMIC Debian 6.1.124-1 (2025-01-12) x86_64

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Last login: Sun Jan 26 19:12:41 IST 2025 on tty4
vm@vbox:~$ history -c && history -w
vm@vbox:~$ history
  1 history
vm@vbox:~$ sudo apt list| grep -i "python3.10"
[sudo] password for vm:

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

vm@vbox:~$ wget https://www.python.org/ftp/python/3.10.16/Python-3.10.16.tar.xz
--2025-01-26 19:34:31-- https://www.python.org/ftp/python/3.10.16/Python-3.10.16.tar.xz
Resolving www.python.org (www.python.org)... 199.232.20.223, 2a04:4e42:42::223
Connecting to www.python.org (www.python.org)[199.232.20.223]:443... connected.
HTTP request sent, awaiting response... 200 OK
Length: 19610392 (19M) [application/octet-stream]
Saving to: 'Python-3.10.16.tar.xz'

Python-3.10.16.tar.xz          100%[=====] 18.70M  8.90MB/s   in 2.1s

2025-01-26 19:34:34 (8.90 MB/s) - 'Python-3.10.16.tar.xz' saved [19610392/19610392]

vm@vbox:~$ ls
Python-3.10.16.tar.xz
vm@vbox:~$ tar -xvf Python-3.10.16.tar.xz
vm@vbox:~$ _

```

## Extracting tarball using tar command

```

Debian GNU/Linux 12 vbox tty1

vbox login: vm
Password:
Linux vbox 6.1.0-30-amd64 #1 SMP PREEMPT_DYNAMIC Debian 6.1.124-1 (2025-01-12) x86_64

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Last login: Sun Jan 26 19:12:41 IST 2025 on tty4
vm@vbox:~$ history -c && history -w
vm@vbox:~$ history
  1 history
vm@vbox:~$ sudo apt list| grep -i "python3.10"
[sudo] password for vm:

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

vm@vbox:~$ wget https://www.python.org/ftp/python/3.10.16/Python-3.10.16.tar.xz
--2025-01-26 19:34:31-- https://www.python.org/ftp/python/3.10.16/Python-3.10.16.tar.xz
Resolving www.python.org (www.python.org)... 199.232.20.223, 2a04:4e42:42::223
Connecting to www.python.org (www.python.org)[199.232.20.223]:443... connected.
HTTP request sent, awaiting response... 200 OK
Length: 19610392 (19M) [application/octet-stream]
Saving to: 'Python-3.10.16.tar.xz'

Python-3.10.16.tar.xz          100%[=====] 18.70M  8.90MB/s   in 2.1s

2025-01-26 19:34:34 (8.90 MB/s) - 'Python-3.10.16.tar.xz' saved [19610392/19610392]

vm@vbox:~$ ls
Python-3.10.16.tar.xz
vm@vbox:~$ tar -xvf Python-3.10.16.tar.xz
vm@vbox:~$ ls
Python-3.10.16 Python-3.10.16.tar.xz
vm@vbox:~$ cd Python-3.10.16/
vm@vbox:~/Python-3.10.16$ ls
aclocal.m4          config.guess  configure    Doc             Include       Lib           Mac           Misc           Objects       PC            Programs     pyconfig.h.in  Python         README.rst       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
vm@vbox:~/Python-3.10.16$ _

```

going to the Python source directory

```

vm@vbox:~/Python-3.10.16$ ./configure --enable-optimizations --prefix=$HOME/python3.10
checking build system type... x86_64-pc-linux-gnu
checking host system type... x86_64-pc-linux-gnu
checking for python3.10... no
checking for python3... python3
checking for --enable-universalsdk... no
checking for --with-universal-archs... no
checking 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...

```

## Configuring to enable optimizations

```

aclocal.m4      config.log      configure      Grammar      Lib      Makefile      Misc      Parser      Programs      Python      Tools
CODE_OF_CONDUCT.md  config.status  configure.ac  Include      LICENSE      Makefile.pre  Modules      PC      pyconfig.h  README.rst
config.guess     config.sub     Doc           install-sh   Mac          Makefile.pre.in  Objects      PCbuild     pyconfig.h.in  setup.py

vm@vbox:~/Python-3.10.16$ make
Running code to generate profile data (this can take a while):
# First, we need to create a clean build with profile generation
# enabled.
make profile-gen-stamp
make[1]: Entering directory '/home/vm/Python-3.10.16'
make clean
make[2]: Entering directory '/home/vm/Python-3.10.16'
find . -depth -name '__pycache__' -exec rm -rf {} ';'
find . -name '*.py[co]' -exec rm -f {} ';'
find . -name '*.o' -exec rm -f {} ';'
find . -name '*.so' -exec rm -f {} ';'
find . -name '*.so.[0-9]*.[0-9]*' -exec rm -f {} ';'
find . -name '*.lst' -exec rm -f {} ';'
find build -name 'fficonfig.h' -exec rm -f {} ';' || true
find: 'build': No such file or directory
find build -name '*.py' -exec rm -f {} ';' || true
find: 'build': No such file or directory
find build -name '*.py[co]' -exec rm -f {} ';' || true
find: 'build': No such file or directory
rm -f pybuilddir.txt
rm -f Lib/lib2to3/*Grammar*.pickle
rm -f Programs/_testembed Programs/_freeze_importlib
find build -type f -a ! -name '*.gc???' -exec rm -f {} ';'
find: 'build': No such file or directory
make[2]: [Makefile:1940: clean-retain-profile] Error 1 (ignored)
rm -f Include/pydtrace_probes.h
rm -f profile-gen-stamp
make[3]: Entering directory '/home/vm/Python-3.10.16'
find . -name '*.gc???' -exec rm -f {} ';'
find . -name '*.profclang?' -exec rm -f {} ';'
find . -name '*.dyn' -exec rm -f {} ';'
rm -f /home/vm/Python-3.10.16/coverage.info
rm -rf /home/vm/Python-3.10.16/lcov-report
rm -f profile-run-stamp
make[3]: Leaving directory '/home/vm/Python-3.10.16'
make[2]: Leaving directory '/home/vm/Python-3.10.16'
touch profile-clean-stamp
Building with support for profile generation:
make build_all_generate_profile
make[2]: Entering directory '/home/vm/Python-3.10.16'
make build_all CFLAGS_NODIST="-fprofile-generate" LDFLAGS_NODIST="-fprofile-generate" LIBS="-lcrypt -ldl -lm"
make[3]: Entering directory '/home/vm/Python-3.10.16'
gcc -O -Wno-unused-result -Wsign-compare -Wno-deprecated -g -fwrapv -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-generate -I./Include/internal -I./Include -DPy_BUILD_CORE -o Programs/python.o /Programs/python.c

```

running make command to build python from source

```

35.c -o build/temp.linux-x86_64-3.10/home/vm/Python-3.10.16/Modules/xxlimited_35.o
gcc -shared -fno-semantic-interposition build/temp.linux-x86_64-3.10/home/vm/Python-3.10.16/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 -fwrapv -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
-I/usr/include/x86_64-linux-gnu -I/usr/local/include -I/home/vm/Python-3.10.16/Include -I/home/vm/Python-3.10.16 -c /home/vm/Python-3.10.16/Modules/_ctypes/_c
types.c -o build/temp.linux-x86_64-3.10/home/vm/Python-3.10.16/Modules/_ctypes/_ctypes.o -DPy_BUILD_CORE_MODULE
/home/vm/Python-3.10.16/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             readline
zlib

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

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/vm/Python-3.10.16/Tools/scripts/pydoc3 -> build/scripts-3.10
copying and adjusting /home/vm/Python-3.10.16/Tools/scripts/idle3 -> build/scripts-3.10
copying and adjusting /home/vm/Python-3.10.16/Tools/scripts/2to3 -> build/scripts-3.10
changing mode of build/scripts-3.10/pydoc3 from 644 to 755
changing mode of build/scripts-3.10/idle3 from 644 to 755
changing mode of build/scripts-3.10/2to3 from 644 to 755
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 -o -Wno-unused-result -Wsign-compare -DNDEBUG -g -fwrapv -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
de -DPy_BUILD_CORE -o Programs/_testembed.o ./Programs/_testembed.c
gcc -fno-semantic-interposition -Xlinker -export-dynamic -o Programs/_testembed Programs/_testembed.o libpython3.10.a -lcrypt -ldl -lm -lm
make[1]: Leaving directory '/home/vm/Python-3.10.16'
vm@vbox:~/Python-3.10.16$

```

## Python could not be built because openssl was not present

```

vm@vbox:~/Python-3.10.16$ find /etc/ -name openssl.cnf -printf "%h\n"
find: '/etc/cups/ssl': Permission denied
/etc/ssl
find: '/etc/ssl/private': Permission denied
find: '/etc/pkinit-1/rules.d': Permission denied
vm@vbox:~/Python-3.10.16$

```

find openssl configuration directory using find command

## fetching openssl source code to build it from source

## extracting tar.gz using gunzip and tar commands

```

vm@vbox:~$ gunzip openssl-3.4.0.tar.gz

gzip: openssl-3.4.0.tar.gz: unexpected end of file
vm@vbox:~$ curl -O https://github.com/openssl/openssl/releases/download/openssl-3.4.0/openssl-3.4.0.tar.gz
  % Total    % Received % Xferd  Average Speed   Time    Time     Time  Current
                                 Dload  Upload   Total   Spent    Left   Speed

  0     0     0     0     0     0     0  0  0  0  0  0  0  0  0  0  0  0  0  0  0  0  0  0
vm@vbox:~$ ls
openssl-3.4.0.tar.gz  Python-3.10.16  Python-3.10.16.tar.xz
vm@vbox:~$ rm openssl-3.4.0.tar.gz
vm@vbox:~$ wget https://github.com/openssl/openssl/releases/download/openssl-3.4.0/openssl-3.4.0.tar.gz
--2025-01-26 20:45:45-- https://github.com/openssl/openssl/releases/download/openssl-3.4.0/openssl-3.4.0.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/ff52f315-48e2-40c9-8eb6-f2103e55b520?X-Amz-Algorithm=AWS4-HMAC-SHA256&X-Amz-Credential=releaseassetproduction%2F20250126%2Fus-east-1%2Fs3%2Faws4_request&X-Amz-Date=20250126T151545Z&X-Amz-Expires=300&X-Amz-Signature=bebf9420f526574f444e342ed493cb7366a6f785531c93c9bf863852e787e3948&X-Amz-SignedHeaders=host&response-content-disposition=attachment%3B%20filename%3Dopenssl-3.4.0.tar.gz&response-content-type=application%2Foctet-stream [following]
--2025-01-26 20:45:45-- https://objects.githubusercontent.com/github-production-release-asset-2e65be/7634677/ff52f315-48e2-40c9-8eb6-f2103e55b520?X-Amz-Algorithm=AWS4-HMAC-SHA256&X-Amz-Credential=releaseassetproduction%2F20250126%2Fus-east-1%2Fs3%2Faws4_request&X-Amz-Date=20250126T151545Z&X-Amz-Expires=300&X-Amz-Signature=bebf9420f526574f444e342ed493cb7366a6f785531c93c9bf863852e787e3948&X-Amz-SignedHeaders=host&response-content-disposition=attachment%3B%20filename%3Dopenssl-3.4.0.tar.gz&response-content-type=application%2Foctet-stream
Resolving objects.githubusercontent.com (objects.githubusercontent.com)... 185.199.110.133, 185.199.111.133, 185.199.108.133, ...
Connecting to objects.githubusercontent.com (objects.githubusercontent.com)|185.199.110.133|:443... connected.
HTTP request sent, awaiting response... 200 OK
Length: 18320899 (17M) [application/octet-stream]
Saving to: 'openssl-3.4.0.tar.gz'

openssl-3.4.0.tar.gz          100%[=====] 17.47M  8.70MB/s   in 2.0s

2025-01-26 20:45:48 (8.70 MB/s) - 'openssl-3.4.0.tar.gz' saved [18320899/18320899]

vm@vbox:~$ gunzip openssl-3.4.0.tar.gz
vm@vbox:~$ tar -xvf openssl-3.4.0.tar
vm@vbox:~$ ls
openssl-3.4.0  openssl-3.4.0.tar  Python-3.10.16  Python-3.10.16.tar.xz
vm@vbox:~$ cd openssl-3.4.0/
vm@vbox:~/openssl-3.4.0$ ls
ACKNOWLEDGEMENTS.md  config  demos  include  NOTES-DJGPP.md  NOTES-WINDOWS.md  README.md  tls1ite-ng
apps                 config.com  doc  INSTALL.md  NOTES-NONSTOP.md  oas-provider  README-PROVIDERS.md  tools
AUTHORS.md           configdata.pm.in  engines  LICENSE.txt  NOTES-PERL.md  os-dep  README-QUIC.md  util
build.info           Configurations  exporters  ms  NOTES-POSIX.md  providers  ssl  VERSION.dat
CHANGES.md          Configure  external  NEWS.md  NOTES-UNIX.md  python-ecdsa  SUPPORT.md  VMS
cloudflare-quiche    CONTRIBUTING.md  fuzz  NOTES-ANDROID.md  NOTES-VALGRIND.md  README-ENGINES.md  test  wycheproof
CODE-OF-CONDUCT.md  crypto  HACKING.md  NOTES-ANSI.md  NOTES-VMS.md  README-FIPS.md  tlslfuzzer
vm@vbox:~/openssl-3.4.0$ cd ../
vm@vbox:~$ pushd openssl-3.4.0
~/openssl-3.4.0
vm@vbox:~/openssl-3.4.0$

```

## change working directory to openssl source directory

```

vm@vbox:~$ curl -O https://github.com/openssl/openssl/releases/download/openssl-3.4.0/openssl-3.4.0.tar.gz
  % Total    % Received % Xferd  Average Speed   Time    Time     Time  Current
                                 Dload  Upload   Total   Spent    Left   Speed

  0     0     0     0     0     0     0  0  0  0  0  0  0  0  0  0  0  0  0  0  0  0  0  0
vm@vbox:~$ ls
openssl-3.4.0.tar.gz  Python-3.10.16  Python-3.10.16.tar.xz
vm@vbox:~$ rm openssl-3.4.0.tar.gz
vm@vbox:~$ wget https://github.com/openssl/openssl/releases/download/openssl-3.4.0/openssl-3.4.0.tar.gz
--2025-01-26 20:45:45-- https://github.com/openssl/openssl/releases/download/openssl-3.4.0/openssl-3.4.0.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/ff52f315-48e2-40c9-8eb6-f2103e55b520?X-Amz-Algorithm=AWS4-HMAC-SHA256&X-Amz-Credential=releaseassetproduction%2F20250126%2Fus-east-1%2Fs3%2Faws4_request&X-Amz-Date=20250126T151545Z&X-Amz-Expires=300&X-Amz-Signature=bebf9420f526574f444e342ed493cb7366a6f785531c93c9bf863852e787e3948&X-Amz-SignedHeaders=host&response-content-disposition=attachment%3B%20filename%3Dopenssl-3.4.0.tar.gz&response-content-type=application%2Foctet-stream [following]
--2025-01-26 20:45:45-- https://objects.githubusercontent.com/github-production-release-asset-2e65be/7634677/ff52f315-48e2-40c9-8eb6-f2103e55b520?X-Amz-Algorithm=AWS4-HMAC-SHA256&X-Amz-Credential=releaseassetproduction%2F20250126%2Fus-east-1%2Fs3%2Faws4_request&X-Amz-Date=20250126T151545Z&X-Amz-Expires=300&X-Amz-Signature=bebf9420f526574f444e342ed493cb7366a6f785531c93c9bf863852e787e3948&X-Amz-SignedHeaders=host&response-content-disposition=attachment%3B%20filename%3Dopenssl-3.4.0.tar.gz&response-content-type=application%2Foctet-stream
Resolving objects.githubusercontent.com (objects.githubusercontent.com)... 185.199.110.133, 185.199.111.133, 185.199.108.133, ...
Connecting to objects.githubusercontent.com (objects.githubusercontent.com)|185.199.110.133|:443... connected.
HTTP request sent, awaiting response... 200 OK
Length: 18320899 (17M) [application/octet-stream]
Saving to: 'openssl-3.4.0.tar.gz'

openssl-3.4.0.tar.gz          100%[=====] 17.47M  8.70MB/s   in 2.0s

2025-01-26 20:45:48 (8.70 MB/s) - 'openssl-3.4.0.tar.gz' saved [18320899/18320899]

vm@vbox:~$ gunzip openssl-3.4.0.tar.gz
vm@vbox:~$ tar -xvf openssl-3.4.0.tar
vm@vbox:~$ ls
openssl-3.4.0  openssl-3.4.0.tar  Python-3.10.16  Python-3.10.16.tar.xz
vm@vbox:~$ cd openssl-3.4.0/
vm@vbox:~/openssl-3.4.0$ ls
ACKNOWLEDGEMENTS.md  config  demos  include  NOTES-DJGPP.md  NOTES-WINDOWS.md  README.md  tls1ite-ng
apps                 config.com  doc  INSTALL.md  NOTES-NONSTOP.md  oas-provider  README-PROVIDERS.md  tools
AUTHORS.md           configdata.pm.in  engines  LICENSE.txt  NOTES-PERL.md  os-dep  README-QUIC.md  util
build.info           Configurations  exporters  ms  NOTES-POSIX.md  providers  ssl  VERSION.dat
CHANGES.md          Configure  external  NEWS.md  NOTES-UNIX.md  python-ecdsa  SUPPORT.md  VMS
cloudflare-quiche    CONTRIBUTING.md  fuzz  NOTES-ANDROID.md  NOTES-VALGRIND.md  README-ENGINES.md  test  wycheproof
CODE-OF-CONDUCT.md  crypto  HACKING.md  NOTES-ANSI.md  NOTES-VMS.md  README-FIPS.md  tlslfuzzer
vm@vbox:~/openssl-3.4.0$ cd ../
vm@vbox:~$ pushd openssl-3.4.0
~/openssl-3.4.0
vm@vbox:~/openssl-3.4.0$ ./config --prefix=/usr/local/custom-openssl --libdir=/lib --openssldir=/etc/ssl
Configuring OpenSSL version 3.4.0 for target linux-x86_64
Using os-specific seed configuration

```

## configuring for installation

```

Resolving objects.githubusercontent.com (objects.githubusercontent.com)... 185.199.110.133, 185.199.111.133, 185.199.108.133, ...
Connecting to objects.githubusercontent.com (objects.githubusercontent.com)[185.199.110.133]:443... connected.
HTTP request sent, awaiting response... 200 OK
Length: 18320899 (17M) [application/octet-stream]
Saving to: 'openssl-3.4.0.tar.gz'

openssl-3.4.0.tar.gz           100%[=====] 17.47M  8.70MB/s   in 2.0s

2025-01-26 20:45:48 (8.70 MB/s) - 'openssl-3.4.0.tar.gz' saved [18320899/18320899]

vm@vbox:~$ gunzip openssl-3.4.0.tar.gz
vm@vbox:~$ tar -xvf openssl-3.4.0.tar
vm@vbox:~$ ls
openssl-3.4.0  openssl-3.4.0.tar  Python-3.10.16  Python-3.10.16.tar.xz
vm@vbox:~$ cd openssl-3.4.0/
vm@vbox:~/openssl-3.4.0$ ls
ACKNOWLEDGEMENTS.md  config      demos      include     NOTES-DJGPP.md  NOTES-WINDOWS.md  README.md  tls1slite-ng
apps                  config.com  doc        INSTALL.md  NOTES-NONSTOP.md  oqs-provider      README-PROVIDERS.md  tools
AUTHORS.md            configdata.pm.in  engines   LICENSE.txt  NOTES-PERL.md    os-dep            README-QUIC.md      util
build.info            Configurations  exporters  ms          NOTES-POSIX.md   providers          SUPPORT.md          VERSION.dat
CHANGES.md           Configure     external   NEWS.md     NOTES-UNIX.md    python-ecdsa      test              VMS
cloudflare-quiche     CONTRIBUTING.md  fuzz      NOTES-ANDROID.md  NOTES-VALGRIND.md  README-ENGINES.md  test              wycheproof
CODE-OF-CONDUCT.md    crypto       HACKING.md  NOTES-ANSI.md  NOTES-VMS.md     README-FIPS.md    tlsfuzzer

vm@vbox:~/openssl-3.4.0$ cd ../
vm@vbox:~$ pushd openssl-3.4.0
~/openssl-3.4.0 ~
vm@vbox:~/openssl-3.4.0$ ./config --prefix=/usr/local/custom-openssl --libdir=/lib --openssldir=/etc/ssl
Configuring OpenSSL version 3.4.0 for target linux-x86_64
Using os-specific seed configuration
Created configdata.pm
Running configdata.pm
Created Makefile.in
Created Makefile
Created include/openssl/configuration.h

*****
***
***   OpenSSL has been successfully configured   ***
***
***   If you encounter a problem while building, please open an ***
***   issue on GitHub <https://github.com/openssl/openssl/issues> ***
***   and include the output from the following command:       ***
***
***       perl configdata.pm --dump                             ***
***
***   (If you are new to OpenSSL, you might want to consult the ***
***   'Troubleshooting' section in the INSTALL.md file first)   ***
***
*****
vm@vbox:~/openssl-3.4.0$

```

## configuration done

```

"VERSION=3.4.0" "LDLIBS=-ldl -pthread" > builddata.pm
./usr/bin/perl "-I." "-Mconfigdata" "util/dofile.pl" "-oMakefile" crypto/params_idx.c.in > crypto/params_idx.c
./usr/bin/perl util/mkinstallvars.pl "PREFIX=/usr/local/custom-openssl" BINDIR=bin "LIBDIR=" "libdir=/lib" INCLUDEDIR=include APPLINKDIR=include/openssl "ENGINESDIR=/lib/engines-3" MODULESDIR=/lib/openssl-modules" PKGCONFIGDIR=/lib/pkgconfig" "CMAKECONFIGDIR=/lib/cmake/openssl" "LDLIBS=-ldl -pthread" "VERSION=3.4.0" > installdata.pm
./usr/bin/perl "-I." "-Mconfigdata" "util/dofile.pl" "-oMakefile" include/crypto/bn_conf.h.in > include/crypto/bn_conf.h
./usr/bin/perl "-I." "-Mconfigdata" "util/dofile.pl" "-oMakefile" include/crypto/dso_conf.h.in > include/crypto/dso_conf.h
./usr/bin/perl "-I." "-Iutil/perl" "-Mconfigdata" "-MOpenSSL::paramnames" "util/dofile.pl" "-oMakefile" include/internal/param_names.h.in > include/internal/param_names.h
./usr/bin/perl "-I." "-Mconfigdata" "util/dofile.pl" "-oMakefile" include/openssl/asn1.h.in > include/openssl/asn1.h
./usr/bin/perl "-I." "-Mconfigdata" "util/dofile.pl" "-oMakefile" include/openssl/asn1t.h.in > include/openssl/asn1t.h
DEBUG: all keys: APPLINKDIR, BINDIR, CMAKECONFIGDIR, ENGINESDIR, INCLUDEDIR, LDLIBS, LIBDIR, MODULESDIR, PKGCONFIGDIR, PREFIX, VERSION, libdir
No value given for CMAKECONFIGDIR
No value given for PKGCONFIGDIR
No value given for libdir
DEBUG: PREFIX = . => PREFIX = /home/vm/openssl-3.4.0
DEBUG: libdir = . => libdir = /home/vm/openssl-3.4.0
DEBUG: BINDIR = apps => BINDIR = /home/vm/openssl-3.4.0/apps, BINDIR_REL_PREFIX = apps
DEBUG: LIBDIR = . => LIBDIR = /home/vm/openssl-3.4.0, LIBDIR_REL_PREFIX =
DEBUG: all keys: APPLINKDIR, BINDIR, CMAKECONFIGDIR, ENGINESDIR, INCLUDEDIR, LDLIBS, LIBDIR, MODULESDIR, PKGCONFIGDIR, PREFIX, VERSION, libdir
DEBUG: PREFIX = /usr/local/custom-openssl => PREFIX = /usr/local/custom-openssl
DEBUG: libdir = /lib => libdir = /lib
DEBUG: INCLUDEDIR = [ include, ./include ] => INCLUDEDIR = [ /home/vm/openssl-3.4.0/include, /home/vm/openssl-3.4.0/include ], INCLUDEDIR_REL_PREFIX = [ include, ./include ]
DEBUG: APPLINKDIR = ms => DEBUG: BINDIR = bin => BINDIR = /usr/local/custom-openssl/bin, BINDIR_REL_PREFIX = bin
DEBUG: LIBDIR = . => LIBDIR = /usr/local/custom-openssl, LIBDIR_REL_PREFIX =
DEBUG: INCLUDEDIR = include => INCLUDEDIR = /usr/local/custom-openssl/include, INCLUDEDIR_REL_PREFIX = include
DEBUG: APPLINKDIR = include/openssl => APPLINKDIR = /usr/local/custom-openssl/include/openssl, APPLINKDIR_REL_PREFIX = include/openssl
APPLINKDIR = /home/vm/openssl-3.4.0/ms, APPLINKDIR_REL_PREFIX = ms
DEBUG: ENGINESDIR = engines => ENGINESDIR = /home/vm/openssl-3.4.0/engines, ENGINESDIR_REL_LIBDIR = engines
DEBUG: MODULESDIR = providers => MODULESDIR = /home/vm/openssl-3.4.0/providers, MODULESDIR_REL_LIBDIR = providers
DEBUG: ENGINESDIR = /lib/engines-3 => ENGINESDIR = /lib/engines-3, ENGINESDIR_REL_LIBDIR = ../../lib/engines-3
DEBUG: MODULESDIR = /lib/openssl-modules => MODULESDIR = /lib/openssl-modules, MODULESDIR_REL_LIBDIR = ../../lib/openssl-modules
DEBUG: PKGCONFIGDIR = /lib/pkgconfig => PKGCONFIGDIR = /lib/pkgconfig, PKGCONFIGDIR_REL_LIBDIR = ../../lib/pkgconfig
DEBUG: CMAKECONFIGDIR = . => PKGCONFIGDIR = /home/vm/openssl-3.4.0, PKGCONFIGDIR_REL_LIBDIR = .
DEBUG: CMAKECONFIGDIR = . => CMAKECONFIGDIR = /home/vm/openssl-3.4.0, CMAKECONFIGDIR_REL_LIBDIR = .
./usr/bin/perl "-I." "-Mconfigdata" "util/dofile.pl" "-oMakefile" include/openssl/bio.h.in > include/openssl/bio.h
DEBUG: CMAKECONFIGDIR = /lib/cmake/openssl => CMAKECONFIGDIR = /lib/cmake/openssl, CMAKECONFIGDIR_REL_LIBDIR = ../../lib/cmake/openssl
./usr/bin/perl "-I." "-Mconfigdata" "util/dofile.pl" "-oMakefile" include/openssl/cmp.h.in > include/openssl/cmp.h
./usr/bin/perl "-I." "-Mconfigdata" "util/dofile.pl" "-oMakefile" include/openssl/cms.h.in > include/openssl/cms.h
./usr/bin/perl "-I." "-Mconfigdata" "util/dofile.pl" "-oMakefile" include/openssl/comp.h.in > include/openssl/comp.h
./usr/bin/perl "-I." "-Mconfigdata" "util/dofile.pl" "-oMakefile" include/openssl/conf.h.in > include/openssl/conf.h
./usr/bin/perl "-I." "-Iutil/perl" "-Mconfigdata" "-MOpenSSL::paramnames" "util/dofile.pl" "-oMakefile" include/openssl/core_names.h.in > include/openssl/core_names.h
./usr/bin/perl "-I." "-Mconfigdata" "util/dofile.pl" "-oMakefile" include/openssl/crmf.h.in > include/openssl/crmf.h
./usr/bin/perl "-I." "-Mconfigdata" "util/dofile.pl" "-oMakefile" include/openssl/crypto.h.in > include/openssl/crypto.h
./usr/bin/perl "-I." "-Mconfigdata" "util/dofile.pl" "-oMakefile" include/openssl/ct.h.in > include/openssl/ct.h
./usr/bin/perl "-I." "-Mconfigdata" "util/dofile.pl" "-oMakefile" include/openssl/err.h.in > include/openssl/err.h

```

## building dependencies using “make -j1 depend” command



```

-o test/ssl.test \
test/helpers/ssl_test-bin-handshake.o \
test/helpers/ssl_test-bin-handshake_srp.o \
test/helpers/ssl_test-bin-ssl_test_ctx.o \
test/ssl_test-bin-ssl_test.o \
-lssl test/libtestutil.a -lcrypto -ldl -pthread
rm -f test/ssl_test_ctx.test
${LDCMD:-gcc} -pthread -m64 -Wa,--noexecstack -Wall -O3 -L. \
-o test/ssl_test_ctx.test \
test/helpers/ssl_test_ctx.test-bin-ssl_test_ctx.o \
test/ssl_test_ctx.test-bin-ssl_test_ctx.test.o \
-lssl test/libtestutil.a -lcrypto -ldl -pthread
rm -f test/sslbuffertest
${LDCMD:-gcc} -pthread -m64 -Wa,--noexecstack -Wall -O3 -L. \
-o test/sslbuffertest \
test/helpers/sslbuffertest-bin-ssltestlib.o \
test/sslbuffertest-bin-sslbuffertest.o \
-lssl test/libtestutil.a -lcrypto -ldl -pthread
rm -f test/sslcrrupttest
${LDCMD:-gcc} -pthread -m64 -Wa,--noexecstack -Wall -O3 -L. \
-o test/sslcrrupttest \
test/helpers/sslcrrupttest-bin-ssltestlib.o \
test/sslcrrupttest-bin-sslcrrupttest.o \
-lssl test/libtestutil.a -lcrypto -ldl -pthread
rm -f test/sysdefaulttest
rm -f test/tls13ccctest
${LDCMD:-gcc} -pthread -m64 -Wa,--noexecstack -Wall -O3 -L. \
-o test/sysdefaulttest \
test/sysdefaulttest-bin-sysdefaulttest.o \
-lssl test/libtestutil.a -lcrypto -ldl -pthread
${LDCMD:-gcc} -pthread -m64 -Wa,--noexecstack -Wall -O3 -L. \
-o test/tls13ccctest \
test/helpers/tls13ccctest-bin-ssltestlib.o \
test/tls13ccctest-bin-tls13ccctest.o \
-lssl test/libtestutil.a -lcrypto -ldl -pthread
rm -f test/tls13secretstest
${LDCMD:-gcc} -pthread -m64 -Wa,--noexecstack -Wall -O3 -L. \
-o test/tls13secretstest \
crypto/tls13secretstest-bin-packet.o \
crypto/tls13secretstest-bin-quic_vlint.o \
ssl/tls13secretstest-bin-tls13_enc.o \
test/tls13secretstest-bin-tls13secretstest.o \
-lssl test/libtestutil.a -lcrypto -ldl -pthread
rm -f test/uitest
${LDCMD:-gcc} -pthread -m64 -Wa,--noexecstack -Wall -O3 -L. \
-o test/uitest \
apps/lib/uitest-bin-apps_ui.o test/uitest-bin-uitest.o \
-lssl test/libtestutil.a -lcrypto -ldl -pthread
make[1]: Leaving directory '/home/vm/openssl-3.4.0'
vm@vbox:~/openssl-3.4.0$

```

compiled source using “make -j8”

```

test/helpers/ssl_test-bin-ssl_test_ctx.o \
test/ssl_test-bin-ssl_test.o \
-lssl test/libtestutil.a -lcrypto -ldl -pthread
rm -f test/ssl_test_ctx.test
${LDCMD:-gcc} -pthread -m64 -Wa,--noexecstack -Wall -O3 -L. \
-o test/ssl_test_ctx.test \
test/helpers/ssl_test_ctx.test-bin-ssl_test_ctx.o \
test/ssl_test_ctx.test-bin-ssl_test_ctx.test.o \
-lssl test/libtestutil.a -lcrypto -ldl -pthread
rm -f test/sslbuffertest
${LDCMD:-gcc} -pthread -m64 -Wa,--noexecstack -Wall -O3 -L. \
-o test/sslbuffertest \
test/helpers/sslbuffertest-bin-ssltestlib.o \
test/sslbuffertest-bin-sslbuffertest.o \
-lssl test/libtestutil.a -lcrypto -ldl -pthread
rm -f test/sslcrrupttest
${LDCMD:-gcc} -pthread -m64 -Wa,--noexecstack -Wall -O3 -L. \
-o test/sslcrrupttest \
test/helpers/sslcrrupttest-bin-ssltestlib.o \
test/sslcrrupttest-bin-sslcrrupttest.o \
-lssl test/libtestutil.a -lcrypto -ldl -pthread
rm -f test/sysdefaulttest
rm -f test/tls13ccctest
${LDCMD:-gcc} -pthread -m64 -Wa,--noexecstack -Wall -O3 -L. \
-o test/sysdefaulttest \
test/sysdefaulttest-bin-sysdefaulttest.o \
-lssl test/libtestutil.a -lcrypto -ldl -pthread
${LDCMD:-gcc} -pthread -m64 -Wa,--noexecstack -Wall -O3 -L. \
-o test/tls13ccctest \
test/helpers/tls13ccctest-bin-ssltestlib.o \
test/tls13ccctest-bin-tls13ccctest.o \
-lssl test/libtestutil.a -lcrypto -ldl -pthread
rm -f test/tls13secretstest
${LDCMD:-gcc} -pthread -m64 -Wa,--noexecstack -Wall -O3 -L. \
-o test/tls13secretstest \
crypto/tls13secretstest-bin-packet.o \
crypto/tls13secretstest-bin-quic_vlint.o \
ssl/tls13secretstest-bin-tls13_enc.o \
test/tls13secretstest-bin-tls13secretstest.o \
-lssl test/libtestutil.a -lcrypto -ldl -pthread
rm -f test/uitest
${LDCMD:-gcc} -pthread -m64 -Wa,--noexecstack -Wall -O3 -L. \
-o test/uitest \
apps/lib/uitest-bin-apps_ui.o test/uitest-bin-uitest.o \
-lssl test/libtestutil.a -lcrypto -ldl -pthread
make[1]: Leaving directory '/home/vm/openssl-3.4.0'
vm@vbox:~/openssl-3.4.0$ make install_sw
"make" depend && "make" _build_libs
make[1]: Entering directory '/home/vm/openssl-3.4.0'

```

running “make install\_sw” to install openssl

```

-lssl test/libtestutil.a -lcrypto -ldl -pthread
rm -f test/sslbuffertest
${LDCMD:-gcc} -pthread -m64 -Wa,--noexecstack -Wall -O3 -L. \
-o test/sslbuffertest \
test/helpers/sslbuffertest-bin-ssltestlib.o \
test/sslbuffertest-bin-sslbuffertest.o \
-lssl test/libtestutil.a -lcrypto -ldl -pthread
rm -f test/sslcorrupttest
${LDCMD:-gcc} -pthread -m64 -Wa,--noexecstack -Wall -O3 -L. \
-o test/sslcorrupttest \
test/helpers/sslcorrupttest-bin-ssltestlib.o \
test/sslcorrupttest-bin-sslcorrupttest.o \
-lssl test/libtestutil.a -lcrypto -ldl -pthread
rm -f test/sysdefaulttest
rm -f test/tls13ccctest
${LDCMD:-gcc} -pthread -m64 -Wa,--noexecstack -Wall -O3 -L. \
-o test/sysdefaulttest \
test/sysdefaulttest-bin-sysdefaulttest.o \
-lssl test/libtestutil.a -lcrypto -ldl -pthread
${LDCMD:-gcc} -pthread -m64 -Wa,--noexecstack -Wall -O3 -L. \
-o test/tls13ccctest \
test/helpers/tls13ccctest-bin-ssltestlib.o \
test/tls13ccctest-bin-tls13ccctest.o \
-lssl test/libtestutil.a -lcrypto -ldl -pthread
rm -f test/tls13secrettest
${LDCMD:-gcc} -pthread -m64 -Wa,--noexecstack -Wall -O3 -L. \
-o test/tls13secrettest \
crypto/tls13secrettest-bin-packet.o \
crypto/tls13secrettest-bin-quic_vlnt.o \
ssl/tls13secrettest-bin-tls13_enc.o \
test/tls13secrettest-bin-tls13secrettest.o \
-lssl test/libtestutil.a -lcrypto -ldl -pthread
rm -f test/uitest
${LDCMD:-gcc} -pthread -m64 -Wa,--noexecstack -Wall -O3 -L. \
-o test/uitest \
apps/lib/uitest-bin-apps_ui.o test/uitest-bin-uitest.o \
-lssl test/libtestutil.a -lcrypto -ldl -pthread
make[1]: Leaving directory '/home/vm/openssl-3.4.0'
vm@vbox:~/openssl-3.4.0$ make install_sw
'make' depend && "make" _build_libs
make[1]: Entering directory '/home/vm/openssl-3.4.0'
make[1]: Leaving directory '/home/vm/openssl-3.4.0'
make[1]: Entering directory '/home/vm/openssl-3.4.0'
make[1]: Nothing to be done for '_build_libs'.
make[1]: Leaving directory '/home/vm/openssl-3.4.0'
*** Installing runtime libraries
install libcrypto.so.3 -> /lib/libcrypto.so.3
cp: cannot create regular file '/lib/libcrypto.so.3.new': Permission denied
make: *** [Makefile:4065: install_runtime_libs] Error 1
vm@vbox:~/openssl-3.4.0$

```

## Openssl installed

```

make[1]: Leaving directory '/home/vm/openssl-3.4.0'
vm@vbox:~/openssl-3.4.0$ make install_sw
'make' depend && "make" _build_libs
make[1]: Entering directory '/home/vm/openssl-3.4.0'
make[1]: Leaving directory '/home/vm/openssl-3.4.0'
make[1]: Entering directory '/home/vm/openssl-3.4.0'
make[1]: Nothing to be done for '_build_libs'.
make[1]: Leaving directory '/home/vm/openssl-3.4.0'
*** Installing runtime libraries
install libcrypto.so.3 -> /lib/libcrypto.so.3
cp: cannot create regular file '/lib/libcrypto.so.3.new': Permission denied
make: *** [Makefile:4065: install_runtime_libs] Error 1
vm@vbox:~/openssl-3.4.0$ popd
~

vm@vbox:~$ cd Python-3.10.16/
vm@vbox:~/Python-3.10.16$ ./configure -C --with-openssl=/usr/local/custom-openssl \
> --with-openssl-rpath=auto \
> --prefix=/usr/local/python-3.10.16
configure: creating cache config.cache
checking build system type... x86_64-pc-linux-gnu
checking host system type... x86_64-pc-linux-gnu
checking for python3.10... no
checking for python3... python3
checking for --enable-universalsdk... no
checking for --with-universal-archs... no
checking MACHOEP... "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
checking whether gcc accepts -g... yes
checking for gcc option to accept ISO C89... none needed
checking how to run the C preprocessor... gcc -E
checking for grep that handles long lines and -e... /usr/bin/grep
checking for a sed that does not truncate output... /usr/bin/sed
checking for --with-cxx-main=compiler... no
checking for g++... no
configure:

By default, distutils will build C++ extension modules with "g++".
If this is not intended, then set CXX on the configure command line.

checking for the platform triplet based on compiler characteristics... x86_64-linux-gnu
checking for multiarch... x86_64-linux-gnu
checking for -Wl,--no-as-needed... yes
checking for egrep... /usr/bin/grep -E
checking for ANSI C header files...

```

## configure for installation

```

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 openssl/ssl.h in /usr/local/custom-openssl... no
checking whether compiling and linking against OpenSSL works... no
checking for --with-openssl-rpath... auto
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: updating cache config.cache
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

```

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

```

vm@vbox:~/Python-3.10.16$ ./configure --enable-optimizations
checking build system type... x86_64-pc-linux-gnu
checking host system type... x86_64-pc-linux-gnu
checking for python3.10... no
checking for python3... python3
checking for --enable-universalsdk... no
checking for --with-universal-archs... no
checking 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... _

```

## enabling optimizations

```

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 -D2... 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 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 --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
vm@vbox:~/Python-3.10.16$ _

```

## optimizations done

```

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 --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
vm@vbox:~/Python-3.10.16$ python3.10
-bash: python3.10: command not found
vm@vbox:~/Python-3.10.16$ make altinstall
gcc -c -Wno-unused-result -Wsign-compare -DNDEBUG -g -fwrapv -O3 -Wall -fno-semantic-interposition -std=c99 -Wextra -Wno-unused-result -Wno-unused-parameter -Wno-missing-field-initializers -Werror=implicit-function-declaration -fvisibility=hidden -I./Include/internal -I. -I./Include -DPy_BUILD_CORE \
-DABIFLAGS="" \
-DMULTIARCH=""\x86_64-linux-gnu" \
-o Python/sysmodule.o ./Python/sysmodule.c
gcc -c -Wno-unused-result -Wsign-compare -DNDEBUG -g -fwrapv -O3 -Wall -fno-semantic-interposition -std=c99 -Wextra -Wno-unused-result -Wno-unused-parameter -Wno-missing-field-initializers -Werror=implicit-function-declaration -fvisibility=hidden -I./Include/internal -I. -I./Include -DPy_BUILD_CORE \
-DOSABI=""cpython-310-x86_64-linux-gnu" \
-o Python/dynload_shlib.o ./Python/dynload_shlib.c
gcc -c -Wno-unused-result -Wsign-compare -DNDEBUG -g -fwrapv -O3 -Wall -fno-semantic-interposition -std=c99 -Wextra -Wno-unused-result -Wno-unused-parameter -Wno-missing-field-initializers -Werror=implicit-function-declaration -fvisibility=hidden -I./Include/internal -I. -I./Include -DPy_BUILD_CORE -o Modules/config.o Modules/config.c
gcc -c -Wno-unused-result -Wsign-compare -DNDEBUG -g -fwrapv -O3 -Wall -fno-semantic-interposition -std=c99 -Wextra -Wno-unused-result -Wno-unused-parameter -Wno-missing-field-initializers -Werror=implicit-function-declaration -fvisibility=hidden -I./Include/internal -I. -I./Include -DPy_BUILD_CORE -DPYTHONPATH="" \
-DPREFIX=""./usr/local" \
-DEXEC_PREFIX=""./usr/local" \
-DVERSION=""3.10" \
-DVPATH="" \
-o Modules/getpath.o ./Modules/getpath.c

```

## running “make altinstall” to build and install as separate python version

```

gcc -fno-semantic-interposition -Xlinker -export-dynamic -o python Programs/python.o libpython3.10.a libcrypt -ldl -lm -lm
if test "no-framework" = "no-framework" ; then \
  /usr/bin/install -c python /usr/local/bin/python3.10; \
else \
  /usr/bin/install -c -s Mac/pythonnw /usr/local/bin/python3.10; \
fi
/usr/bin/install: cannot create regular file '/usr/local/bin/python3.10': Permission denied
make: *** [Makefile:1329: altbininstall] Error 1
vm@vbox:~/Python-3.10.16$ sudo make altinstall
[sudo] password for vm:
if test "no-framework" = "no-framework" ; then \
  /usr/bin/install -c python /usr/local/bin/python3.10; \
else \
  /usr/bin/install -c -s Mac/pythonnw /usr/local/bin/python3.10; \
fi
if test "3.10" != "3.10" ; then \
  if test -f /usr/local/bin/python3.10 -o -h /usr/local/bin/python3.10; \
  then rm -f /usr/local/bin/python3.10; \
  fi; \
  (cd /usr/local/bin; ln python3.10 python3.10); \
fi
if test "x" != "x" ; then \
  rm -f /usr/local/binpython3.10-32; \
  lipo \
    -output /usr/local/bin/python3.10-32 \
    /usr/local/bin/python3.10; \
fi
if test "x" != "x" ; then \
  rm -f /usr/local/binpython3.10-intel64; \
  lipo \
    -output /usr/local/bin/python3.10-intel64 \
    /usr/local/bin/python3.10; \
fi
./python -E -S -m sysconfig --generate-posix-vars \
if test $? -ne 0 ; then \
  echo "generate-posix-vars failed" ; \
  rm -f ./pybuilddir.txt ; \
  exit 1 ; \
fi
CC='gcc' LDHARED='gcc -shared -fno-semantic-interposition ' OPT='-DNDEBUG -g -fwrapv -O3 -Wall' _TCLTK_INCLUDES='' _TCLTK_LIBS='' ./python -E ./se
tup.py build
running build
running build_ext
INFO: Can't locate Tcl/Tk libs and/or headers
building '_ssl' extension
gcc -fPIC -Wno-unused-result -Wsign-compare -DNDEBUG -g -fwrapv -O3 -Wall -fno-semantic-interposition -std=c99 -Wextra -Wno-unused-result -Wno-unused-parameter -Wno-missing-field-initializers -Werror=implicit-function-declaration -fvisibility=hidden -I./Include/internal -I/usr/include -I./Include -I. -I/usr/include/x86_64-linux-gnu -I/usr/local/include -I/home/vm/Python-3.10.16/Include -I/home/vm/Python-3.10.16 -c /home/vm/Python-3.10.16/Modules/_ssl.c -o build/temp.linux-x86_64-3.10/home/vm/Python-3.10.16/Modules/_ssl.o

```

in between screenshot

```

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/_csv.cpython-310-x86_64-linux-gnu.so to 755
changing mode of /usr/local/lib/python3.10/lib-dynload/grp.cpython-310-x86_64-linux-gnu.so to 755
changing mode of /usr/local/lib/python3.10/lib-dynload/_pycache_/_sysconfigdata__linux_x86_64-linux-gnu.cpython-310.pyc to 644
changing mode of /usr/local/lib/python3.10/lib-dynload/_testimportmultiple.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/_zlib.cpython-310-x86_64-linux-gnu.so to 755
changing mode of /usr/local/lib/python3.10/lib-dynload/_codecs_cn.cpython-310-x86_64-linux-gnu.so to 755
changing mode of /usr/local/lib/python3.10/lib-dynload/_random.cpython-310-x86_64-linux-gnu.so to 755
changing mode of /usr/local/lib/python3.10/lib-dynload/_xxlimited_35.cpython-310-x86_64-linux-gnu.so to 755
changing mode of /usr/local/lib/python3.10/lib-dynload/_codecs_tw.cpython-310-x86_64-linux-gnu.so to 755
changing mode of /usr/local/lib/python3.10/lib-dynload/_codecs_iso2022.cpython-310-x86_64-linux-gnu.so to 755
changing mode of /usr/local/lib/python3.10/lib-dynload/_ctypes_test.cpython-310-x86_64-linux-gnu.so to 755
changing mode of /usr/local/lib/python3.10/lib-dynload/_queue.cpython-310-x86_64-linux-gnu.so to 755
changing mode of /usr/local/lib/python3.10/lib-dynload/_xxtestfuzz.cpython-310-x86_64-linux-gnu.so to 755
changing mode of /usr/local/lib/python3.10/lib-dynload/_testmultiphase.cpython-310-x86_64-linux-gnu.so to 755
changing mode of /usr/local/lib/python3.10/lib-dynload/_xxlimited.cpython-310-x86_64-linux-gnu.so to 755
changing mode of /usr/local/lib/python3.10/lib-dynload/_sha3.cpython-310-x86_64-linux-gnu.so to 755
changing mode of /usr/local/lib/python3.10/lib-dynload/_binascii.cpython-310-x86_64-linux-gnu.so to 755
changing mode of /usr/local/lib/python3.10/lib-dynload/_sysconfigdata__linux_x86_64-linux-gnu.py to 644
changing mode of /usr/local/lib/python3.10/lib-dynload/_xxsubinterpreters.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/idle3.10 -> /usr/local/bin
copying build/scripts-3.10/pydoc3.10 -> /usr/local/bin
copying build/scripts-3.10/2to3-3.10 -> /usr/local/bin
changing mode of /usr/local/bin/idle3.10 to 755
changing mode of /usr/local/bin/pydoc3.10 to 755
changing mode of /usr/local/bin/2to3-3.10 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 \
            $ensurepip --root=/ ; \
    fi
Looking in links: /tmp/tmpfm9s865r
Processing /tmp/tmpfm9s865r/setuptools-65.5.0-py3-none-any.whl
Processing /tmp/tmpfm9s865r/pip-23.0.1-py3-none-any.whl
Installing collected packages: setuptools, pip
Successfully installed pip-23.0.1 setuptools-65.5.0
WARNING: Running pip as the 'root' user can result in broken permissions and conflicting behaviour with the system package manager. It is recommended to use a v
irtual environment instead: https://pip.pypa.io/warnings/venv
vm@vbox:~/Python-3.10.16$

```

## Python3.10 successfully installed, Finally!!

```

changing mode of /usr/local/lib/python3.10/lib-dynload/_pycache_/_sysconfigdata__linux_x86_64-linux-gnu.cpython-310.pyc to 644
changing mode of /usr/local/lib/python3.10/lib-dynload/_testimportmultiple.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/_zlib.cpython-310-x86_64-linux-gnu.so to 755
changing mode of /usr/local/lib/python3.10/lib-dynload/_codecs_cn.cpython-310-x86_64-linux-gnu.so to 755
changing mode of /usr/local/lib/python3.10/lib-dynload/_random.cpython-310-x86_64-linux-gnu.so to 755
changing mode of /usr/local/lib/python3.10/lib-dynload/_xxlimited_35.cpython-310-x86_64-linux-gnu.so to 755
changing mode of /usr/local/lib/python3.10/lib-dynload/_codecs_tw.cpython-310-x86_64-linux-gnu.so to 755
changing mode of /usr/local/lib/python3.10/lib-dynload/_codecs_iso2022.cpython-310-x86_64-linux-gnu.so to 755
changing mode of /usr/local/lib/python3.10/lib-dynload/_ctypes_test.cpython-310-x86_64-linux-gnu.so to 755
changing mode of /usr/local/lib/python3.10/lib-dynload/_queue.cpython-310-x86_64-linux-gnu.so to 755
changing mode of /usr/local/lib/python3.10/lib-dynload/_xxtestfuzz.cpython-310-x86_64-linux-gnu.so to 755
changing mode of /usr/local/lib/python3.10/lib-dynload/_testmultiphase.cpython-310-x86_64-linux-gnu.so to 755
changing mode of /usr/local/lib/python3.10/lib-dynload/_xxlimited.cpython-310-x86_64-linux-gnu.so to 755
changing mode of /usr/local/lib/python3.10/lib-dynload/_sha3.cpython-310-x86_64-linux-gnu.so to 755
changing mode of /usr/local/lib/python3.10/lib-dynload/_binascii.cpython-310-x86_64-linux-gnu.so to 755
changing mode of /usr/local/lib/python3.10/lib-dynload/_sysconfigdata__linux_x86_64-linux-gnu.py to 644
changing mode of /usr/local/lib/python3.10/lib-dynload/_xxsubinterpreters.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/idle3.10 -> /usr/local/bin
copying build/scripts-3.10/pydoc3.10 -> /usr/local/bin
copying build/scripts-3.10/2to3-3.10 -> /usr/local/bin
changing mode of /usr/local/bin/idle3.10 to 755
changing mode of /usr/local/bin/pydoc3.10 to 755
changing mode of /usr/local/bin/2to3-3.10 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 \
            $ensurepip --root=/ ; \
    fi
Looking in links: /tmp/tmpfm9s865r
Processing /tmp/tmpfm9s865r/setuptools-65.5.0-py3-none-any.whl
Processing /tmp/tmpfm9s865r/pip-23.0.1-py3-none-any.whl
Installing collected packages: setuptools, pip
Successfully installed pip-23.0.1 setuptools-65.5.0
WARNING: Running pip as the 'root' user can result in broken permissions and conflicting behaviour with the system package manager. It is recommended to use a v
irtual environment instead: https://pip.pypa.io/warnings/venv
vm@vbox:~/Python-3.10.16$ python3.10
Python 3.10.16 (main, Jan 26 2023, 21:17:17) [GCC 12.2.0] on linux
Type "help", "copyright", "credits" or "license()" for more information.
>>>

```

## Checking if python3.10 works

```

changing mode of /usr/local/lib/python3.10/lib-dynload/_ctypes_test.cpython-310-x86_64-linux-gnu.so to 755
changing mode of /usr/local/lib/python3.10/lib-dynload/_codecs_cn.cpython-310-x86_64-linux-gnu.so to 755
changing mode of /usr/local/lib/python3.10/lib-dynload/_codecs_tw.cpython-310-x86_64-linux-gnu.so to 755
changing mode of /usr/local/lib/python3.10/lib-dynload/_xxlimited_35.cpython-310-x86_64-linux-gnu.so to 755
changing mode of /usr/local/lib/python3.10/lib-dynload/_codecs_iso2022.cpython-310-x86_64-linux-gnu.so to 755
changing mode of /usr/local/lib/python3.10/lib-dynload/_queue.cpython-310-x86_64-linux-gnu.so to 755
changing mode of /usr/local/lib/python3.10/lib-dynload/_xxtestfuzz.cpython-310-x86_64-linux-gnu.so to 755
changing mode of /usr/local/lib/python3.10/lib-dynload/_testmultiphase.cpython-310-x86_64-linux-gnu.so to 755
changing mode of /usr/local/lib/python3.10/lib-dynload/_xxlimited.cpython-310-x86_64-linux-gnu.so to 755
changing mode of /usr/local/lib/python3.10/lib-dynload/_sha3.cpython-310-x86_64-linux-gnu.so to 755
changing mode of /usr/local/lib/python3.10/lib-dynload/_binascii.cpython-310-x86_64-linux-gnu.so to 755
changing mode of /usr/local/lib/python3.10/lib-dynload/_sysconfigdata__linux_x86_64-linux-gnu.py to 644
changing mode of /usr/local/lib/python3.10/lib-dynload/_xxsubinterpreters.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/idle3.10 -> /usr/local/bin
copying build/scripts-3.10/pydoc3.10 -> /usr/local/bin
copying build/scripts-3.10/2to3-3.10 -> /usr/local/bin
changing mode of /usr/local/bin/idle3.10 to 755
changing mode of /usr/local/bin/pydoc3.10 to 755
changing mode of /usr/local/bin/2to3-3.10 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 \
            $ensurepip --root=/ ; \
    fi
Looking in links: /tmp/tmpfm9s865r
Processing /tmp/tmpfm9s865r/setuptools-65.5.0-py3-none-any.whl
Processing /tmp/tmpfm9s865r/pip-23.0.1-py3-none-any.whl
Installing collected packages: setuptools, pip
Successfully installed pip-23.0.1 setuptools-65.5.0
WARNING: Running pip as the 'root' user can result in broken permissions and conflicting behaviour with the system package manager. It is recommended to use a v
irtual environment instead: https://pip.pypa.io/warnings/venv
vm@vbox:~/Python-3.10.16$ python3.10
Python 3.10.16 (main, Jan 26 2025, 21:17:17) [GCC 12.2.0] on linux
Type "help", "copyright", "credits" or "license()" for more information.
>>>
vm@vbox:~/Python-3.10.16$ python3.10 -m venv .venv/py3.10
vm@vbox:~/Python-3.10.16$ source .venv/py3.10/bin/activate
(py3.10) vm@vbox:~/Python-3.10.16$

```

## creating new python environment, and activating it

```

changing mode of /usr/local/lib/python3.10/lib-dynload/_sha3.cpython-310-x86_64-linux-gnu.so to 755
changing mode of /usr/local/lib/python3.10/lib-dynload/_binascii.cpython-310-x86_64-linux-gnu.so to 755
changing mode of /usr/local/lib/python3.10/lib-dynload/_sysconfigdata__linux_x86_64-linux-gnu.py to 644
changing mode of /usr/local/lib/python3.10/lib-dynload/_xxsubinterpreters.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/idle3.10 -> /usr/local/bin
copying build/scripts-3.10/pydoc3.10 -> /usr/local/bin
copying build/scripts-3.10/2to3-3.10 -> /usr/local/bin
changing mode of /usr/local/bin/idle3.10 to 755
changing mode of /usr/local/bin/pydoc3.10 to 755
changing mode of /usr/local/bin/2to3-3.10 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 \
            $ensurepip --root=/ ; \
    fi
Looking in links: /tmp/tmpfm9s865r
Processing /tmp/tmpfm9s865r/setuptools-65.5.0-py3-none-any.whl
Processing /tmp/tmpfm9s865r/pip-23.0.1-py3-none-any.whl
Installing collected packages: setuptools, pip
Successfully installed pip-23.0.1 setuptools-65.5.0
WARNING: Running pip as the 'root' user can result in broken permissions and conflicting behaviour with the system package manager. It is recommended to use a v
irtual environment instead: https://pip.pypa.io/warnings/venv
vm@vbox:~/Python-3.10.16$ python3.10
Python 3.10.16 (main, Jan 26 2025, 21:17:17) [GCC 12.2.0] on linux
Type "help", "copyright", "credits" or "license()" for more information.
>>>
vm@vbox:~/Python-3.10.16$ python3.10 -m venv .venv/py3.10
vm@vbox:~/Python-3.10.16$ source .venv/py3.10/bin/activate
(py3.10) vm@vbox:~/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 6.8 MB/s eta 0:00:00
Collecting django-cors-headers==3.6.0
  Downloading django_cors_headers-3.6.0-py3-none-any.whl (12 kB)
Collecting rules==3.4
  Downloading rules-3.4-py2.py3-none-any.whl (25 kB)
Collecting boto<3.0.0,->2.49.0
  Downloading boto-2.49.0-py2.py3-none-any.whl (1.4 MB)
     1.4/1.4 MB 4.9 MB/s eta 0:00:00

```

## installing label-studio using pip

```

ted, cffi, bleach, black, asgiref, anyio, user-agents, rich, requests-mock, pydantic, pandas, opentelemetry-api, jsonschema-specifications, httpx, grpcio-status
, google-cloud-audit-log, google-auth, faker, Django, cryptography, botocore, azure-core, s3transfer, pyboxen, openal, jsonschema, grpc-google-iam-v1, google-ap
i-core, drf-generators, django-rest-framework, django-user-agents, django-storages, django-rq, django-model-utils, django-migration-linter, django-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
DEPRECATION: drf-flex-fields is being installed using the legacy 'setup.py install' method, because it does not have a 'pyproject.toml' and the 'wheel' package
is not installed. pip 23.1 will enforce this behaviour change. A possible replacement is to enable the '--use-pep517' option. Discussion can be found at https
://github.com/pypa/pip/issues/8559
Running setup.py install for drf-flex-fields ... done
DEPRECATION: django-ranged-fileresponse is being installed using the legacy 'setup.py install' method, because it does not have a 'pyproject.toml' and the 'wh
eel' package is not installed. pip 23.1 will enforce this behaviour change. A possible replacement is to enable the '--use-pep517' option. Discussion can be fou
nd at https://github.com/pypa/pip/issues/8559
Running setup.py install for django-ranged-fileresponse ... done
DEPRECATION: attr is being installed using the legacy 'setup.py install' method, because it does not have a 'pyproject.toml' and the 'wheel' package is not in
stalled. pip 23.1 will enforce this behaviour change. A possible replacement is to enable the '--use-pep517' option. Discussion can be found at https://github.c
om/pypa/pip/issues/8559
Running setup.py install for attr ... done
Attempting uninstall: setuptools
Found existing installation: setuptools 65.5.0
Uninstalling setuptools-65.5.0:
Successfully uninstalled setuptools-65.5.0
DEPRECATION: ordered-set is being installed using the legacy 'setup.py install' method, because it does not have a 'pyproject.toml' and the 'wheel' package is
not installed. pip 23.1 will enforce this behaviour change. A possible replacement is to enable the '--use-pep517' option. Discussion can be found at https://g
ithub.com/pypa/pip/issues/8559
Running setup.py install for ordered-set ... done
DEPRECATION: drf-generators is being installed using the legacy 'setup.py install' method, because it does not have a 'pyproject.toml' and the 'wheel' package
is not installed. pip 23.1 will enforce this behaviour change. A possible replacement is to enable the '--use-pep517' option. Discussion can be found at https:
//github.com/pypa/pip/issues/8559
Running setup.py install for drf-generators ... done
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
rtirs-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-enviro-0.10.0 django-extensions-3.2.3 django-filter-2.4.
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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-2.24.0 google-auth-2.38.0 google-cloud-appengine-logging-1.5.0 google-cloud-audit-log-0.3.0 google-cloud-core-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 httplib-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-speci
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roto-plus-1.25.0 protobuf-5.29.3 psycog2-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-
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.8.0 six-1.17.0 smart-open-7.1.0 sniffio-1.3.1 sqlalchemy-0.5.3 toml-0.10.2 toml-2.2.1 toml-2.2.1 toml-4.67.1 typing_extensions-4.12.2 tzdata-2025.1 ua-parser-1.0.0 ua-pars
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[notice] A new release of pip is available: 23.0.1 -> 25.0
[notice] To update, run: pip install --upgrade pip
(py3.10) vm@vbox:~/Python-3.10.16$

```

## label-studio installed

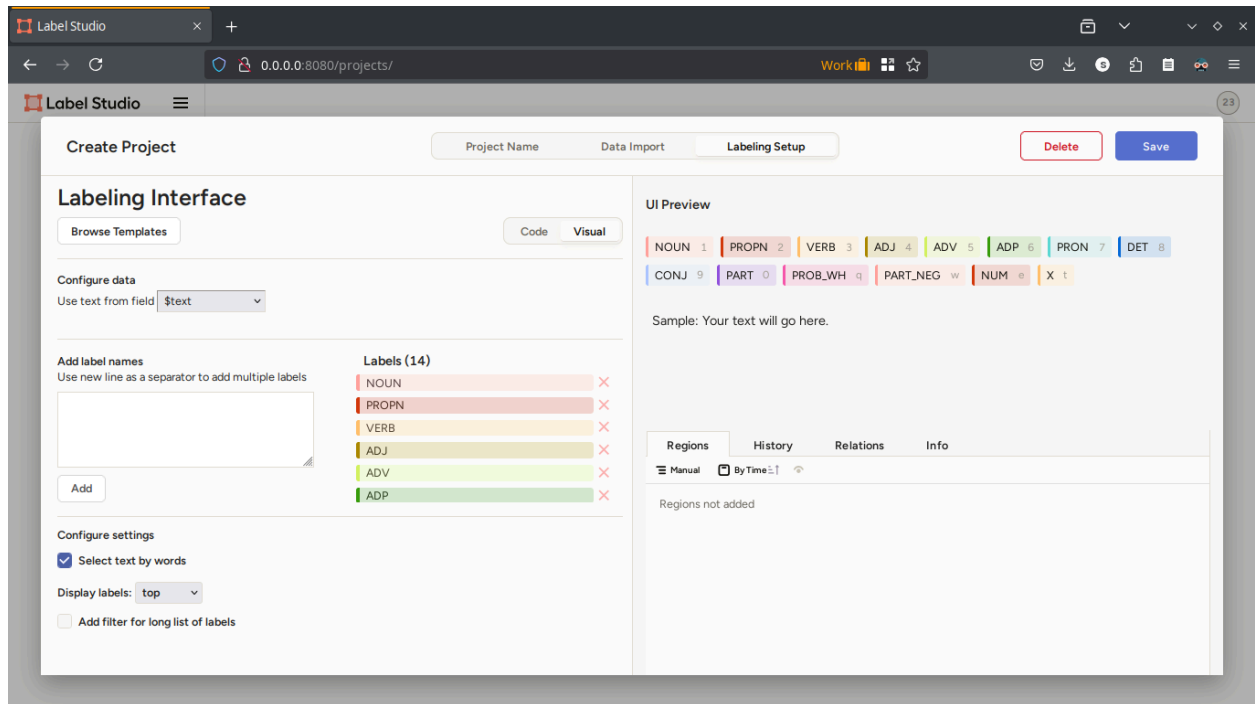
```

om/pypa/pip/issues/8559
Running setup.py install for attr ... done
Attempting uninstall: setuptools
Found existing installation: setuptools 65.5.0
Uninstalling setuptools-65.5.0:
Successfully uninstalled setuptools-65.5.0
DEPRECATION: ordered-set is being installed using the legacy 'setup.py install' method, because it does not have a 'pyproject.toml' and the 'wheel' package is
not installed. pip 23.1 will enforce this behaviour change. A possible replacement is to enable the '--use-pep517' option. Discussion can be found at https://g
ithub.com/pypa/pip/issues/8559
Running setup.py install for ordered-set ... done
DEPRECATION: drf-generators is being installed using the legacy 'setup.py install' method, because it does not have a 'pyproject.toml' and the 'wheel' package
is not installed. pip 23.1 will enforce this behaviour change. A possible replacement is to enable the '--use-pep517' option. Discussion can be found at https:
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[notice] A new release of pip is available: 23.0.1 -> 25.0
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(py3.10) vm@vbox:~/Python-3.10.16$ pip show label-studio
Name: label-studio
Version: 1.15.0
Summary: Label Studio annotation tool
Home-page: https://github.com/HumanSignal/label-studio
Author: Heartex
Author-email: hello@heartex.ai
License: Apache-2.0
Location: /home/vm/Python-3.10.16/.venv/py3.10/lib/python3.10/site-packages
Requires: appdirs, attr, attrrs, azure-storage-blob, bleach, boto, boto3, botocore, colorama, defusedxml, Django, django-annoying, django-cors-headers, django-cs
p, django-debug-toolbar, django-enviro, django-extensions, django-filter, django-migration-linter, django-model-utils, django-ranged-fileresponse, django-rq, d
jango-storages, django-user-agents, django-rest-framework, drf-dynamic-fields, drf-flex-fields, drf-generators, google-cloud-logging, google-cloud-storage, humans
ignal-drf-yasg, label-studio-sdk, launchdarkly-server-sdk, lockfile, lxml, numpy, openal, ordered-set, pandas, psycog2-binary, pyboxen, pydantic, python-dateuti
l, python-json-logger, pytz, pyyaml, redis, requests, rq, rules, sentry-sdk, setuptools, ujson, urllib3, wheel, xmljson
Required-by:
(py3.10) vm@vbox:~/Python-3.10.16$

```

## checking label-studio through pip show



Label-studio interface screenshot