

Python 3.10.11 with label-studio Installation Script

```
1  # Create directories
2  mkdir -p ~/local/python310
3  mkdir -p ~/downloads
4
5  # Download source
6  cd ~/downloads
7  wget https://www.python.org/ftp/python/3.10.11/Python
   -3.10.11.tgz
8
9
10 # Verify and extract
11 tar xzf Python-3.10.11.tgz
12 cd Python-3.10.11
13
14 # Configure with local prefix
15 ./configure \
16   --prefix=$HOME/local/python310 \
17   --enable-optimizations \
18   --with-ensurepip=install
19
20 # Build and install
21 make -j$(nproc)
22 make install
23
24
25 # Add to PATH (.bashrc)
26 echo 'export PATH=$HOME/local/python310/bin:$PATH' >> ~/.
   bashrc
27 echo 'export PYTHONPATH=$HOME/local/python310/lib/python3
   .10/site-packages:$PYTHONPATH' >> ~/.bashrc
28 source ~/.bashrc
29
30 # Verify installation
31 python3.10 --version
32
33
34 #{Python Virtual Environment Setup and Package Installation}
35
36 #{Steps for Creating a Virtual Environment}
37
38 # Create virtual environment
39 python3.10 -m venv ~/envs/py310env
40
41 # Activate virtual environment
42 source ~/envs/py310env/bin/activate
43
44 # Install label-studio in virtual environment
```

```

45 | pip install label-studio
46 |
47 | # We got ssl error after this so reinstall python with ssl
   | installing
48 |
49 | #Install OpenSSL development files in local directory
50 |
51 | mkdir -p ~/local/openssl
52 | cd ~/downloads
53 | wget https://www.openssl.org/source/openssl-1.1.1w.tar.gz
54 | tar xzf openssl-1.1.1w.tar.gz
55 | cd openssl-1.1.1w
56 | ./config --prefix=$HOME/local/openssl
57 | make
58 | make install
59 |
60 | # Rebuild Python with SSL support
61 | cd ~/downloads/Python-3.10.11
62 | ./configure \
63 |     --prefix=$HOME/local/python310 \
64 |     --with-openssl=$HOME/local/openssl \
65 |     --with-openssl-rpath=auto \
66 |     --enable-optimizations
67 |
68 | make clean
69 | make -j$(nproc)
70 | make install
71 |
72 | # Set environment variables
73 | echo 'export LD_LIBRARY_PATH=$HOME/local/openssl/lib:
   | $LD_LIBRARY_PATH' >> ~/.bashrc
74 | source ~/.bashrc
75 |
76 | # Create and activate virtual environment
77 | ~/local/python310/bin/python3.10 -m venv ~/envs/py310env
78 | source ~/envs/py310env/bin/activate
79 |
80 | # Verify SSL support
81 | python -c "import ssl; print(ssl.OPENSSL_VERSION)"
82 |
83 | # Activate and verify
84 | source ~/envs/py310env/bin/activate
85 |
86 |
87 | #{SQLite3 Installation and Python Rebuild with SQLite3
   | Support}
88 |
89 |
90 | # Install SQLite3
91 | cd ~/downloads

```

```

92 wget https://www.sqlite.org/2024/sqlite-autoconf-3450000.tar
   .gz
93 tar xzf sqlite-autoconf-3450000.tar.gz
94 cd sqlite-autoconf-3450000
95 ./configure --prefix=$HOME/local/sqlite
96 make
97 make install
98
99 # Rebuild Python with SQLite3
100 cd ~/downloads/Python-3.10.11
101 export LDFLAGS="-L$HOME/local/sqlite/lib"
102 export CPPFLAGS="-I$HOME/local/sqlite/include"
103 export LD_LIBRARY_PATH="$HOME/local/sqlite/lib:
   $LD_LIBRARY_PATH"
104
105 ./configure \
106     --prefix=$HOME/local/python310 \
107     --enable-loadable-sqlite-extensions \
108     --with-sqlite3=$HOME/local/sqlite \
109     --enable-optimizations
110
111 make clean
112 make -j$(nproc)
113 make install
114
115 # Setup new virtual environment
116 rm -rf ~/envs/py310env
117 ~/local/python310/bin/python3.10 -m venv ~/envs/py310env
118 source ~/envs/py310env/bin/activate
119
120 # Verify SQLite3
121 python -c "import sqlite3; print(sqlite3.sqlite_version)"
122
123 # Install Label Studio
124 pip install label-studio
125
126 # For starting label-studio start
127 label-studio start
128
129 #For connecting your host device to linux for the
130 ssh -L 8080:localhost:8080 username@localhost

```

Listing 1: Installation Steps for Python 3.10.11