

- ```
1 1. cd x64/share/LHandProLib/examples/EtherCAT_cpp
2 2. mkdir build && cd build
```

```

3 3. cmake .. -G "Visual Studio 17 2022" -A x64 -DCMAKE_BUILD_TYPE=Release -
 DCMAKE_INSTALL_PREFIX=./install
4 4. cmake --build . --config Release
5 5. cmake --install . --config Release

```

After compilation, the executable LHandProLib\_EtherCAT\_Test.exe will be in the install/bin directory.

Install **npcap-1.82.exe** first to enable EtherCAT communication on Windows.

Use the sample project as a reference to build your custom application.

## Linux Platform

### Preparation Files

 LHandProLib-API-Linux-20250915.tar.gz

### Project Structure

代码块

```

1 .
2 └─ x86_64 # x86_64 platform SDK file
3 │ └─ bin # Test program
4 │ │ └─ LHandProLib_EtherCAT_Test
5 │ │ └─ setup.bash
6 │ └─ include # Header files
7 │ │ └─ LHandProLib
8 │ │ └─ LHandProLib.hpp # C++ encapsulation
9 │ │ └─ LHandProLib.h # C encapsulation
10 │ └─ lib # so files
11 │ │ └─ libLHandProLibd.so
12 │ │ └─ libLHandProLib.so
13 │ └─ share
14 │ └─ LHandProLib
15 │ └─ examples # Sample program
16 │ └─ EtherCAT_cpp # EtherCAT C++ Sample Project
17 │ └─ EtherCAT_python # EtherCAT Python Sample Project
18 └─ i386 # i386 platform SDK file
19 └─ aarch64 # aarch64 platform SDK file

```

Note: The provided master station library is validated and tested exclusively on the x86\_64 platform.

# Usage Instructions

## Compile the Sample Project

代码块

```
1 # Update system packages and install dependencies
2 1. sudo apt update
3 2. sudo apt install cmake
4 3. sudo apt install build-essential
5 # Enter the folder containing the LHandProLib API Linux compressed file
6 1. tar -xzf LHandProLib-API-Linux-xxxxxxx.tar.gz # Extract the SDK package
7 2. cd x86_64/share/LHandProLib/examples/EtherCAT_cpp/
8 3. mkdir build && cd build
9 4. cmake .. -DCMAKE_BUILD_TYPE=Release -DCMAKE_INSTALL_PREFIX=../install
10 5. make
11 6. make install # Install the compiled
 output to the install directory
12 7. cd ../install/bin
13 8. sudo cp libLHandProLib.so /usr/local/lib/ # Copy the shared
 library to the system library path (for global access)
14 9. sudo ldconfig # Refresh the dynamic
 linker cache
15 10. sudo setcap cap_net_raw,cap_net_admin+ep ./LHandProLib_EtherCAT_Test #
 Grant required privileges (raw socket + network admin)
16 11. ./LHandProLib_EtherCAT_Test # Run the executable
```