

Installing the OpenLCB Test Software Basic Version

The OpenLCB Group

February 6, 2024

1 Introduction

This document describes how to obtain and run a set of basic conformance checks for OpenLCB nodes.

The checks are based on the Python ‘openlch’ module. More information on that can be obtained from its GitHub project site.

For more information on the conformance checks, see the package documentation or the directory of test plans.

2 Obtaining the Software

The software is distributed as a set of inter-connected Python source files.

2.1 Obtaining and Using via Git

If you’re using Git,

```
git clone https://github.com/bobjacobsen/PythonOlcNode.git
```

will create a PythonOlcNode directory containing the most recent version of the software. This also contains git tags for the released versions.

2.2 Obtaining by Downloading a .zip File

You can get a download of the most recent released version by going to the project’s Github releases web page tag section ¹ and clicking the .zip or .tgz icon on the most recent release.

¹Linked above or see <https://github.com/bobjacobsen/PythonOlcNode/tags>

To get the very most recent version,² go to the project's Github main web page tag section, click the green Code button, and select "Download Zip".

Expand the downloaded file in a suitable place.

3 Configuring for Running

You need to have Python 3.10 installed to run the program. Consult your computer's documentation for how to install that. Many computers already have it installed.

You need to have PYTHONPATH defined to include the main directory.³ In the Linux and macOS terminals, you can do this with

```
export PYTHONPATH=$PWD
```

while in the distribution directory (where you installed the code) or you can place the same line at the end of your startup configuration file.

If you don't add this to your startup configuration file, you'll have to do this each time you start a terminal session.

Next

```
cd conformance
```

to get to the right directory for running the code.

To start the program:

```
python3.10 control_master.py
```

Depending on your Python installation, this simpler form may also work:

```
./control_master.py
```

4 Configuring the Test Setup

When you first start the program, you'll be shown a basic menu:

```
OpenLCB test program
0 Setup
1 Message Network testing
2 SNIP testing
```

²But if you want to stay current with development of the tools, you should probably be using Git.

³Eventually, this will no longer be necessary, but not quite yet.

```
q Quit
>>
```

Type 0 and hit return to get the setup menu:

The current settings are:

```
hostname = None
portnumber = 12021
devicename = None
targetnodeid = None
ownnodeid = 03.00.00.00.00.01
checkpip = True
trace = 10
```

```
c change setting
h help
r return
>>
```

At a minimum, you should define how to connect to your OpenLCB network, and the Node ID of the device you want to test.

To change the Node ID, select the “change setting” option and work through the prompts:

```
>> c
enter variable name
>> targetnodeid
enter new value
>> 02.01.57.00.04.9A
The current settings are:
hostname = None
portnumber = 12021
devicename = None
targetnodeid = 02.01.57.00.04.9A
ownnodeid = 03.00.00.00.00.01
checkpip = True
trace = 10
```

```
c change setting
h help
r return
```

```
>>
```

Get the proper value from either a label on the device, or from its documentation. ⁴

There are currently two ways to connect to your OpenLCB network:

1. Via a USB-CAN adapter, or
2. Via a GridConnect-format TCP/IP connection.

For a USB-CAN connector, define the devicename to be the address of the device in your computer, e.g. /dev/cu.usbmodemCC570001B1 or COM7.

For a TCP/IP link, define the hostname to be the IP address or host name to be used for connecting.

When done with setup, select return. You'll be asked if you want to save changes. Select y to save and n to skip saving.

```
>> r
```

```
Do you want to save the new settings? (y/n)
```

```
>> y
```

```
Stored
```

```
Quit and restart the program to put them into effect
```

```
OpenLCB test program
```

```
0 Setup
```

```
1 Message Network testing
```

```
2 SNIP testing
```

```
q Quit
```

```
>>
```

⁴Some tests, but not all, can determine the node ID themselves if you leave the value as None.