

mclog

Flexible system logging for C++ applications

Chapter 1

Overview

mclog is a logging system targetted at C++ applications. It is similar to syslogd and syslog, but provides some additional flexibility on the client side (configurable message sinks), encrypted multicast network transport, and built-in log file rollover.

1.1 Components

1.1.1 mclogd

1.1.2 syslog-like API

1.1.3 mclogger

1.1.4 mclog

Chapter 2

mclogd

2.1 Receiving Messages on the loopback address

2.2 Receiving Messages via multicast

2.3 Sending Messages via multicast

2.4 Saving Messages to files

Chapter 3

Logger API

3.1 Opening the logger

```
bool Open(Facility facility = Facility::user,
          const std::vector<MessageSink *> & sinks = {},
          const char *ident = nullptr)
```

If `sinks` is empty, the logger will send all log messages to the loopback address.

If `ident` is `nullptr`, the logger will use the ident given by the runtime. On macOS and FreeBSD, this comes from `getprogname(3)`. On Linux, this comes from `program_invocation_short_name(3)`.

3.2 Alternate or additional sinks

The logger sends messages to *sinks*, which must implement the `Dwm::Mclog::MessageSink` interface.

3.2.1 Dwm::Mclog::MessageSink interface

```
virtual bool Process(const Message & msg)
```

3.2.2 Adding or removing sinks

Sinks may be added to the logger by using the `AddSinks()` member of the logger.

```
bool AddSinks(const std::vector<MessageSink *> & sinks)
```

Sinks may be removed from the logger by using the `RemoveSinks()` member of the logger.

```
bool RemoveSinks(const std::vector<MessageSink *> & sinks)
```

3.2.3 Dwm::Mclog::LogFile

`Dwm::Mclog::LogFile` provides a sink that writes logged messages to a file, with configurable rollover period, permissions and number of archives to keep. If all you need is a log file, and/or do not want or need networked logging, it is a good choice of sink in the list of sinks given as the second argument of the `Open()` member of the logger.

```
LogFile(const std::string & path, mode_t permissions = 0644,
        RollPeriod period = RollPeriod::days_1, uint32_t keep = 7)
```

3.2.4 Dwm::Mclog::OstreamSink

```
OstreamSink(std::ostream & os)
```

3.2.5 Dwm::Mclog::SyslogSink

```
SyslogSink(const char *ident, int facility)
```

3.3 Sending log messages

3.4 Closing the logger