

Standardisation of log message severity levels

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We want to be able to quickly determine the reason for a problem, its severity and how to solve it.

Looking at code bases from most projects, there is little overlap in how and where log messages are implemented.

First step: standardise severity levels.

Standard severity levels

Syslog (POSIX) / RFC5424

Should only be
used by the
operating system

~~0 Emergency~~

-Panic condition

~~1 Alert~~

-System error

2 Critical

3 Error

4 Warning

5 Notice

6 Info

7 Debug

Standard severity levels

Syslog (POSIX) / RFC5424

~~0 Emergency~~

~~1 Alert~~

- | | |
|------------|--------------------|
| 2 Critical | -Hard device c |
| 3 Error | -Error |
| 4 Warning | -Warni |
| 5 Notice | -N but significant |
| 6 Info | -national |
| 7 Debug | -debugging |

Not useful

Standard severity levels

<https://stackoverflow.com/a/5278006>

~~0 Emergency~~

~~1 Alert~~

2 Critical

-Wake me up in the middle of the night

3 Error

-Fix as soon as (reasonably) possible

4 Warning

-This might be a problem

5 Notice

-Not a problem but might require action

6 Info

-Normal operation; what is the state?

7 Debug

-Should generally not be logged

Example 1

2 Critical

Message

FileWriter: Writing data to file with name
"EventData.nxs".

3 Error

4 Warning

5 Notice

Severity level

6 Info

- Info

7 Debug

Example 2

Message

2 Critical

EPICS forwarder: Lost connection to PV
with name

3 Error

"HZB:V20:Chopper1:TempSensor1_RBV".

4 Warning

5 Notice

Severity level

6 Info

- Warning

7 Debug

Example 3

2 Critical

Message

EFU: 5436 events dropped due to low level threshold.

3 Error

4 Warning

5 Notice

Severity level

6 Info

- Debug

7 Debug

Example 4

2 Critical

Message

daquiri: X-axis label not set.

3 Error

4 Warning

5 Notice

Severity level

6 Info

- Notice

7 Debug

Example 5

Message

2 Critical

EFU: Unable to connect to Kafka broker

3 Error

4 Warning

5 Notice

Severity level

6 Info

- Critical - If we risk loosing data
- Error - If problem is temporary

7 Debug