systemd-logging Documentation

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Contents

https://github.com/idlesign/systemd-logging

CHAPTER 1

Description

Simplifies logging for systemd

- No need to compile (pure Python), uses `libsystemd.so`.
- Simplified configuration.
- Just logging. Nothing more.

CHAPTER 2

Requirements

1. Python 3.6+

CHAPTER 3

Table of Contents

3.1 Quickstart

```
import logging

from systemdlogging.toolbox import init_systemd_logging

# This one line in most cases would be enough.
# By default it attaches systemd logging handler to a root Python logger.
init_systemd_logging()  # Returns True if initialization went fine.

# Now you can use logging as usual.
logger = logging.getLogger(__name__)
logger.setLevel(logging.DEBUG)

logger.debug('My debug message')

try:
    raise ValueError('Log me please')

except ValueError:
    # Additional context can be passed in extra.context.
    logger.exception('Something terrible just happened', extra={
        'message_id': True,  # Generate message ID automatically.
        'context': {
            'FIELD1': 'one',
            'FIELD2': 'two',
        }
    }, stack_info=True)
```

3.2 API

class systemdlogging.toolbox.**SystemdFormatter**(*fmt=None*, *datefmt=None*, *style='%'*)
Formatter for systemd.

Initialize the formatter with specified format strings.

Initialize the formatter either with the specified format string, or a default as described above. Allow for specialized date formatting with the optional datefmt argument. If datefmt is omitted, you get an ISO8601-like (or RFC 3339-like) format.

Use a style parameter of '%', '{' or '$' to specify that you want to use one of %-formatting, `str.format()` (`{}`) formatting or `string.Template` formatting in your format string.

Changed in version 3.2: Added the `style` parameter.

format(*record*)
Format the specified record as text.

The record's attribute dictionary is used as the operand to a string formatting operation which yields the returned string. Before formatting the dictionary, a couple of preparatory steps are carried out. The message attribute of the record is computed using LogRecord.getMessage(). If the formatting string uses the time (as determined by a call to usesTime(), formatTime() is called to format the event time. If there is exception information, it is formatted using formatException() and appended to the message.

class systemdlogging.toolbox.**SystemdHandler**(*level=0*)
Allows passing log messages to systemd.

Additional information may be passed in `extra` dictionary:

- context - Dictionary with additional information to attach to a message.
- **message_id - Message ID (usually UUID to assign to the message).** If `True` ID will be generated automatically

Fills in the following fields automatically:

- CODE_FILE - Filename
- CODE_LINE - Code line number
- CODE_FUNC - Code function name
- CODE_MODULE - Python module name
- LOGGER - Logger name
- THREAD_ID - Thread ID if any
- THREAD_NAME - Thread name if any
- PROCESS_NAME - Process name if any
- PRIORITY - Priority based on logging level

Optionally fills in:

- TRACEBACK - Traceback information if available
- STACK - Stacktrace information if available
- MESSAGE_ID - Message ID (if context.message_id=True)

Initializes the instance - basically setting the formatter to None and the filter list to empty.

emit(*record: logging.LogRecord*)
Do whatever it takes to actually log the specified logging record.

This version is intended to be implemented by subclasses and so raises a NotImplementedError.

syslog_id = ''
SYSLOG_IDENTIFIER to add to message. If not set command name is used.

systemdlogging.toolbox.**check_for_systemd**() → bool
Checks whether current process is run under systemd (and thus its output is connected to journald).

systemdlogging.toolbox.**init_systemd_logging**(*, *logger: Optional[logging.Logger] = None*, *syslog_id: str = ''*) → bool
Initializes logging to send log messages to systemd.

Returns boolean indicating initialization went fine (see also *check_for_systemd()*).

If it wasn't one may either to fallback to another logging handler or leave it as it is possibly sacrificing some log context.

Parameters

- **logger** – Logger to attach systemd logging handler to. If not set handler is attached to a root logger.
- **syslog_id** – Value to be used in SYSLOG_IDENTIFIER message field.

systemdlogging.toolbox.**log_message**(*, *level: int*, *msg: str*, *context: Optional[dict] = None*) → bool
Sends a message to systemd.

> **Warning:** Low level function. You may want to use more convenient *init_systemd_logging()* or *SystemdHandler* and *SystemdFormatter*.

Natively supported fields: http://0pointer.de/public/systemd-man/systemd.journal-fields.html

Parameters

- **level** – Logging level.
- **msg** – Message text to send.
- **context** – Additional context to send within message.

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