Graylog Extended Format logging driver

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The `gelf` logging driver is a convenient format that's understood by a number of tools such as Graylog, Logstash, and Fluentd. Many tools use this format.

In GELF, every log message is a dict with the following fields:

- Version
- Host (who sent the message in the first place)
- Timestamp
- Short and long version of the message
- Any custom fields you configure yourself

Usage

To use the `gelf` driver as the default logging driver, set the `log-driver` and `log-opt` keys to appropriate values in the `daemon.json` file. For more about configuring Docker using `daemon.json`, see daemon.json.

{{% include "daemon-cfg-desktop.md" %}}

The following example sets the log driver to `gelf` and sets the `gelf-address` option.

```
{
  "log-driver": "gelf",
  "log-opts": {
    "gelf-address": "udp://1.2.3.4:12201"
  }
```

```
}
```

Restart Docker for the changes to take effect.

> `log-opts` configuration options in the `daemon.json` configuration file must be provided as strings. Boolean and numeric values (such as the value for `gelf-tcp-max-reconnect`) must therefore be enclosed in quotes (`"`).

You can set the logging driver for a specific container by setting the `--log-driver` flag when using `docker container create` or `docker run`:

```
$ docker run \
      --log-driver gelf --log-opt gelf-address=udp://1.2.3.4:12201 \
      alpine echo hello world
```

GELF options

The `gelf` logging driver supports the following options:

Option	Required	Description	Example value
`gelf-address`	required	The address of the GELF server. `tcp` and `udp` are the only supported URI specifier and you must specify the port.	`--log-opt gelf-address=udp://192.168.0.42:12201`
`gelf-compression-type`	optional	`UDP Only` The type of compression the GELF driver uses to compress each log message. Allowed values are `gzip`, `zlib` and `none`. The default is `gzip`. Note that enabled compression leads to excessive CPU usage, so it's highly recommended to set this to `none`.	`--log-opt gelf-compression-type=gzip`

Option	Required	Description	Example value
`gelf-compression-level`	optional	`UDP Only` The level of compression when `gzip` or `zlib` is the `gelf-compression-type`. An integer in the range of `-1` to `9` (BestCompression). Default value is 1 (BestSpeed). Higher levels provide more compression at lower speed. Either `-1` or `0` disables compression.	`--log-opt gelf-compression-level=2`
`gelf-tcp-max-reconnect`	optional	`TCP Only` The maximum number of reconnection attempts when the connection drop. A positive integer. Default value is 3.	`--log-opt gelf-tcp-max-reconnect=3`
`gelf-tcp-reconnect-delay`	optional	`TCP Only` The number of seconds to wait between reconnection attempts. A positive integer. Default value is 1.	`--log-opt gelf-tcp-reconnect-delay=1`
`tag`	optional	A string that's appended to the `APP-NAME` in the `gelf` message. By default, Docker uses the first 12 characters of the container ID to tag log messages. Refer to the log tag option documentation for customizing the log tag format.	`--log-opt tag=mailer`
`labels`	optional	Applies when starting the Docker daemon. A comma-separated list of logging-related labels this daemon accepts. Adds additional key on the `extra` fields, prefixed by an underscore (`_`). Used for advanced log tag options.	`--log-opt labels=production_status,geo`
`labels-regex`	optional	Similar to and compatible with `labels`. A regular expression to match logging-related labels. Used for advanced log tag options.	`--log-opt labels-regex=^(production_status|geo)`

Option	Required	Description	Example value
`env`	optional	Applies when starting the Docker daemon. A comma-separated list of logging-related environment variables this daemon accepts. Adds additional key on the `extra` fields, prefixed by an underscore (`_`). Used for advanced log tag options.	`--log-opt env=os,customer`
`env-regex`	optional	Similar to and compatible with `env`. A regular expression to match logging-related environment variables. Used for advanced log tag options.	`--log-opt env-regex=^(os|customer)`

> The `gelf` driver doesn't support TLS for TCP connections. Messages sent to TLS-protected inputs can silently fail.

Examples

This example configures the container to use the GELF server running at `192.168.0.42` on port `12201`.

```
$ docker run -dit \
    --log-driver=gelf \
    --log-opt gelf-address=udp://192.168.0.42:12201 \
    alpine sh
```

□□□ #2
□ □□□ □□□ 2026-10-31 19:24:42 UTC
□ □□□ □□□ 2026-10-31 19:24:44 UTC