

loki-agent

Native AIX error log forwarder for Grafana Loki, written in C.

Reads the AIX error log (`errlog`) in real-time and pushes structured entries to a Grafana Loki instance via HTTP(S). Designed for enterprise AIX environments where lightweight, dependency-free log shipping is critical.

Website: <https://aixwatch.com>

Supported Systems

AIX Version	Status
AIX 7.1 TL5	✓ Tested
AIX 7.2 TL5	✓ Tested
AIX 7.3	✓ Tested

Runs on IBM Power Systems (POWER7 and later).

Prerequisites

The standard build has **zero external dependencies** — only AIX base libraries:

Library	Package	Source
<code>libc.a</code>	<code>bos.rte</code>	AIX base
<code>liberrlog.a</code>	<code>bos.rte</code>	AIX base
<code>libodm.a</code>	<code>bos.rte</code>	AIX base

Library	Package	Source
libsrc.a	bos.rte	AIX base

The TLS build additionally requires:

Library	Package	Source
libssl.a (OpenSSL 3)	openssl	AIX base
libcrypto.a	openssl	AIX base

Features

- **Real-time error log forwarding** — monitors AIX errlog continuously
- **Structured log entries** — errpt fields parsed and sent as Loki labels
- **Zero external dependencies** — pure AIX base libraries (standard build)
- **TLS support** — optional encrypted connection to Loki (TLS build)
- **SRC integration** — managed via AIX System Resource Controller
- **Auto-start at boot** — inittab entry created at install
- **Configuration file** — all options configurable without restarting
- **One-shot mode** — parse full error log once for debugging or import
- **Lightweight** — minimal CPU and memory footprint
- **BFF packaging** — standard AIX `installp` package
- **4 build variants** — full/trial × standard/TLS

Build Variants

Variant	Description
loki-agent-full	Licensed version, plain HTTP
loki-agent-trial	Trial version (30-day), plain HTTP
loki-agent-TLS-full	Licensed version, TLS support
loki-agent-TLS-trial	Trial version (30-day), TLS support

Installation

From BFF Package (recommended)

```
# Standard (HTTP)
installp -aXd loki-agent.1.0.0.0-full.bff loki-agent

# Or TLS variant
installp -aXd loki-agent.1.0.0.0-full-tls.bff loki-agent

# Verify
lslpp -l loki-agent.rte
lssrc -s loki-agent
```

The installer automatically: - Installs the binary to `/usr/local/bin/loki-agent` - Creates the configuration directory `/etc/loki/` - Installs documentation to `/usr/local/share/loki-agent/` - Registers the SRC subsystem - Adds an inittab entry for automatic startup at boot

Start / Stop

```
startsrc -s loki-agent          # Start
stopsrc -s loki-agent          # Stop
lssrc -s loki-agent            # Status
```

Uninstall

```
stopsrc -s loki-agent
installp -u loki-agent
```

Configuration

Default configuration file: `/etc/loki/loki-agent.conf`

```
# Loki server (required)
servername = 10.0.0.1

# TCP port (default: 3100)
port = 3100

# API path (default: /loki/api/v1/push)
apipath = /loki/api/v1/push

# AIX error log path (default: /var/adm/ras/errlog)
errorlogfile = /var/adm/ras/errlog

# Operating mode: 0=perpetual, 1=one-shot (default: 0)
mode = 0

# Scan interval in seconds (default: 60)
period = 60

# TLS encryption: 0=off, 1=on (default: 0, requires TLS build)
tls = 0
```

See the installed configuration file for detailed documentation of all options.

CLI Options

```
loki-agent [options]

-s <server>  Loki server hostname or IP (required)
-p <port>    Loki server TCP port (default: 3100)
-u <path>    Loki API path (default: /loki/api/v1/push)
-e <path>    AIX error log file (default: /var/adm/ras/errlog)
-c <file>    Configuration file (default: /etc/loki/loki-agent.conf)
-t           Enable TLS encryption (requires TLS build)
-b           One-shot mode: parse full log and exit
```

CLI options take precedence over the configuration file.

How It Works

1. Opens the AIX error log via `errlog_open()`
2. Reads new entries since last scan using `errlog_find_first()` / `errlog_find_next()`
3. Parses each entry: timestamp, sequence, label, type, class, resource, description
4. Formats entries as JSON and pushes to Loki via HTTP POST to `/loki/api/v1/push`
5. Sleeps for the configured period, then repeats (mode 0)

Labels sent to Loki

Each log entry is tagged with: - `hostname` — AIX hostname - `job` — `errpt` - `label` — error label (e.g., `DISK_ERR1`) - `type` — `PERM`, `TEMP`, `PERF`, `PEND`, `INFO`, `UNKN` - `class` — `H` (hardware), `S` (software), `O` (operator), `U` (undetermined) - `resource` — resource name (e.g., `hdisk0`)

Building from Source

```
# Build all variants (full + trial × standard + TLS)
make clean && make

# Build specific variant
make loki-agent-full
make loki-agent-TLS-full

# Create BFF packages
make bff
```

Trial Edition

The trial edition operates for 30 days from first installation. After expiration, purchase a license at <https://aixwatch.com>.

License

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