

LCLS use of Alarm Handler

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Overview

The EPICS Alarm Handler (ALH), developed at Los Alamos and Argonne, is an interactive graphical application that displays and monitors EPICS process variable alarm states. ALH communicates with the EPICS database using channel access function calls and displays a hierarchical, navigable tree of PVs and their alarm states, as specified by configuration files. ALH logs alarms and operator actions to CMLOG, and to its own log files. For a detailed description click [here.][<http://www.slac.stanford.edu/grp/cd/soft/share/slaonly/alh/index.html#alhslac>]

The Alarm Handler Browser run on the LCLS server as a background task connecting to a groups of PVs as listed above. This process is started from the laci account. The standalone process logs alarm messages to CMLOG and to the ALH Alarm and OpMod log files listed below in Table 1-3. This process is run without X displays, using Xvfb, a virtual framebuffer X server for X11.

Manuals

- [Release Notes](#)
- [User's Guide](#)
- [Demo](#)

Configuration

- [LCLS Alarm Handling](#)

References

- [Author's Web Site](#)
- [EPICS Extensions Download](#)
- [EPICS Extensions Home Page](#)
- [EPICS Extensions at LCLS](#)
- [EPICS at LCLS](#)

Table 1-1		
Description	CVS Repository	CVS Reference Directory
Source	epics/extensions/src/alh	/afs/slac/g/lcls/epics/extensions/src/alh
Daemon Script	tools/alh/script/st.alh	/afs/slac/g/lcls/tools/alh/script
Browser Script	tools/script/lclsalh	/afs/slac/g/lcls/tools/script
Configuration	tools/alh/config	/afs/slac/g/lcls/tools/alh/config

Table 1-2	
Description	Directory
Logs	/nfs/slac/g/lcls/tools/alh /log

Note: Log files are accessible from the host lcls-dev only. Log files are not stored in CVS.

Alarm Handler Processes

There are 2 uses of the alarm handler for LCLS

1. The Alarm Handler Daemon Process: a single instance of this runs in without a visible browser. Its sole function is to log alarms to cmlog.
2. The Alarm Handler Browser: displays the alarm tree for operators and whoever else is interested. Can be started in 2 modes:
 - SPY: read-only browser, in LOCAL mode, i.e. your alarm acknowledgements are LOCAL to your own browser.
 - SUP: (supervisor) GLOBAL mode browser, i.e. your alarm acknowledgements are GLOBAL, written to the database. **This mode should be used by operators in the control room only.**

Start Alarm Handler Browser in Spy Mode

1. Log into any lcls host
2. lclsalh OR lclsalh spy

Start Alarm Handler Browser in Sup Mode

1. Log into any lcls host
2. lclsalh sup

Restart Alarm Handler Daemon process

- 1. Log into host lcls-prod01 using the laci account
- 2. `cd /etc/init.d`
- 3. `./st.alh restart`

+Stop Alarm Handler Daemon process +

- 1. Log into host lcls-prod01 using the laci account
- 2. `cd /etc/init.d`
- 3. `./st.alh stop`

+Start Alarm Handler Daemon process +

- 1. Log into host lcls-prod01 using the laci account
- 2. `cd /etc/init.d`
- 3. `./st.alh start`

View Status of Alarm Handler

Start Archiver Watchdog

The cron job `tscron.watchdog` is use to monitor the status of the ALH Process running on the host lcls-dev. The cron job generates the log file `/tmp/watchdog.log`. This log file provides status information for diagnostic purposes only. The cron job also read and write the files listed in Table 1-3 below.

To restart a cron job:

- 1. login directly to lcls-dev from the laci account
- 2. `crontab -r`
- 3. `cd /afs/slac/g/lcls/tools/alh/script`
- 4. `crontab < crontab.watchdog`

Start Alarm Handler Heart Beat

Table 1-3		
Directory: /home/tools/alh/dev		
/log		
Host Access: lcls-dev		
Filename	Description	Access
Alarms	Alarm Log	read-only
OpMods	Operation mode	read-only

System Administration

- Backups
- Log files