

Linux Boot - Quick Start-up

Definitions

- BOLD: refers to files that need to be modified or generated by IOC developer

- *Italics: symbolic link*

How-To setup the IOC boot directories

The instructions differ between production and development due to permission restrictions in production.

Table 1

Facility	Account	Server
LCLS	laci	lcls-daemon0, lcls-daemon1, lcls-daemon2, cryo-daemon1
FACET-II	flaci	facet-daemon1
TestFac	acctf	testfac-daemon1
Dev	laci	lcls-dev3 (rhel6), dev-rhel7 (rhel7)

Production: lcls, facet, testfac

1. Send email to Ken Brobeck requesting:
 - a. create controls infrastructure:
 - for a new IOC that boots from a production Linux daemon server (see Table1) or a camera server.
 - i. Add boot directory: \$EPICS_IOC<ioc>
 - ii. Add data directories: \$IOC_DATA/<ioc>/<autosave,autosave-req,restore,iocInfo,archive,yaml> directories
 - iii. Add automatic boot scripts:
 - (rhel6 only)
 - add boot script on server defined in table 1: /etc/init.d/st.<ioc>
 - add symbolic link on server defined in table 1: /etc/rc3.d/SS98st.<ioc> ----> /etc/init.d/st.<ioc>
2. Proceed to Step #2c under **Development**

Development: dev

1. Create the \$IOC_DATA directory as follows:
 - a. cd \$IOC_DATA for your IOC
 - b. mkdir sioc-<area>-<subsystem-prefix><2-digit#>
 - c. cd <sioc>
 - d. mkdir archive autosave-req autosave iocInfo restore yaml
2. Create the IOC boot directory with boot links as follows:
 - a. cd \$EPICS_IOC
 - b. mkdir sioc-<area>-<subsystem-prefix><2-digit#>
 - c. cd <ioc>
 - i. cp ../template/startup.cmd.soft startup.cmd
 - ii. Edit **startup.cmd**
 1. replace <ioc> with your ioc name
 2. replace <t_a> with the target, such as linux-x86 or linux-x86_64 or rhel7-x86_64, rhel7-x86_64 (ref. your application bin directory).
 3. replace <exe> with your IOC Application executable
 4. if your IOC Application uses a non-standard location for the st.cmd file, change path of EPICS_IOC_APP
 - iii. create symbolic: ln -s ../iocTop/<app>/<ver> iocSpecificRelease
3. Add your IOC to **\$EPICS_IOC/facility/screeniocs** and commit change to CVS

How-to boot an IOC from the Linux (daemon) server specified in screeniocs:

There are multiple ways to boot a soft ioc which are listed below:

1. Log onto server listed in Table 1 from the account this same table, and perform the following commands:
 - a. cd /etc/init.d
 - b. ./st.<ioc> <restart,start,stop>
2. Use iocConsole to start an ioc, which uses the screen program
 - a. iocConsole <ioc> --stayup
3. siocRestart <ioc>
4. Boot IOC from the facility home display network panel

How to connect to Linux IOC from a Linux server:

1. iocConsole <ioc>

How-to use screen program:

- ctrl a d : detach from the screen session

- `ctrl a [` : scroll up through the start-up messages.