

# **LCLS High Level Applications using Matlab**

# LCLS High Level Application Development in Matlab

## Manuals

- [Matlab Programmer's Users Guide](#)
- [Matlab Manual](#)
- [LabCA Manual](#)
- [Controls Matlab Infrastructure](#)
- [Aida](#)
  - [Using Aida with Matlab - ex of twiss and rmat acquisition.](#)
  - [SLC Accelerator Model](#)

CVS Repository	matlab		
CVS Reference	[ /afs/slac/g/lcls/matlab ]	<a href="http://www.slac.stanford.edu/cgi-wrap/cvsweb/matlab/?cvsroot=LCLS">http://www.slac.stanford.edu/cgi-wrap/cvsweb/matlab/?cvsroot=LCLS</a> ]	
Files	Host Access	Location	
Source	SLAC Unix farm	[ /afs/slac/g/lcls/matlab/src ]	<a href="http://www.slac.stanford.edu/cgi-wrap/cvsweb/matlab/src/?cvsroot=LCLS">http://www.slac.stanford.edu/cgi-wrap/cvsweb/matlab/src/?cvsroot=LCLS</a> ]
Script	SLAC Unix farm	[ /afs/slac/g/lcls/matlab/script ]	<a href="http://www.slac.stanford.edu/cgi-wrap/cvsweb/matlab/script/?cvsroot=LCLS">http://www.slac.stanford.edu/cgi-wrap/cvsweb/matlab/script/?cvsroot=LCLS</a> ]
Data	lcls-dev	<a href="#">/home/matlab</a>	

**Note:** Log files are accessible from the host lcls-dev only. Log files are not stored in CVS. You must source the standard LCLS epics setup to find this path.

[Demo - for Physists](#)

## Requirements

- A Linux platform
- an afs account
- Matlab 7 SP3
- Aida requires the JVM

## Setup

1) ssh to a Linux machine, log in and source the following setup file (place this line in your .cshrc):

[source /afs/slac/g/lcls/tools/script/ENVS.csh](#)

2) If you are going to get images over channel access the following environment variable must be set

[setenv EPICS\\_CA\\_MAX\\_ARRAY\\_BYTES 10000000](#)

3) Start the common message log browser (CMLOG), if desired (click on 'comments' above for example cmlog usage)

[cmlog -u &](#)

4) Start matlab

Method 1: starts the full gui version

[matlab](#)

Method 2: starts the command-line version without gui

[matlab -nodesktop](#)

Method 3: starts matlab without a jvm

[matlab -nojvm](#)

5) If you are going to use Aida to access model information you need to initialize Aida as follows:

[>>aidainit](#)

6) ....

## Device Names: MAD, EPICS, SLC

[Injection Area Device Names](#) - [Stephanie Allison's 'Rosetta Stone'](#)

## Interface PVs List

[List of PVs for Matlab Apps](#)

\*Simulated PVs list \*

[ Test PV list|List of Simulated PVs for Testing]

Also, see the LabCA and AIDA wiki pages