

REMOTE OPERATIONS OF 16-ID-B-LH



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D-BADGE

Credentials for remote connectivity and data access

d123456

- Verify d-badge credentials at [APS Beamline User Portal](#)
- Password should be the same as APS web password
 - Otherwise, reset password using link at User Portal
- Used for NoMachine access as well as Globus data management service

Enter your **ANL Domain Username** (employees and resident users) and **ANL Domain Password** or **Badge Number** (non-resident users) and **APS Web Password**

Username Or Badge No:

Password:

[Click here if you forgot your APS Web Password](#)

[Click here if you forgot your ANL Domain Password](#)

[APS Home Page](#) | [Security/Privacy Notice](#)
[Contact apsuser@aps.anl.gov](mailto:apsuser@aps.anl.gov)

[Click Here for Important Notice Regarding Cookies](#)

NOMACHINE

NX server for remote access to beamline

delos.aps.anl.gov

- Accessible *via* Google Chrome or Chromium-based browser
- Connect using d-badge credentials
- HPCAT will provide a local machine for testing NX before experiments



NOMACHINE

Recommendations for smooth remote experiment

- We recommend at least one monitor at 1080p or above
- Multiple instances of NoMachine possible, *e.g.* separate tabs in Chrome for separate connections to beamline PCs
- NoMachine is reasonably taxing, we recommend a PC with plenty of processing power and RAM
- Reliable, high-speed internet is a must
- Mac users may be required to use NoMachine desktop client – coordinate with beamline staff
- Working in pairs is a good idea

NOMACHINE

User-available machines and their intended uses

SEC16PC19

- Beamline controls
 - Diptera
 - Pilatus ADL
 - LH and temperature ADL
 - LH visualisation cameras
- Pressure control
 - Membrane ADL
- 3x 1080p monitors

SEC16PC10

- Temperature measurement
 - T-View
- Data analysis
 - Dioptas
 - xdi
- Pressure control
 - Membrane ADL
- 1x 1080p monitor

LH AND TEMPERATURE ADL

LH RemotControl Pilatus Aug-2020.adl

16IDB Laser Heating Remote Control

Control both UP & DN Lasers

Quench < 0.100 > 0.1 0.3 0.5 1

LH Temperature

Photodiode OUT IN

Up-T, K: 1500

Dn-T, K: 1500

Start T

Max. Intensity: 20000

Set CCD_Time(sec): 0.0100

File Name: /Data/LH_Temperature/2020-3/T 11.spe

Pilatus Detector

Exposure_Time (s): 0.49500

Time remaining: 0.00000

Start XRD

File Name: /nandisk/Data/2020-2/e230452-Huston/E/

To start Pilatus and LH temperature simultaneously

Start Pilatus & T

STOP

QIPG_YLR DN Laser

Total %: 0.00

Laser Power (W): 0.00

Tweak (% of Max.): 0.10

Quench

QIPG_YLR UP Laser

Total %: 0.00

Laser Power (W): 0.00

Tweak (% of Max.): 0.10

Quench

Laser focus size: 1.350

Laser position: L 2.0 R 2.0 D 2.0 U

White light

IN High

Image focus: DEN-Y 1.420

ExpTime,sec: 0.2000

Heating Mirror: L 2.0 R 10.0 D 10.0 U

Sample Stage

DEN-Y: -0.3520

SAM-Z: 0.3850

DAC

Laser focus size: 1.450

Laser position: L 1.0 R 1.0 D 1.0 U

White light

IN High

Image focus: DEN-Y 1.300

ExpTime,sec: 0.2000

Heating Mirror: L 10.0 R 50.0 D 50.0 U

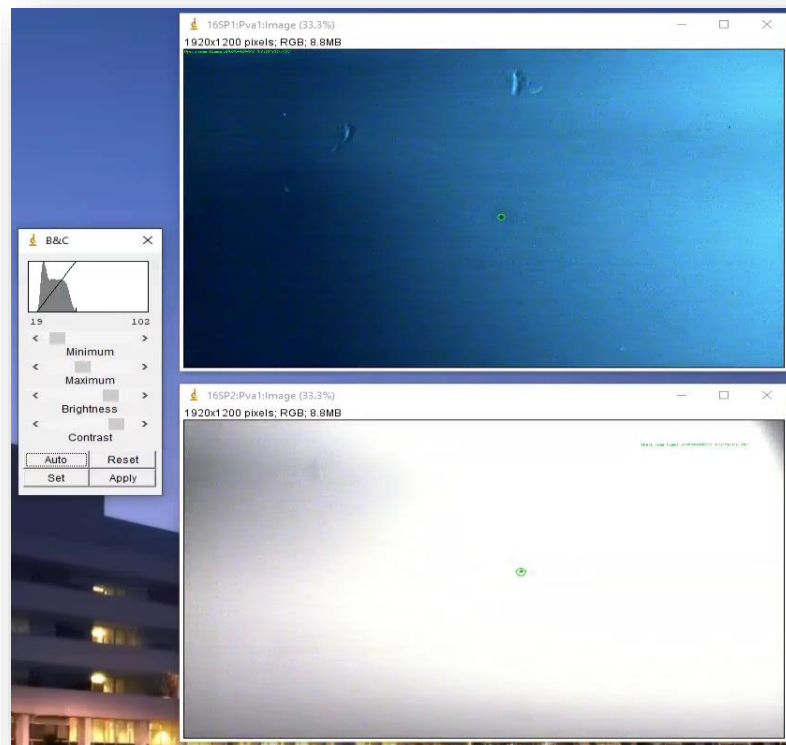
Heating Unit-Y Control

DN stream: IN = 0, OUT = 110, Move-to position: 110,000, Current position: 110,000

Up stream: IN = 0, OUT = 110, Move-to position: 110,000, Current position: 110,000

LH VISUALISATION CAMERAS

- Imaging cameras on LH system replaced, now possible to view directly on LH control machine
- Control of imaging cameras *via* ImageJ software



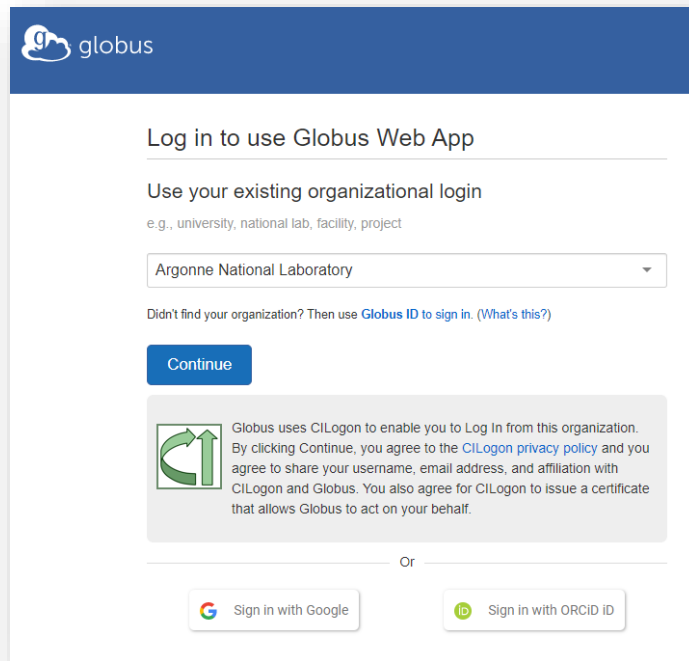
DURING YOUR EXPERIMENT

- Please coordinate an experimental plan with beamline staff
 - We have slightly limited access to the beamline
 - We will be handling your DACs
- Expect slightly lower work rate than in-person experiment
 - Especially if training of new users is required

ACCESSING YOUR DATA

Globus data management server

- Sign in to Globus
 - Organisation or personal
- Data is in the collection [aps#data](#)
 - You will be asked to verify your access with d-badge credentials
- Path is [/gdata/dm/HPCAT/16IDB/](#)
- File folders listed by experiment start date, ESAF ID, and PI name



globus


Log in to use Globus Web App

Use your existing organizational login
e.g., university, national lab, facility, project


Argonne National Laboratory


Didn't find your organization? Then use [Globus ID to sign in](#). ([What's this?](#))

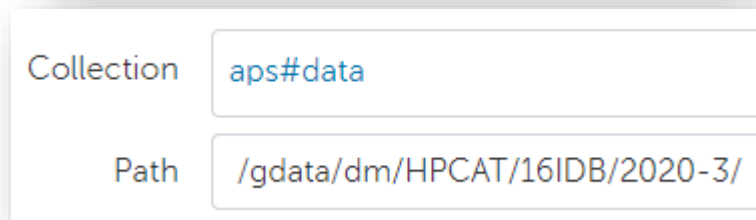
Continue

 Globus uses CILogon to enable you to Log In from this organization. By clicking Continue, you agree to the [CILogon privacy policy](#) and you agree to share your username, email address, and affiliation with CILogon and Globus. You also agree for CILogon to issue a certificate that allows Globus to act on your behalf.

Or

 Sign in with Google

 Sign in with ORCID ID



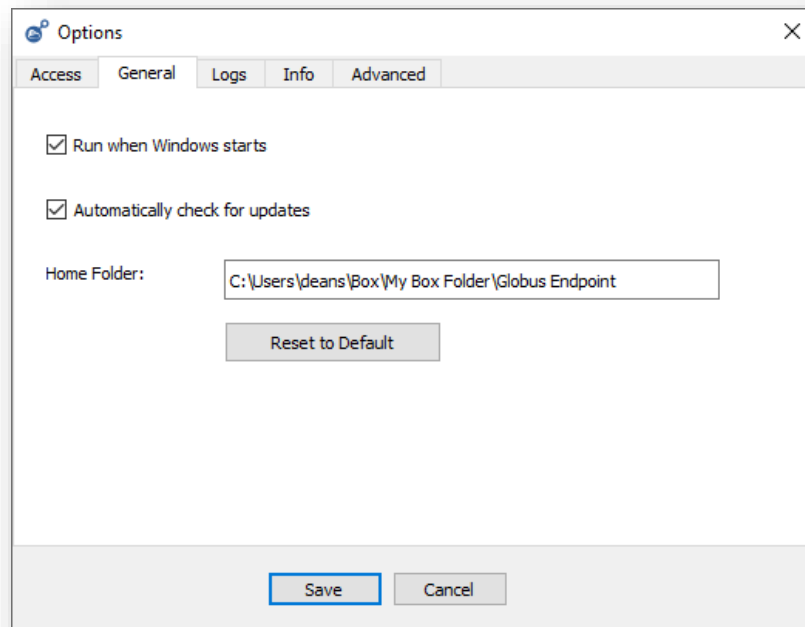
Collection

Path

ACCESSING YOUR DATA

Globus Connect Personal

- Download from Globus website
globus.org/globus-connect-personal
- Create personal endpoint initiate transfer from Globus to your machine



ACCESSING YOUR DATA

Globus Connect Personal

The screenshot displays the Globus Connect Personal interface, which is used for accessing and managing data across different endpoints. The interface is divided into two main panes, each representing a different endpoint or collection.

Left Pane (Collection: aps#data):

- Path: /gdata/dm/HPCAT/16IDB/2020-2/
- Selected item: s16idb-20200610-e226095-commissioning (09/19/2020 03:12pm)
- Other items: s16idb-20200630-e227907-Salamat (07/19/2020 12:41pm), s16idb-20200706-e228002-Frost (07/19/2020 03:15pm), s16idb-20200714-e228479-Duwal (07/23/2020 07:10pm), s16idb-20200723-e228803-Jenei (07/28/2020 10:54am), s16idb-20200728-e228800-Hunter (07/28/2020 10:54am)

Right Pane (Endpoint: Dean Smith's Endpoint):

- Path: /~/C/Users/deans/Box/My Box Folders/Globus Endpoint/
- Selected item: e226095 (07/09/2020 11:11am)
- Other items: 2020-06-22 Test Sync (07/09/2020 11:10am), s16idb-20201006-e230925-Lee (09/15/2020 08:35pm)

The interface includes a sidebar on the left with navigation options: FILE MANAGER, BOOKMARKS, ACTIVITY, ENDPOINTS, GROUPS, CONSOLE, ACCOUNT, LOGOUT, and HELP. At the bottom, there are buttons for 'Start', 'Transfer & Sync Options', and another 'Start' button.

ACCESSING YOUR DATA

Globus tips

- Connection between local (HPCAT) storage and Globus file server is **unilateral**
 - Deleting a file in your experiment folder **will not** remove it from Globus
 - Best practice is to avoid overwriting/replacing documents or deleting files
- There is no way to set up a live link between Globus and your machine
 - Files can only be accessed by requesting from Globus, not instantaneous
 - **sec16pc10** is intended for on-the-fly analysis of XRD data

SUMMARY

Checklist for 2020-3 users

- Verify d-badge credentials at [APS Beamline User Portal](#)
- **Submit ESAF promptly**
- Coordinate NoMachine test with beamline staff
- Data folder will be set up by beamline staff, verify Globus access
- Formulate plan and communicate with beamline staff
- Coordinate shipping DACs to beamline staff