

CS-Studio: Logging

Olog

Requirements

- Basic functionality
 - Web service
 - Authentication
 - Multiple logbooks, tags
 - Create log entry
 - Edit log entry
 - Attach files
 - Search
 - Simple Web client

Requirements

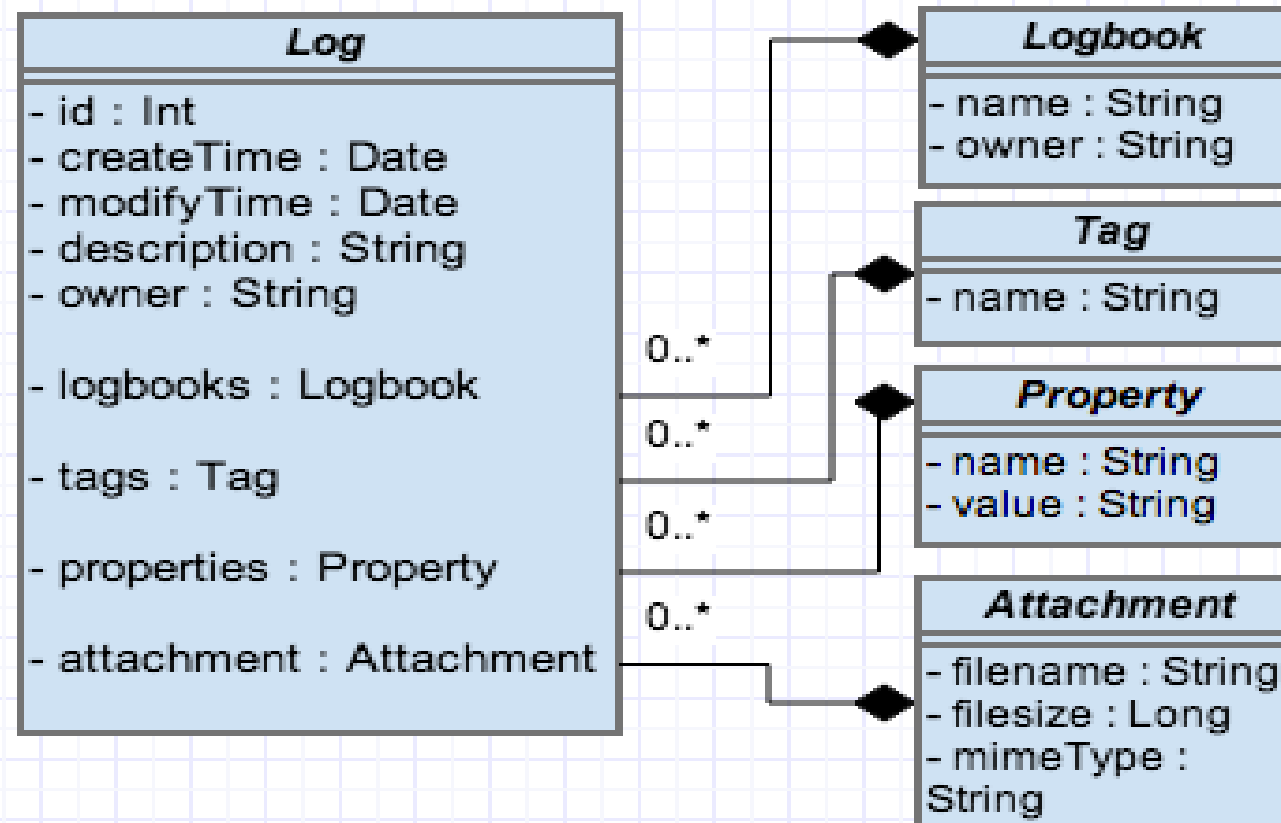
■ Integration

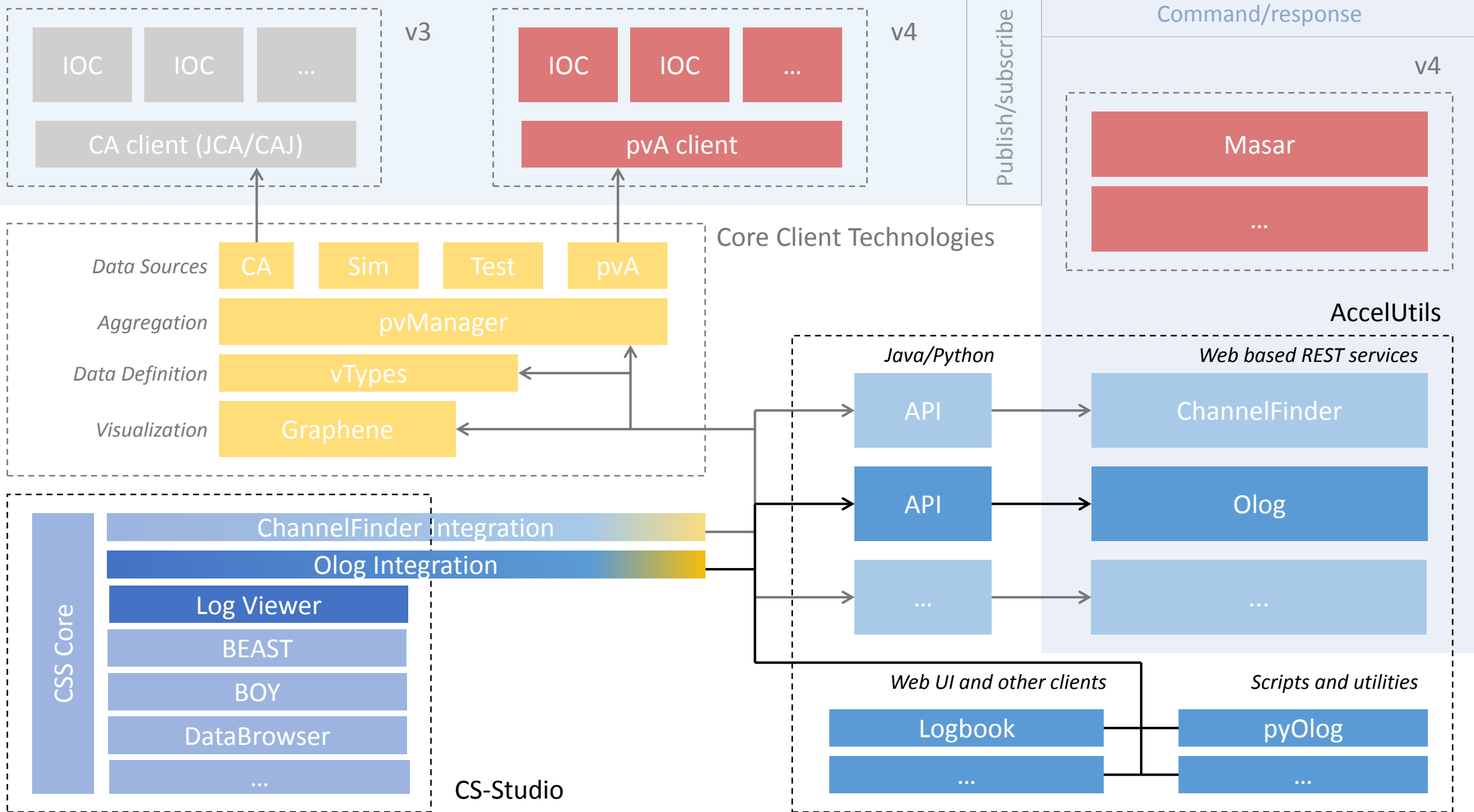
- IRMIS
 - » Component/Inventory
- Physics data
- Save/restore
- CSS plug-in
- Operations
 - » Beam statistics
 - » Down time/tuning time/beam on target
 - » Bypass records
 - » On shift records
 - » Trouble Reports
 - » Experiment records

Log Entry

- Time
- Owner
- Text
- Attachments
- Logbooks
- Tags
- Properties

Log Entry





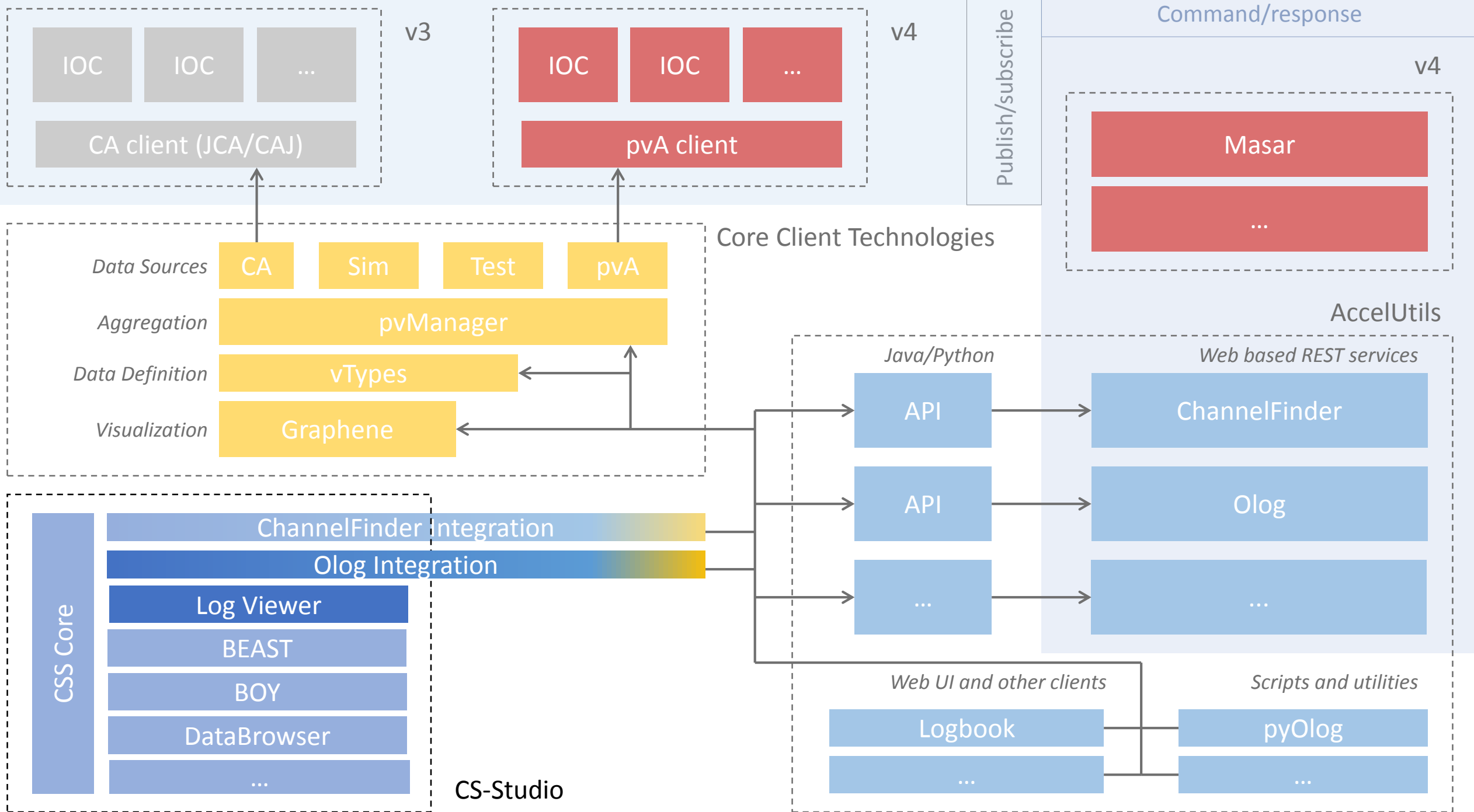
Olog Web service

- Create and modify log entries
- Search
- Organize entries using multiple logbooks, tags and properties.
- Integration with other tools/service
 - Control System (epics v3, v4)
 - CS-Studio
 - Physics Data
 - Save Restore
 -

Olog Client Libraries

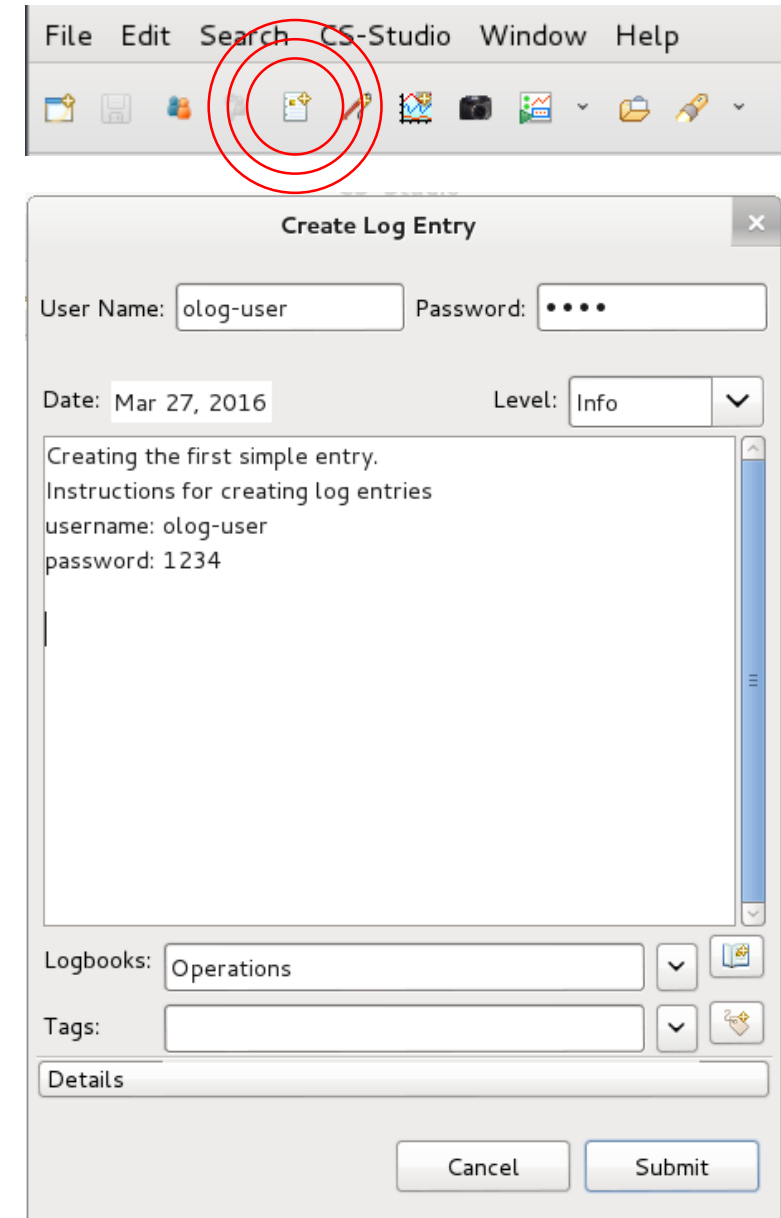
- Currently there is support for 2 languages
 - Python
 - Java
- Manage network communication
 - Creating HTTP request
 - Setting up connection and Authorization
- Parsing json/XML into java or python objects
- Provide Utility Methods

CS-Studio & Olog



Creating simple log entries

- Create log entry
 - Toolbar
 - Context Menu
- Create log entry dialog
 - Required
 - Authentication/Authorization info
 - Log description
 - Logbook
 - Level
 - Optional
 - Tags
 - Attachments
 - Properties



The screenshot shows the CS-Studio application window with the 'Create Log Entry' dialog box open. The dialog box has a title bar with a close button. It contains the following fields and controls:

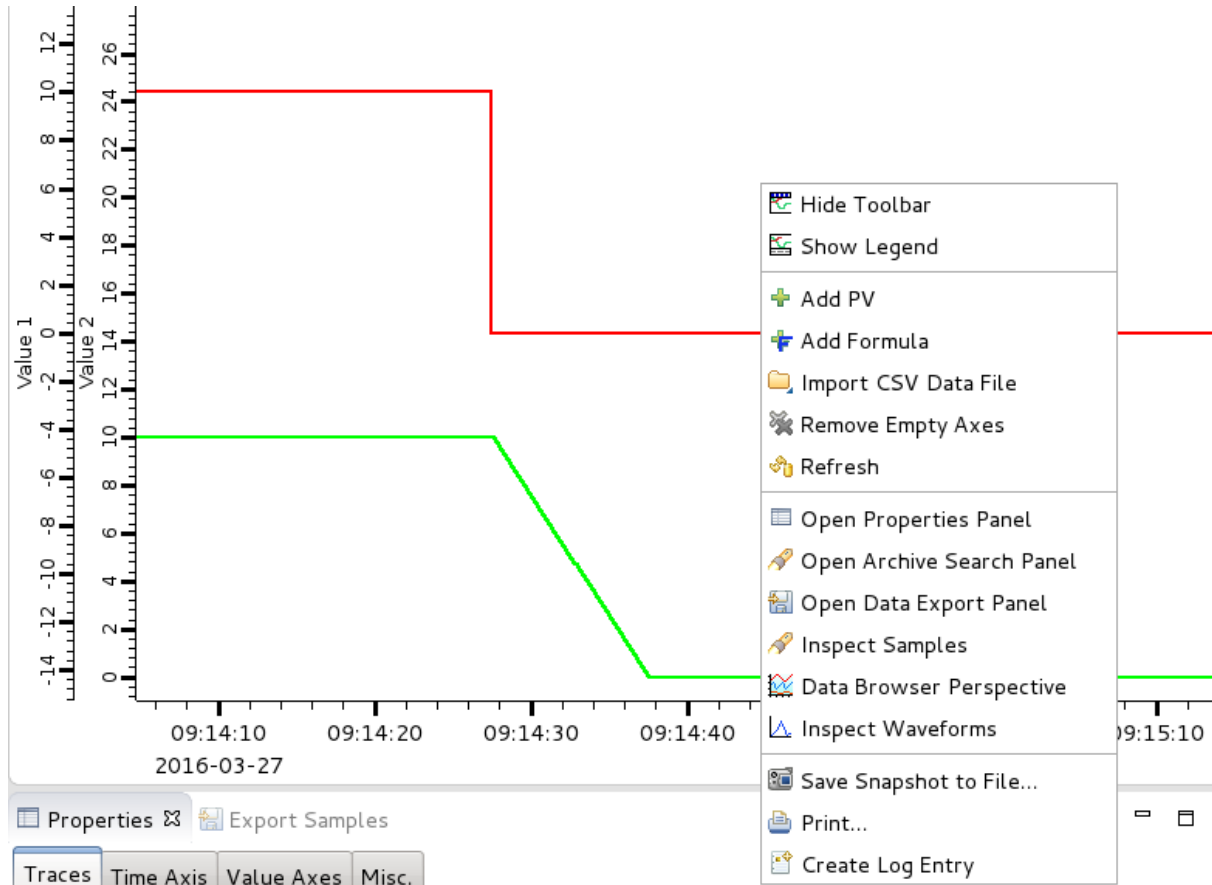
- User Name:** A text box containing 'olog-user'.
- Password:** A password field with four dots.
- Date:** A date picker showing 'Mar 27, 2016'.
- Level:** A dropdown menu showing 'Info'.
- Main Text Area:** A large text area containing the following text:

```
Creating the first simple entry.  
Instructions for creating log entries  
username: olog-user  
password: 1234
```
- Logbooks:** A dropdown menu showing 'Operations'.
- Tags:** A dropdown menu that is currently empty.
- Buttons:** 'Cancel' and 'Submit' buttons at the bottom right.

Olog Clients – CS-Studio

- CS-Studio is an eclipse based framework for developing controls and physics applications
- Seamless integration with applications
 - Log Entries initialized with application specific information

Creating log entries from applications (Databrowser)



The screenshot shows the 'Create Log Entry' dialog box. It contains fields for 'User Name' and 'Password', a 'Date' field set to 'Mar 27, 2016', and a 'Level' dropdown menu set to 'Info'. There is a text area for 'Data Browser Plot' with the text 'See attached Data Browser plot'. Below this are 'Logbooks' and 'Tags' dropdown menus, both set to 'Operations'. A 'Hide details' button is present. The dialog has tabs for 'Images', 'Files', 'Properties', and 'Ticket'. The 'Images' tab is active, showing a preview of the plot from the previous screenshot. A 'Remove' button is next to the preview. At the bottom, there are buttons for 'Add Image', 'Screenshot', 'CSS Window', 'Clipboard Image', 'Cancel', and 'Submit'.

Creating log entries from applications (Alarm)

The screenshot displays the Control System Studio (HLSII) interface. The left pane shows the Alarm Tree with a hierarchy of alarms. The right pane shows the Alarm Perspective view, which includes a table of active alarms and a table of acknowledged alarms.

Alarm Tree (Left Pane):

- Area: Common environment
 - Area: Linac (MAJOR/STATE_ALARM)
 - System: Vacuum (MINOR/STATE_ALARM)
 - System: RF
 - System: Magnet power supplies (invalid-ack'd/Disconnect)
 - System: Diagnostics (invalid-ack'd/Disconnected)
 - System: Radiation Monitoring (MAJOR/STATE_ALARM)
- PV: LN-AM(RadMon)Alrm:Sum-Sts
 - Area: Booster (MAJOR/STATE_ALARM)
 - System: Vacuum (MAJOR/STATE_ALARM)
 - System: Diagnostics (invalid-ack'd/Disconnect)
 - System: RF (MAJOR/STATE_ALARM)
 - System: Magnet Systems (MAJOR/STATE_ALARM)
 - System: Water Skids
 - System: Radiation Monitoring (MAJOR/STATE_ALARM)
 - Area: Storage ring (invalid-ack'd/UDF)

Alarm Perspective (Right Pane):

RADIATION MONITORS - Injector

Linac #	Location	Reading	Status	More
Linac # 1	(Kly Gall)	0.00 mR/h	OK	More
Linac # 2	(Kly Gall)	0.01 mR/h	OK	More
Linac # 3	(BR Tunnel)	-0.01 mR/h	OK	More
Linac # 4	(BR Tunnel)	0.04 mR/h	OK	More

Channel Viewer

SA	Reading	Status	More
SA	0.00 mR/h	OK	More
SA	-0.01 mR/h	OK	More
SA	-0.01 mR/h	OK	More
SA	-0.01 mR/h	OK	More
SA	0.01 mR/h	OK	More
SA	0.00 mR/h	OK	More
SA	0.02 mR/h	OK	More

Alarm Log (Bottom Table):

Description	Alarm Time	Current Sevi	Current Stat	Alarm Se	Alarm Statu	Alarm Value
MINOR alarm: Linac/LTB Vacuum Summary Fault	2013/09/25 16:14:00	MINOR	STATE_ALARM	MINOR	STATE_ALARM	Minor Alarm
MAJOR alarm: Booster Radiation Monitoring	2013/09/18 10:43:00	OK	OK	MAJOR	STATE_ALARM	Alarm
MAJOR alarm: Booster CFC inhibited the RF.	2013/09/24 09:50:00	MAJOR	HIHI_ALARM	MAJOR	HIHI_ALARM	1
MAJOR alarm: Booster BTS Vacuum Summary Fault	2013/09/25 16:16:00	MAJOR	STATE_ALARM	MAJOR	STATE_ALARM	Major Alarm
MAJOR alarm: BTS Bend Magnet 1 Summary Alarm	2013/09/16 15:20:00	MAJOR	STATE_ALARM	MAJOR	STATE_ALARM	HI
MAJOR alarm: LN-AM(RadMon)Alrm:Sum-Sts	2013/09/18 13:31:00	OK	OK	MAJOR	STATE_ALARM	Alarm

Acknowledged Alarms (5)

PV	Description	Alarm Time	Current Sevi	Current Stat	Alarm Se	Alarm Statu	Alarm Value
BR-BI()Op-Sts	invalid-ack'd alarm: Booster diagnostic fault	2013/03/18 15:18:00	INVALID	LINK_ALARM	invalid-ack'e	LINK_ALARM	OK
BR-MG(PS)FaultSum	invalid-ack'd alarm: Booster power supply sum	2013/04/02 08:19:00	INVALID	No Connecti	invalid-ack'e	No Connecti	
LTB-BI(1)Interlock	invalid-ack'd alarm: ICT interlock test	2013/09/06 11:37:00	INVALID	Disconnect	invalid-ack'e	Disconnect	
LTB-MG(PS)FaultSum	invalid-ack'd alarm: Linac to booster power su	2013/04/25 17:03:00	INVALID	No Connecti	invalid-ack'e	Disconnect	
SR-MG(PS)FaultSum	invalid-ack'd alarm: Power supply failure in st	2013/04/02 08:17:00	INVALID	UDF_ALARM	invalid-ack'e	UDF_ALARM	GOOD

Creating log entries from applications (Alarm)

- Alarm server
 - PV name
 - Alarm status
 - Alarm time

The screenshot shows a 'Create Log Entry' dialog box with the following fields and sections:

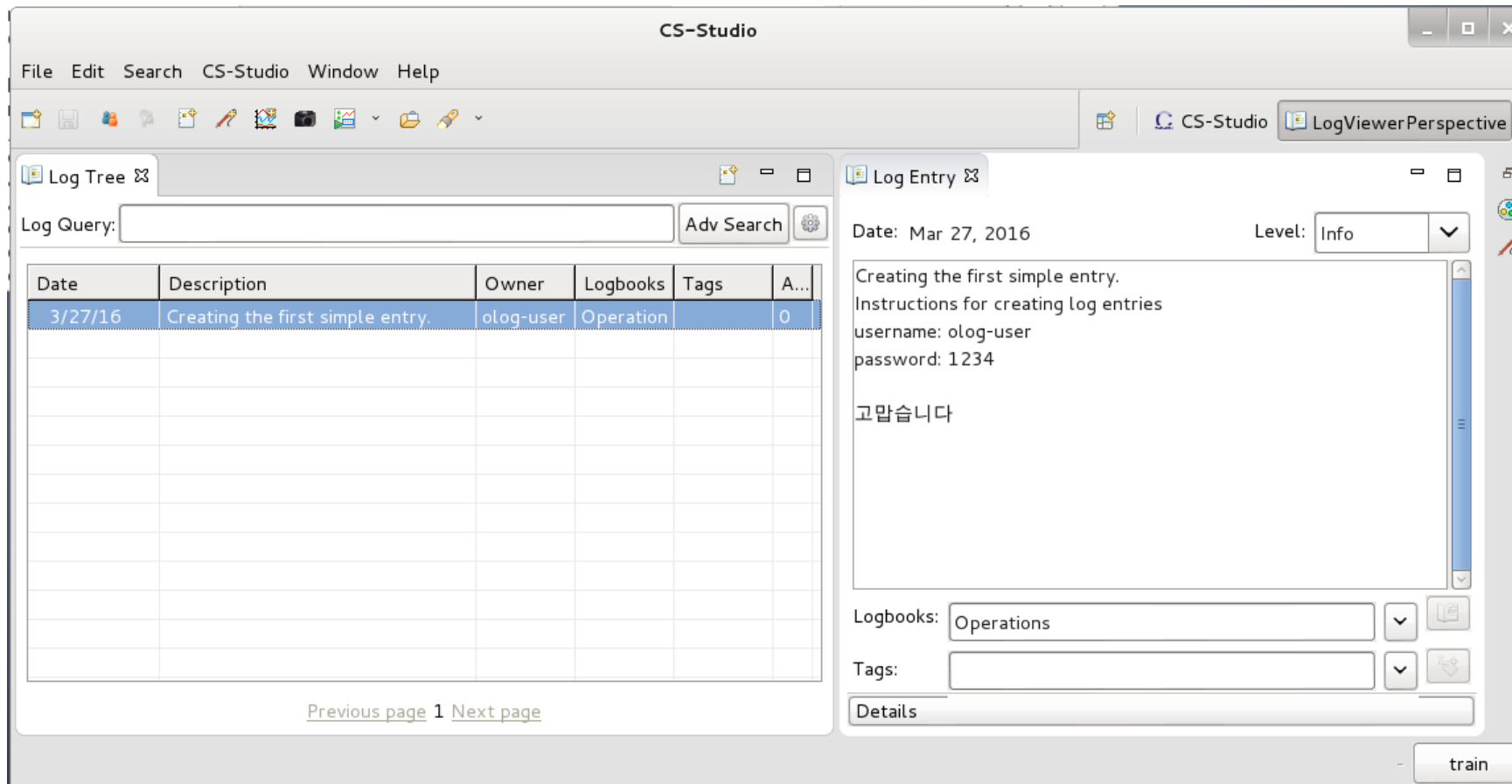
- User Name:** [Text input field]
- Password:** [Text input field]
- Date:** Sep 26, 2013
- Level:** [Dropdown menu]
- Current Alarms:**
 - LN-AM{RadMon}Alrm:Sum-Sts
 - PV : LN-AM{RadMon}Alrm:Sum-Sts
 - Alarm Time : 2013/09/18 13:31:00 (Time since event: 194:06:02)
 - Alarm Severity/Message : MAJOR/STATE_ALARM
 - Alarm Value : Alarm
 - Current Severity/Message: OK/OK
- Logbooks:** Operations
- Tags:** [Text input field]
- Hide details** button
- Images** tab (selected) showing a preview of a screenshot and a CSS window.
- Files** tab
- Properties** tab
- Ticket** tab
- Context** tab
- Remove** button (with a red X icon)
- Add Image** button
- Screenshot** button
- CSS Window** button
- Cancel** button
- Submit** button

Logviewer

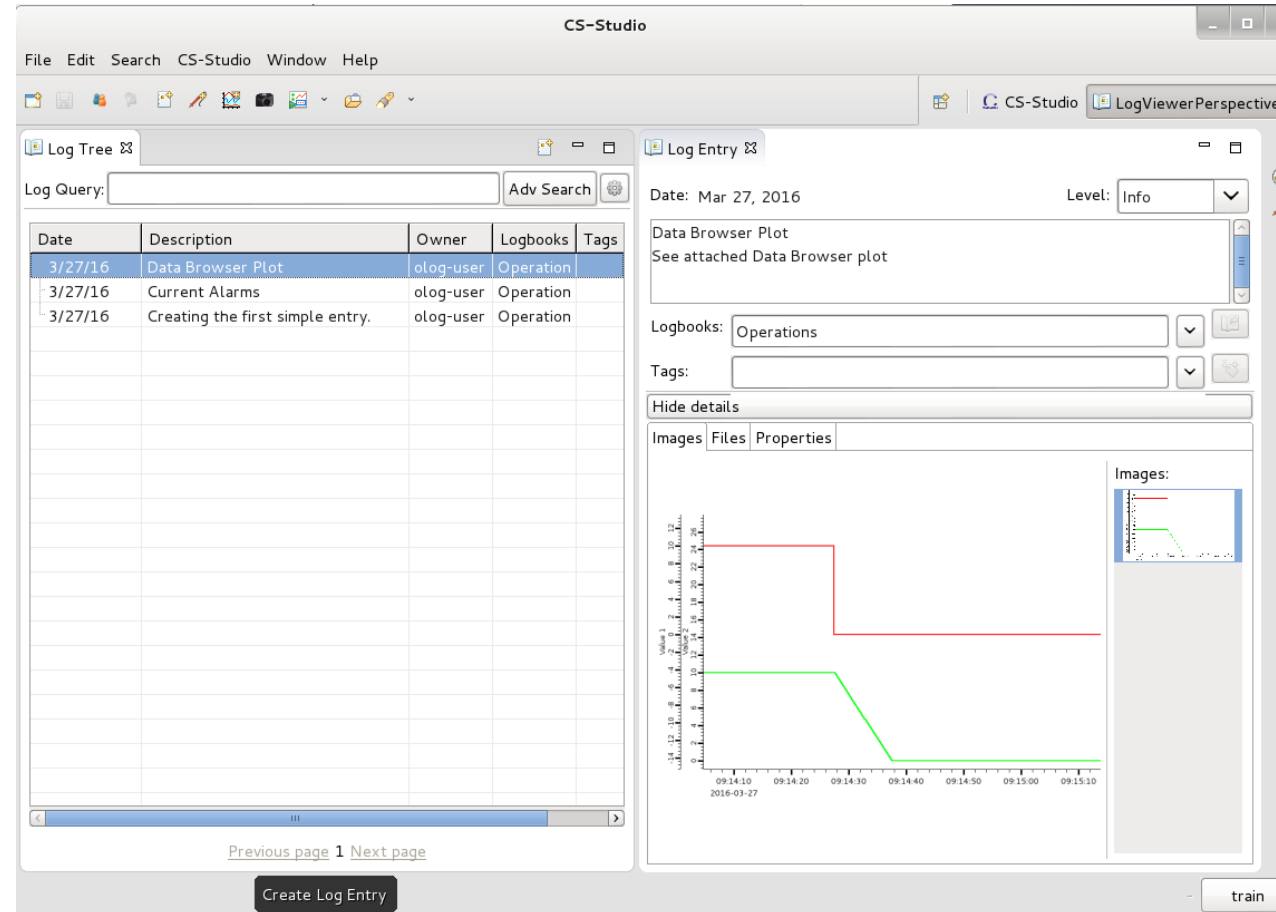
- Search and view log entries from the Olog server

LogViewer

- Menu: Window → New Perspective → LogViewer Perspective

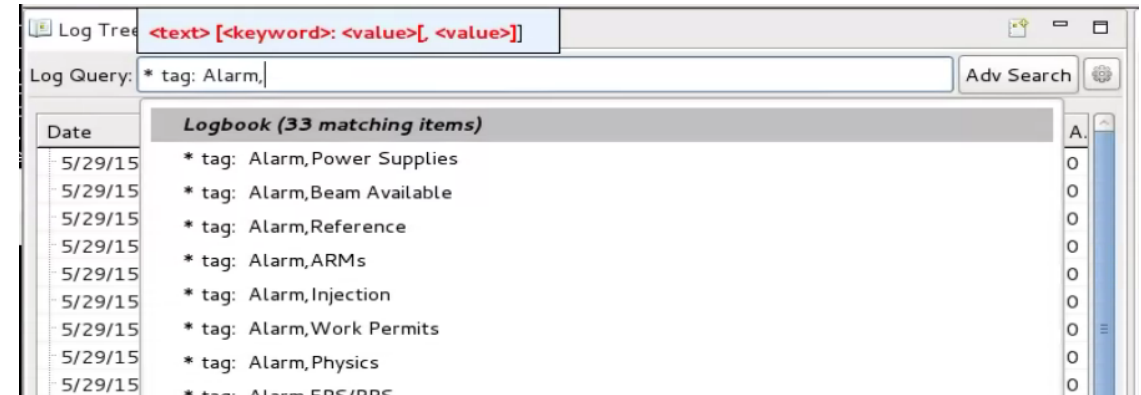
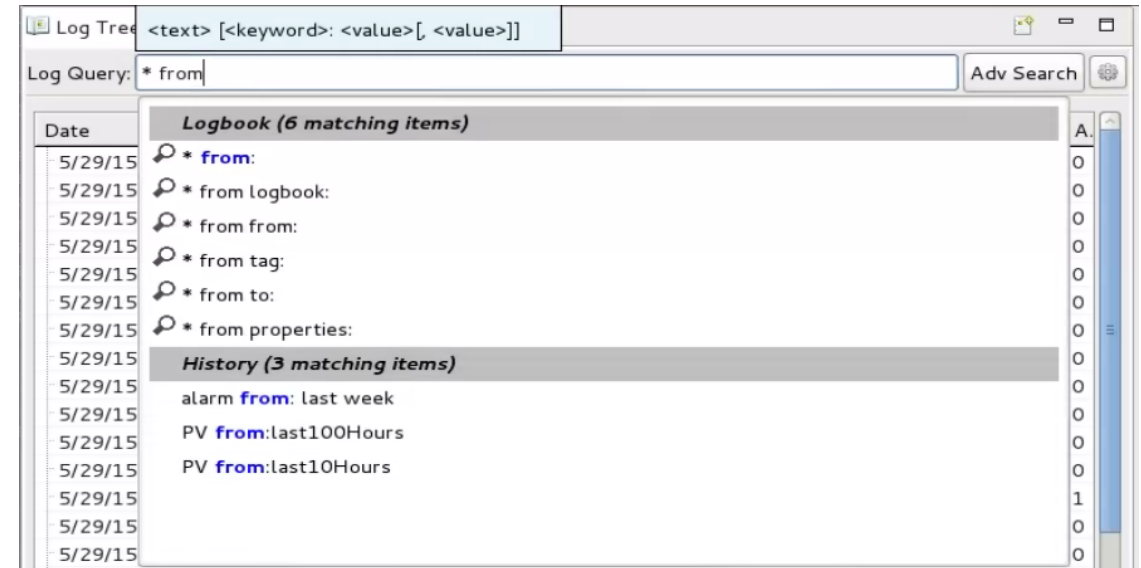


LogViewer



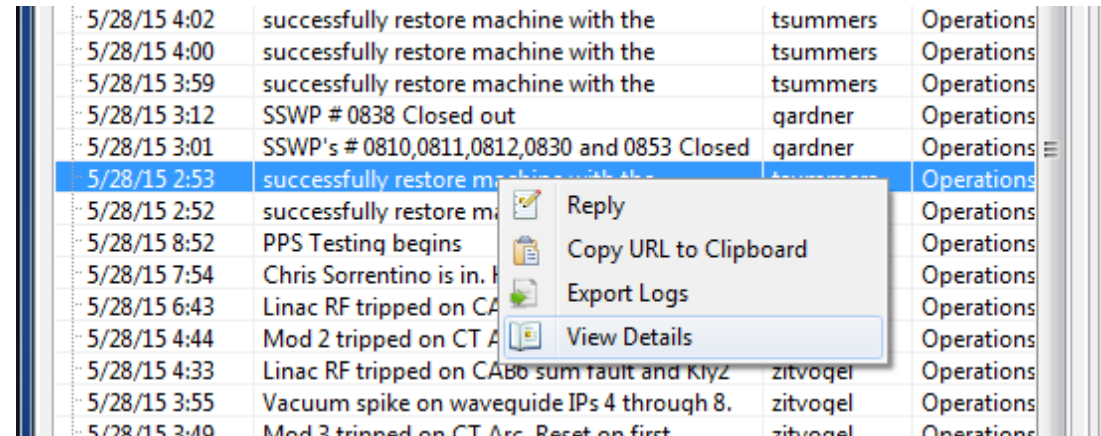
LogViewer: Search

- Text search from the description or any text file attachments by simply typing the words
- Keywords
 - logbook, tag, to and from
- History
- Wildcards
 - * and ?



Log Entry context menu

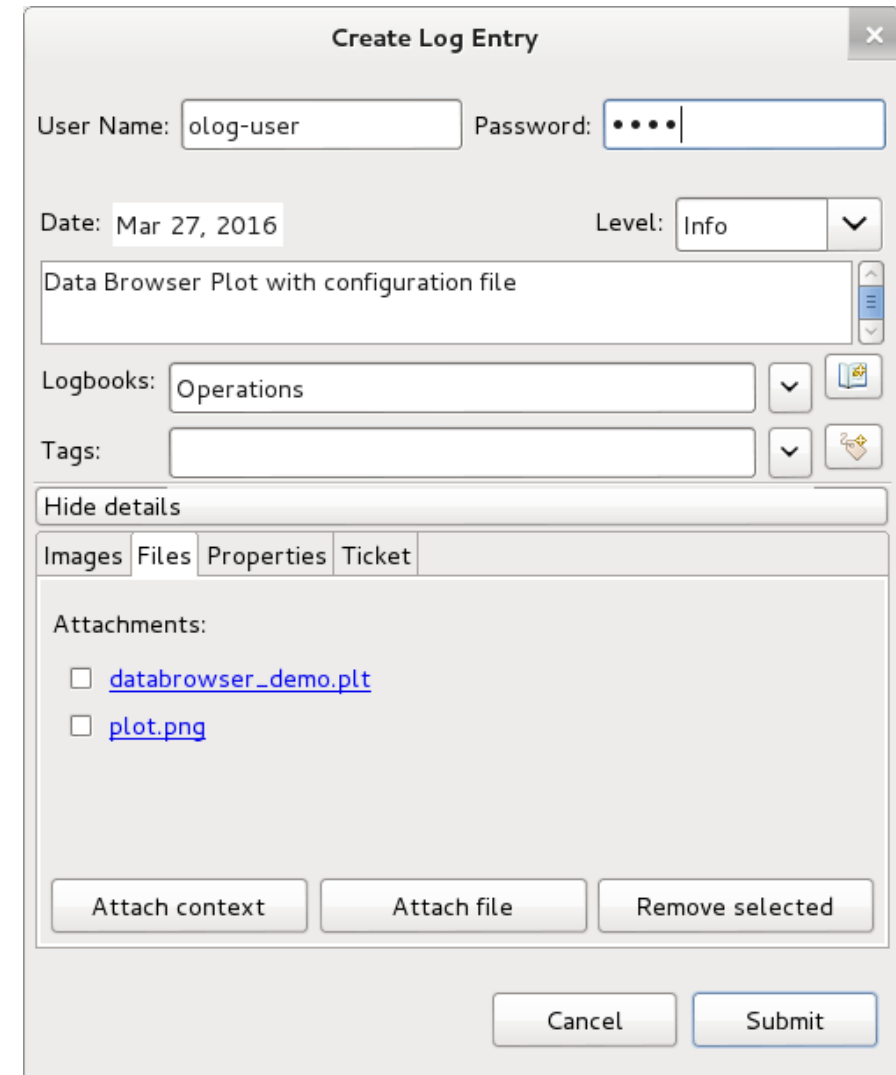
- Reply:
 - Open a dialog allowing you to edit a log entry
- Copy URL to clipboard:
 - Provides the externally visible URL to access this specific log entry
- Export Logs:
 - Export parts of the log entry to a .csv file
- View Details:
 - Opens the log entry in the log entry details view (same as double click)

A screenshot of a log entry context menu. The menu is open over a log entry that is highlighted in blue. The log entry text is "5/28/15 2:53 successfully restore machine with the". The context menu has four options: "Reply" (with a pencil icon), "Copy URL to Clipboard" (with a clipboard icon), "Export Logs" (with a document icon), and "View Details" (with a magnifying glass icon). The "View Details" option is currently selected and highlighted in blue. The background shows a list of log entries with columns for time, description, user, and category.

5/28/15 4:02	successfully restore machine with the	tsummers	Operations
5/28/15 4:00	successfully restore machine with the	tsummers	Operations
5/28/15 3:59	successfully restore machine with the	tsummers	Operations
5/28/15 3:12	SSWP # 0838 Closed out	gardner	Operations
5/28/15 3:01	SSWP's # 0810,0811,0812,0830 and 0853 Closed	gardner	Operations
5/28/15 2:53	successfully restore machine with the	tsummers	Operations
5/28/15 2:52	successfully restore machine with the	tsummers	Operations
5/28/15 8:52	PPS Testing begins		Operations
5/28/15 7:54	Chris Sorrentino is in. k		Operations
5/28/15 6:43	Linac RF tripped on CA		Operations
5/28/15 4:44	Mod 2 tripped on CT A		Operations
5/28/15 4:33	Linac RF tripped on CABO sum fault and KiyZ	zitvoqel	Operations
5/28/15 3:55	Vacuum spike on waveguide IPs 4 through 8.	zitvoqel	Operations
5/28/15 3:40	Mod 3 tripped on CT Arc. Reset on first	zitvoqel	Operations

Rich Log Entries

- Save Context
 - Configuration files for cs-studio applications (.plt)
 - Controls system data (List of process variables)
 - Information related to other services (Trac tickets , ChannelFinder queries)



The screenshot shows a 'Create Log Entry' dialog box with the following fields and controls:

- User Name:** olog-user
- Password:** masked with four dots
- Date:** Mar 27, 2016
- Level:** Info (dropdown menu)
- Data Browser Plot with configuration file:** A text area containing the text 'Data Browser Plot with configuration file'.
- Logbooks:** Operations (dropdown menu)
- Tags:** (empty dropdown menu)
- Hide details:** A button to toggle the details section.
- Attachments:** A list of attachments with checkboxes:
 - ☐ [databrowser_demo.plt](#)
 - ☐ [plot.png](#)
- Buttons:** Attach context, Attach file, Remove selected, Cancel, and Submit.

Olog Clients – CS-Studio

CS-Studio

File Edit Search CS-Studio Window Help

Log Tree

Log Query: * Adv Search

Date	Description	Owner	Logbooks	Tags
3/27/16	Data Browser Plot with	olog-user	Operation	
3/27/16	Data Browser Plot	olog-user	Operation	
3/27/16	Current Alarms	olog-user	Operation	
3/27/16	Creating the first simple entry.	olog-user	Operation	

Log Entry

Date: Mar 27, 2016 Level: Info

Data Browser Plot with configuration file

Logbooks: Operations

Tags:

Hide details

Images Files Properties

Images:

Position (Degrees)

2016-03-27

09:44:10 09:44:20 09:44:30 09:44:40 09:44:50

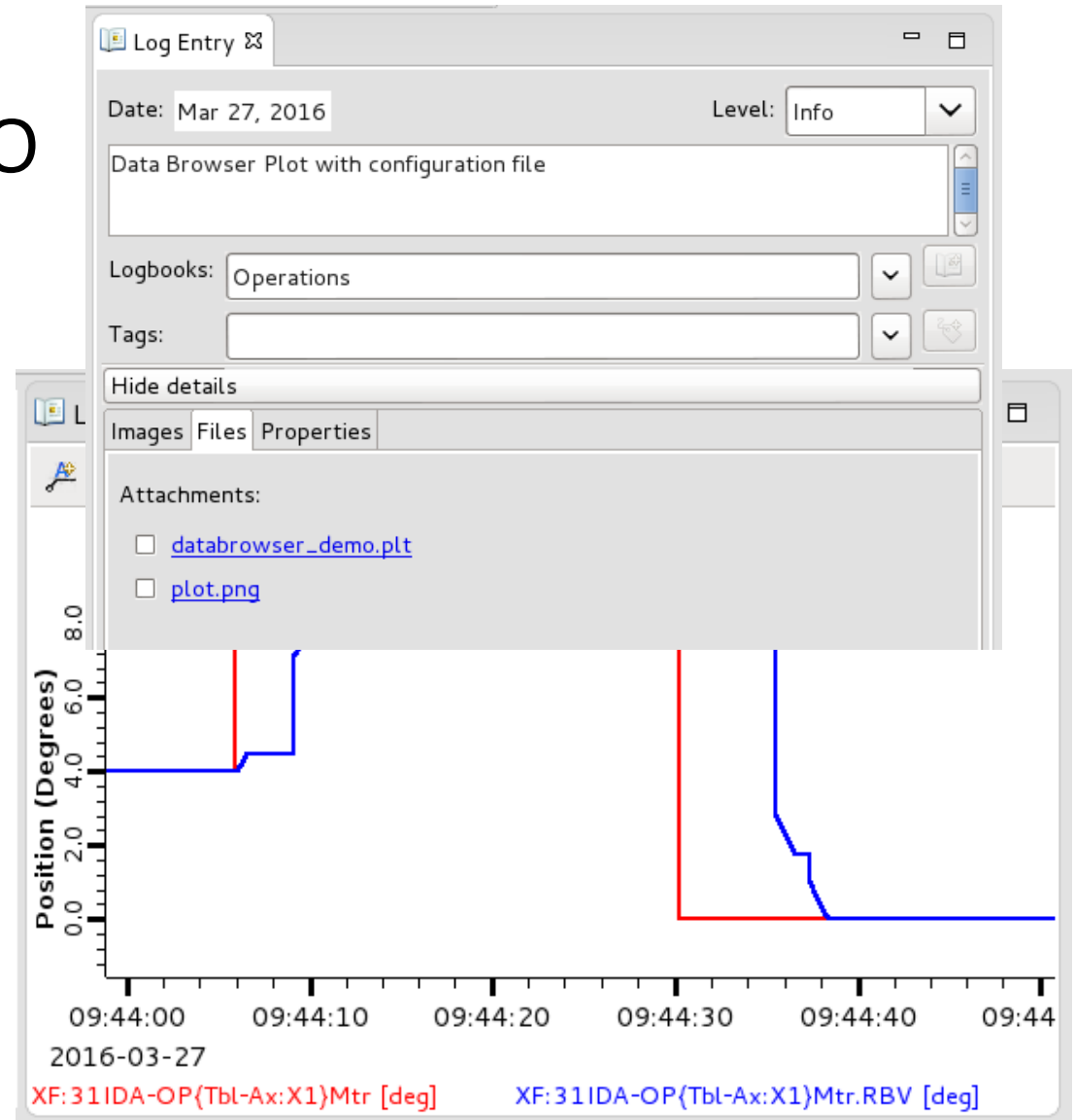
XP 31IDA-OP(T6i-Au-X3)Mtr [deg] XP 31IDA-OP(T6i-Au-X3)Mtr RBV [deg]

Previous page 1 Next page

train

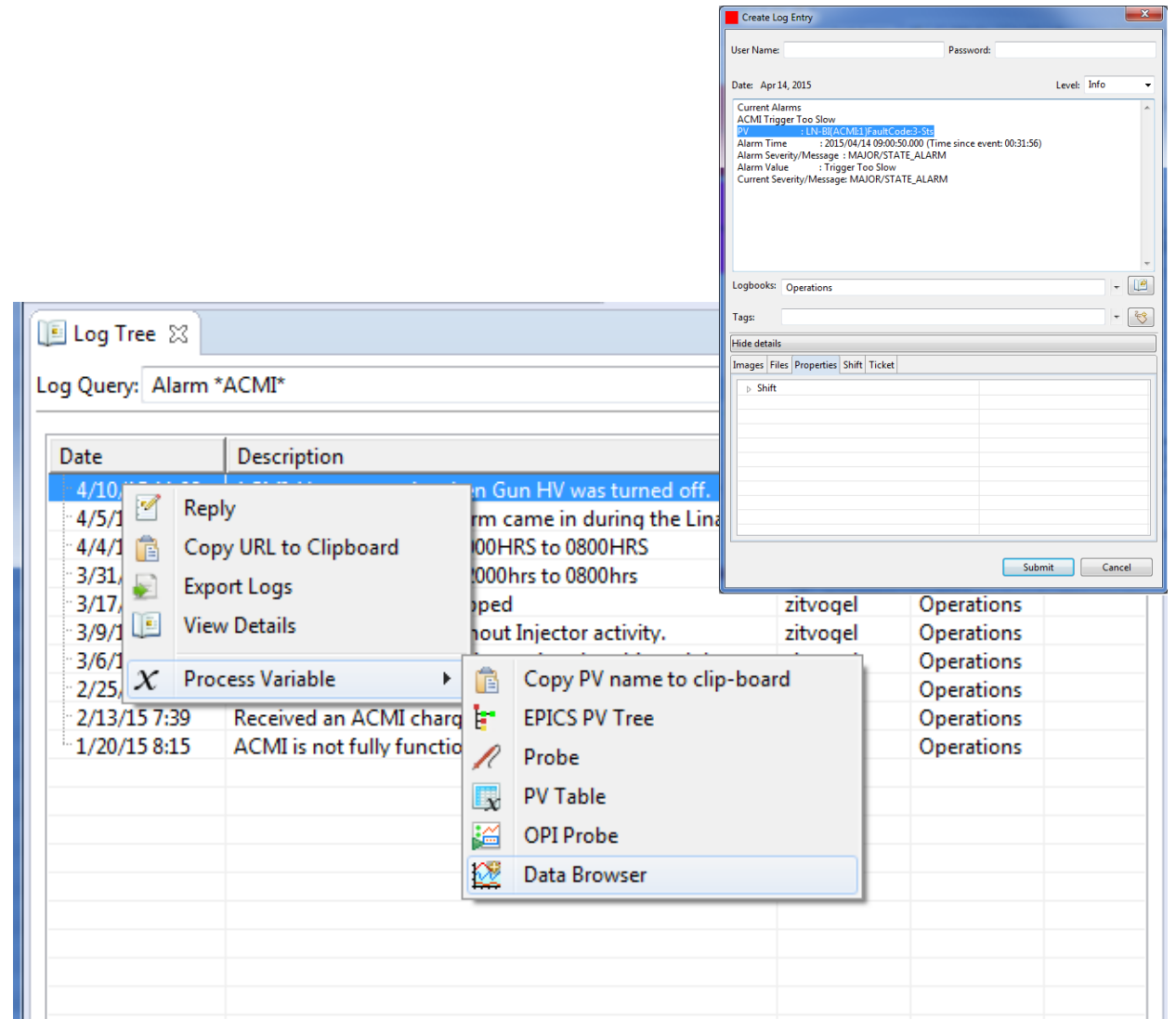
Olog Clients – CS-Studio

- Restore Context
 - Launch applications initialized to the state as described while making the log entry
 - Open archived data for associated pv's
 - Run OPI screens
 - Query other services



Log Entries with PVs

- If log entries contain pv names defined with a specified format, cs-studio is able to extract that pv information from the log entry.
- CS-Studio will add the “Process Variable” sub menu to the context menu when it can extract a PV.
- The default syntax is PV:<PVName>/n, however we can define any regular expression for recognizing pv names.
- e.g.
PV: XF:31IDA-OP{Tbl-Ax:X1}Mtr

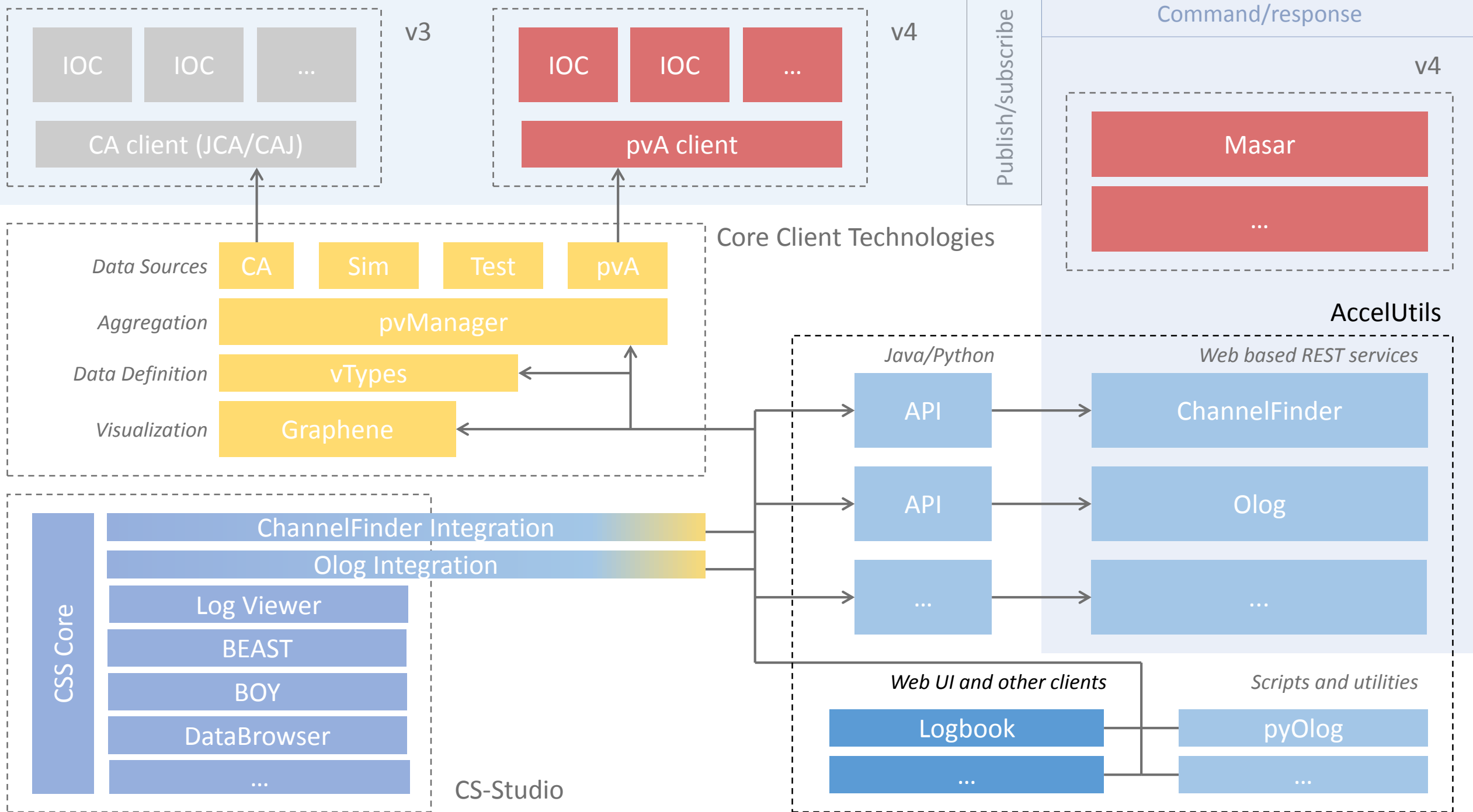


Olog Clients – CS-Studio

- Adapters
 - Provide dynamic runtime integration with cs-studio applications
 - Maintain loose coupling
- Extensions
 - Pluggable UI

The screenshot shows the 'Create Log Entry' dialog box. It includes fields for 'User Name' and 'Password'. The 'Date' is set to 'Sep 27, 2013' and the 'Level' is 'Info'. A text area displays 'Creating a Ticket'. Below this, there are 'Logbooks' (set to 'Operations') and 'Tags'. A tabbed interface at the bottom shows 'Ticket' as the active tab, with fields for 'Ticket Id' (3245) and 'URL' (http://trac.nsls2.bnl.gov/issues/3245). The 'Attach' button is visible next to the URL field. At the bottom of the dialog are 'Submit' and 'Cancel' buttons.

Web client



Olog Clients – Webclient

Olog v0.4 [New Log Entry](#) User

[LOGBOOKS](#)
Filter Logbooks ...
[Controls Commissioning](#)
[Electronics Maintenance](#)
[LOTO](#)
[Machine Physics](#)
[Mechanical Technicians](#)
[Operations](#)

[TAGS](#)

[CREATED FROM](#)

[CREATED FROM - TO](#)

☒ Include history
☒ Show newest first
Search ... [Search](#)

rfiller, 2/4/14, 3:46 pm 2/4/14, 3:46 pm
Saved machine snapshot 583 which is the MBM mode to dump2.

xiyang, 2/4/14, 3:44 pm 2/4/14, 3:44 pm
Make online live machine model for LTB in CSS. Now only LTB-B1 is in ap-HLA, and will wait for all the LTB dipoles are included in aphla in order for the final test of the code.

rfiller, 2/4/14, 3:43 pm 2/4/14, 3:43 pm
Linac in MBM mode. 1.55nC on ICT1. Energy:199.6 +/-0.01 MeV Spread: 0.706+/-0.034% Useful charge: 82.6+/-0.557% This is GREAT! This is the best so far.

rfiller, 2/4/14, 3:35 pm 2/4/14, 3:35 pm
Here is the beam energy spectrum. 0.32nC at ICT. Transmission is about 70%. Energy: 200.37+/-0.04 MeV Spread:0.139+/-0.008% WOW!!!! Useful charge:81%+/-1.5% THIS IS _THE_ _BEST_ since linac restart. However, there are the occasional drop outs of beam due presumably to the cavity ...

xiyang, 2/4/14, 3:33 pm 2/4/14, 3:33 pm
Found image files overwritten. It was fixed with the help from Michael. Will check through all other cameras.

santana, 2/4/14, 3:33 pm 2/4/14, 3:33 pm
Booster BD1 supply had an erroneous magnet overtemp fault. M.Fulkerson found bad connection. LB-Q5 supply is replaced.

[Show history](#)

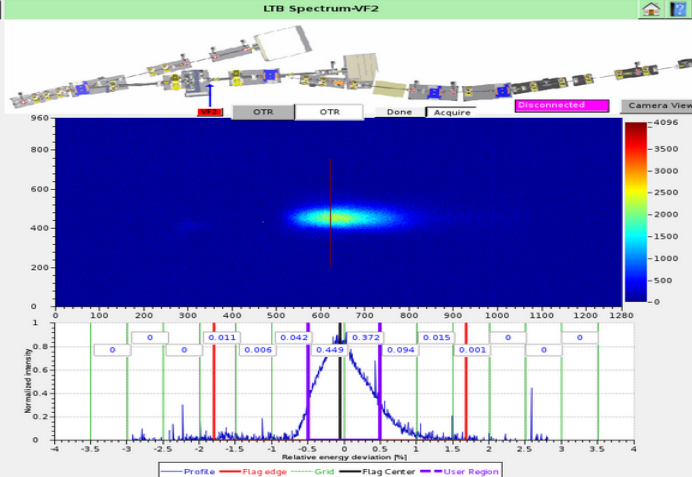
rfiller, 2/4/14, 2:16 pm 2/4/14, 2:16 pm
Kly3 with beam.

rfiller, 2/4/14, 2:16 pm 2/4/14, 2:16 pm
Kly3 with no beam.

rfiller, 2/4/14, 3:43 pm [Show details](#)
Linac in MBM mode. 1.55nC on ICT1.
Energy:199.6 +/-0.01 MeV
Spread: 0.706+/-0.034%
Useful charge: 82.6+/-0.557%
This is GREAT! This is the best so far.

Attachments

LTB Spectrum-VF2



Each shot


Energy	FWHM	Charge within +/-0.5%
199.61 MeV	0.739 %	82.153 %

UserLeftRegion: -0.5 % UserCharge within +/-0.5%: 82.706 %

Statistics

INFO: done:/epics/data/HLA_result/2014-2

Over 10 shots	Average	Std Error
Energy [MeV]	199.6	0.01
FWHM [%]	0.706	0.034
Charge in +/-0.5% [%]	82.645	0.557



Olog Clients – Webclient

Olog

https://logbook.nsls2.bnl.gov/logbook/index.html#8022_1

Olog v0.4

New Log Entry

User

Filter Log Entries

LOGBOOKS

Filter Logbooks ...

Controls Commissioning

Electronics Maintenance

LOTO

Machine Physics

Mechanical Technicians

Operations

TAGS

CREATED FROM

CREATED FROM - TO

Include history

Show newest first

Search ...

Search

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2/4/14, 3:46 pm

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2/4/14, 3:44 pm

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2/4/14, 3:43 pm

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2/4/14, 3:33 pm

santana, 2/4/14, 3:33 pm

Booster BD1 supply had an erroneous magnet overtemp fault. M.Fulkerson found bad connection. LB-Q5 supply is replaced.

2/4/14, 3:33 pm

Show history

rfiller, 2/4/14, 2:16 pm

Kly3 with beam.

2/4/14, 2:16 pm

rfiller, 2/4/14, 2:16 pm

Kly3 with no beam.

2/4/14, 2:16 pm

xiyang, 2/4/14, 3:44 pm

Show details

Make online live machine model for LTB in CSS.
Now only LTB-B1 is in ap-HLA, and will wait for all the LTB dipoles are included in aphla in order for the final test of the code.

Attachments

Start Stop

E 199.699

betax 21.4

alfax -4.378

betay 2.2

alfay -0.334

Live LTB Machine Model

HELP

Twiss at Start of LTB

Online Model Twiss

	theta	I
B1	0	0
B2	0	0
B3	0	0
B4	0	0
SP	0	0
BU3	0	0
BU4	0	0

	K1	I
Q1	-0	0
Q2	2.532	21
Q3	-0	0
Q4	-0	0
Q5	0.041	0
Q6	-3.526	0
Q7	-4.406	38.7
Q8	0	0
Q9	-5.659	49.8
Q10	6.974	53.5
Q11	-4.561	45.6
Q12	6.415	55
Q13	0	0
Q14	-3.391	29.2
Q15	1.926	17.5
Q1BD1	0	0
Q2BD1	0	0

Olog Clients – Webclient

The screenshot displays the Olog webclient interface in a browser window. The address bar shows the URL `https://localhost:818/newlogbook/olog/public_html/new_log.html`. The page title is "Olog v0.2". The main header includes a "New Log Entry" button and a user profile "Shroffk".

The main content area is titled "New Log Entry" and contains the following fields:

- Enter Logbooks ...**: A text input field.
- Enter Tags ...**: A text input field.
- Info**: A dropdown menu.

Below these fields is a large text area for the log entry content.

The "Attachments" section includes a green button "+ Add files ..." and a preview of a file named "olog-properties.png" with a red "Remove" button.

The "Properties" section at the bottom has a link "Add a Property".

On the right side, there is a sidebar with the following sections:

- Quickly add metadata**: A section header.
- LOGBOOKS**: A section with a "Filter Logbooks ..." input field and a list of categories: Controls commissioning, Electronics Maintenance, LOTO, Mechanical Technicians, and Operations (highlighted in green).
- TAGS**: A section with a "Filter Tags ..." input field and a list of tags: Bumps, Inverpower Power Supplies, Kicker, Large Power Supplies, RF Area, Septums, Temporary, and Timing Systems.

At the bottom right, there are "Create" and "Cancel" buttons.

Olog Clients – Webclient

AT&T

11:59

Load more Log entries ...

nash, October 1st 2013, 2:42 pm

[Hide details](#)

REA Maintenance

Vacuum

Problem

October 1st 2013, 2:43 pm

Found box 19 vacuum station with cold cathode reading 2E-03 Torr. Evidently, the turbo pump had been unplugged (possibly due to a magnet water leak?, buckets were beneath the beamline stand). In this state, the turbo pump channels show the on command, the at-speed signal, and the fault signal. This needs to be addressed in the logic for the turbo gate valve as it stayed open.

Attachments