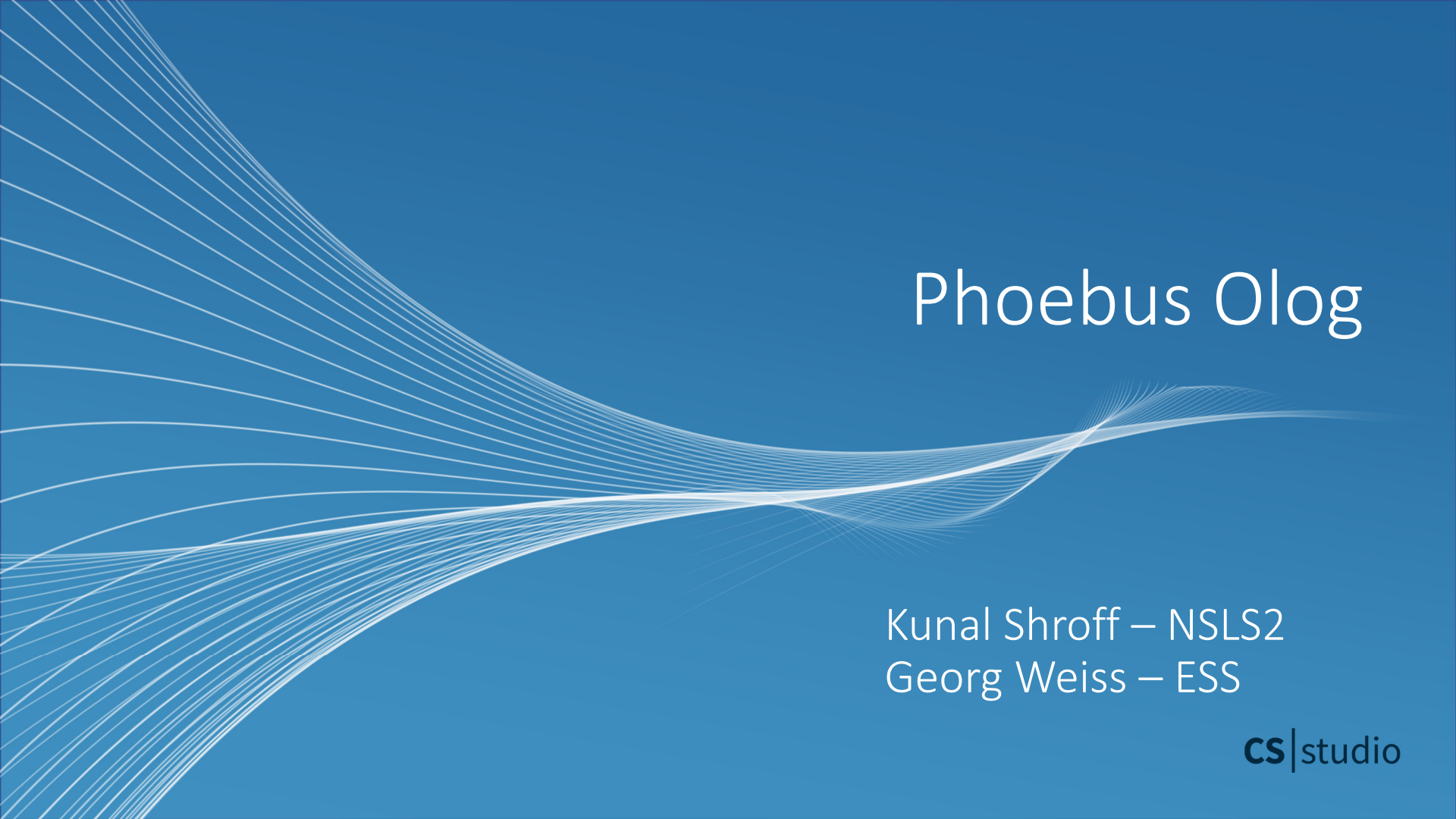


The background is a solid blue color. On the left side, there are several thin, white, curved lines that sweep across the frame towards the right, creating a sense of motion and depth. These lines vary in density and curvature, some appearing as single strokes while others form more complex, overlapping patterns.

Phoebus Olog

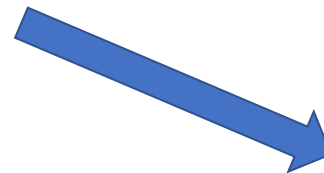
Kunal Shroff – NSLS2
Georg Weiss – ESS

Phoebus?

- Quoting from phoebus.org (=controlsystemstudio.org):
 - **Control System Studio** is a collection of tools and applications to monitor and operate large scale control systems, such as the ones in the accelerator community.
 - The original implementation of **CS-Studio** is based on the Eclipse RCP framework.
 - **Phoebus** is a pure java/javafx based implementation.
- Non-exhaustive list of sites:

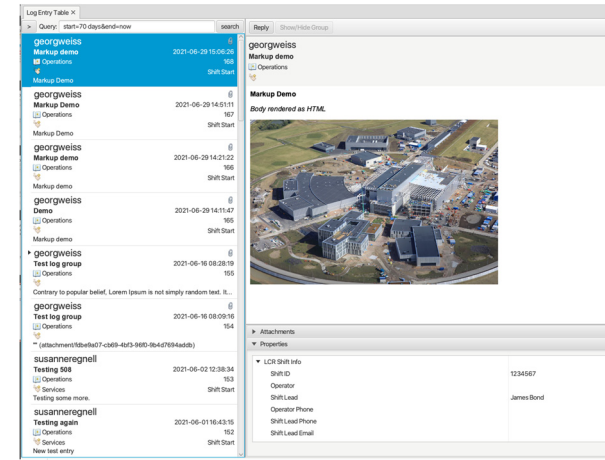
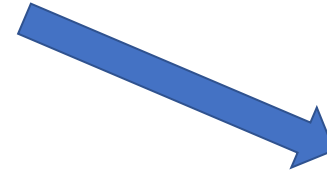


$O(\log?)$

[illegible]

Olog?

- Digital logbook
- Create log entries
 - Meta-data
 - Attachments
- Search
- Authentication
- Integrated in CS Studio (Phoebus)
- Different clients for different users and workflows
- Creating log entries programmatically



Driving factors

- “Legacy” Olog in production at NSLS2 (Brookhaven) for about 10 years
 - Integrated in “legacy” CS Studio (Eclipse)
 - Used in the control room and beamlines
 - Client in CS Studio and stand-alone web client
 - **Difficult to maintain, does not scale well**
- Elog used at ESS ~5 years
 - Feature rich
 - **Difficult to customize and maintain**
 - **Very difficult to integrate with CS Studio**
- Joint effort to create up-to-date logbook: Phoebus Olog
 - NSLS2, ESS, Argonne



Creating a Log Entry

Creating a Log Entry

- Basic components
 - Authentication Info
 - Title
 - Level
 - Logbooks
 - Tags

User Name:	shroffk	Password:	••••
Date:	2021-07-07	Level:	Info
Title:	A basic log entry		
Logbooks:	Commissioning, Controls	▼	📖
Tags:	Operations	▼	🏷️

Creating a Log Entry

- Phoebus Olog supports markup
- Commonmark (<https://commonmark.org/>)
 - Well defined and maintained spec
 - Basic text styling (heading, bold, italic)
 - Lists
 - URLs
 - Images
 - Block quotes
 - Extensions: image resize and tables
 - Widely used (GitHub)
 - Implementation available for various languages
 - java
 - js
 - python

Logbooks: Commissioning

Tags:

Text:

An example log entry

You can create a log entry with ****CommonMark**** to support

- text styling
- lists
- links

Markup Help

► Attachments

► Properties

Cancel Submit

A common mark test 2021-07-07 10:49:07

 Commissioning 1

 Info

An example log entry

You can create a log entry with **CommonMark** to support

- text styling
- lists
- links

Creating a Log Entry

- Embedded Images in the log entry body

User Name: shroffk Password: ●●●●

Date: 2021-07-07 Level: Urgent

Title: Display Screenshot for : Image Widget

Logbooks: Commissioning

Tags:

Text:

Display Screenshot for the resource :
examples/plots_image.bob?EXAMPLE_MACRO=Value+from+Preferences&TEST=true

{width=554 height=124}

The above is the embedded image

Markup Help

Attachments

Image Widget

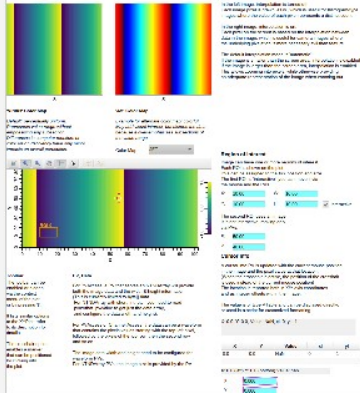


image14973839702208705059.png

e8d98e2e-8e8f-4003-af20-69b235cd6e9d.png

Add Files

Clipboard

CSS Window

Embed New

Embed Selected

Remove

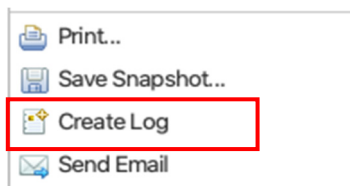
Properties

Cancel

Submit

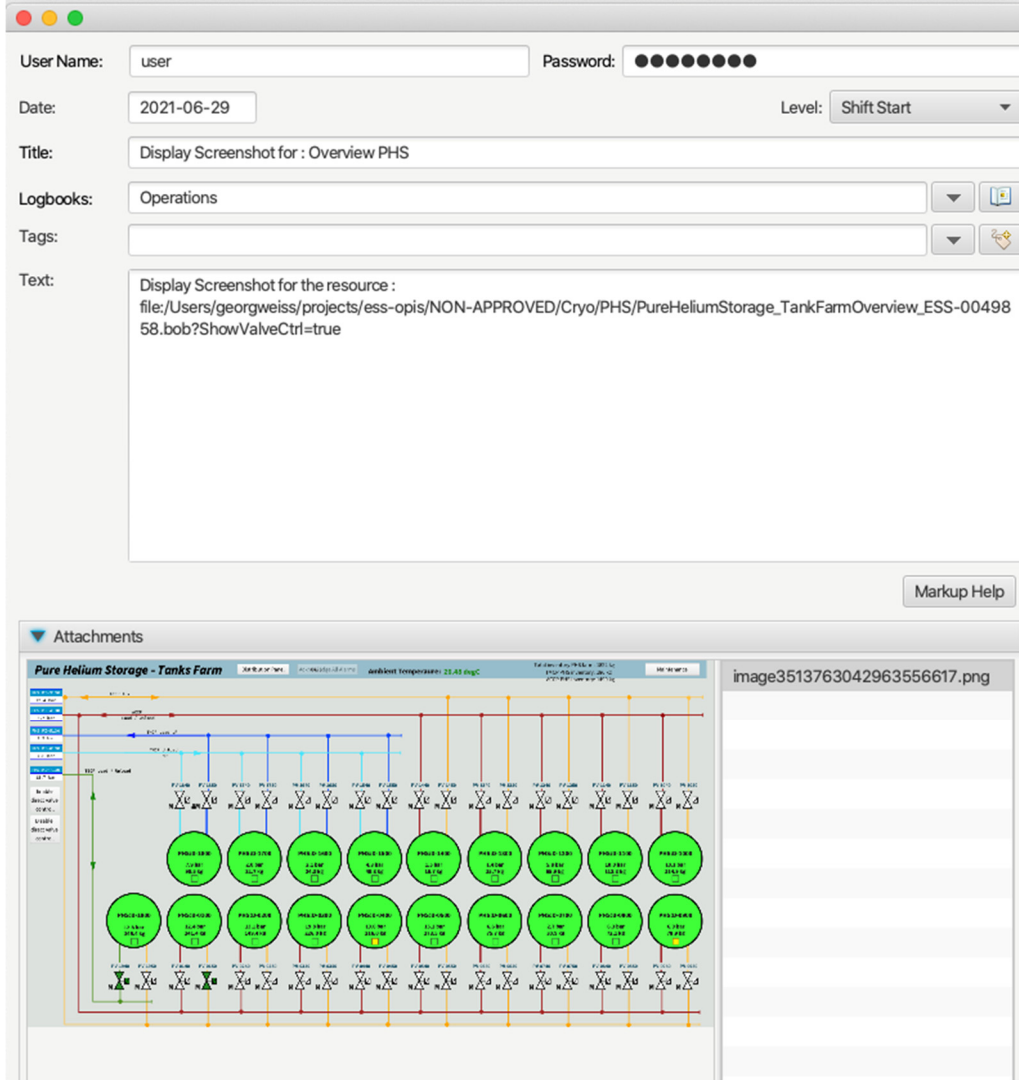
Creating a Log Entry

- Display Builder Context Menu



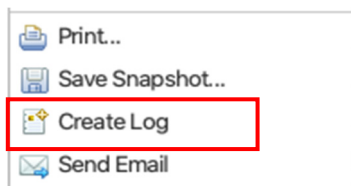
- Includes

- screenshot
- complete resource URI (with macros)



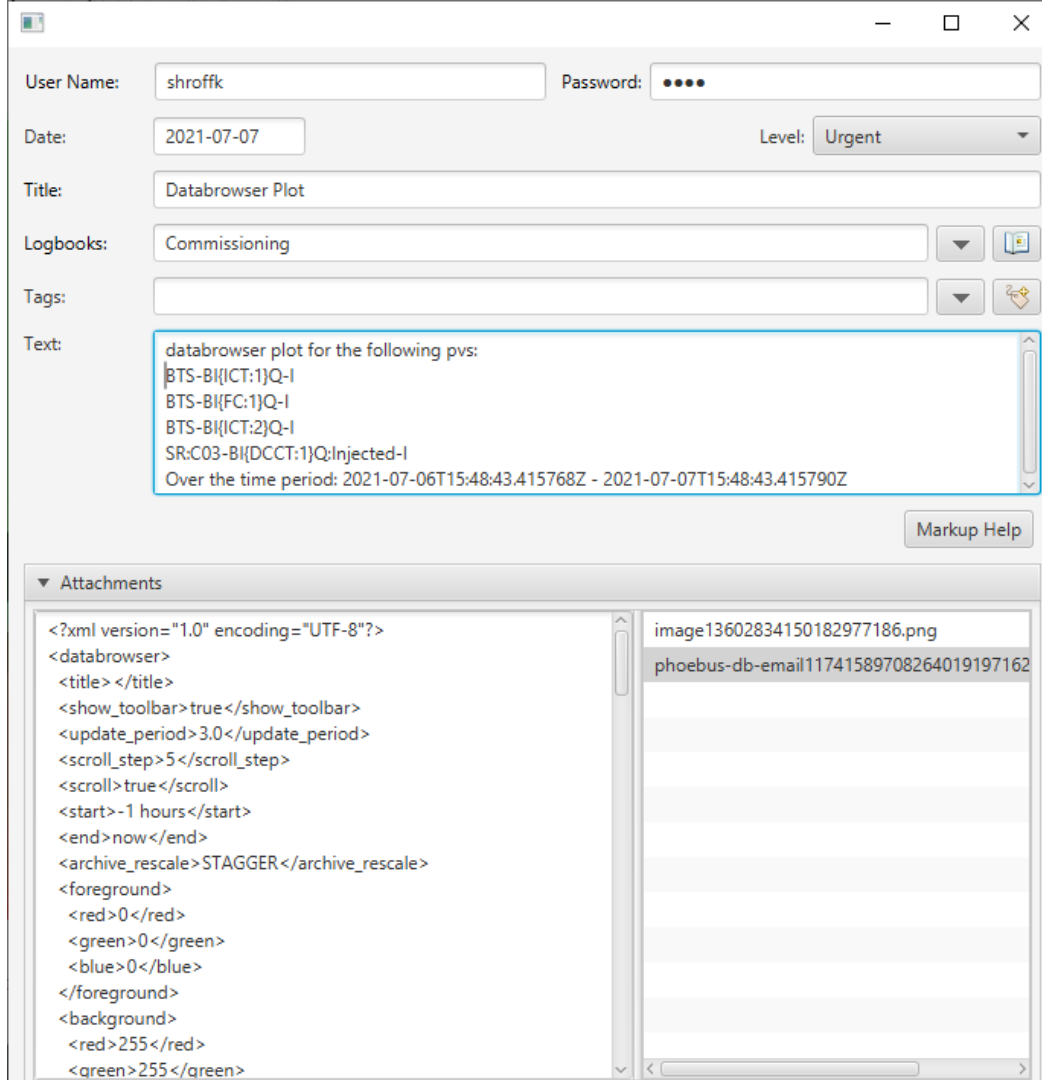
Creating a Log Entry

- Databrowser Context Menu



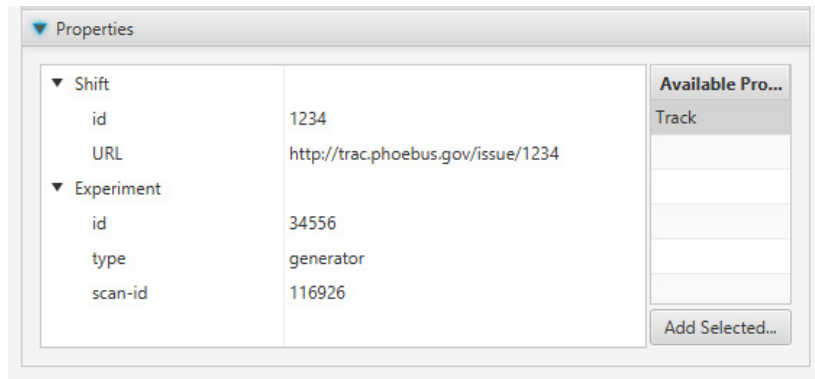
- Includes

- screenshot
- databrowser plot properties
 - List of pv's
 - Time span
- .plt file

A screenshot of a software window titled 'Databrowser Plot'. It contains several input fields: 'User Name' (shroffk), 'Password' (masked with dots), 'Date' (2021-07-07), 'Level' (Urgent), 'Title' (Databrowser Plot), 'Logbooks' (Commissioning), and 'Tags' (empty). The 'Text' field contains a list of process variables (pvs) and a time range: 'databrowser plot for the following pvs: BTS-BI{ICT:1}Q-I, BTS-BI{FC:1}Q-I, BTS-BI{ICT:2}Q-I, SR:C03-BI{DCCT:1}Q:Injected-I, Over the time period: 2021-07-06T15:48:43.415768Z - 2021-07-07T15:48:43.415790Z'. There is a 'Markup Help' button at the bottom right. Below the 'Text' field is an 'Attachments' section showing a list of files, including 'image13602834150182977186.png' and 'phoebus-db-email11741589708264019197162'.

Log entry properties

- A property is a named list of key value pairs
 - E.g. Experimental Scan Parameters
 - Useful for integration with other services
 - e.g. Shift Service, Issue Tracking, Component Directory...
- LogPropertyProvider
 - Programmatically include properties when creating log entries using java SPI



The screenshot shows a 'Properties' dialog box with a tree view on the left and a table of values on the right. The tree view has two expandable sections: 'Shift' and 'Experiment'. The 'Shift' section contains 'id' (1234) and 'URL' (http://trac.phoebus.gov/issue/1234). The 'Experiment' section contains 'id' (34556), 'type' (generator), and 'scan-id' (116926). To the right of the table is a panel titled 'Available Pro...' with a 'Track' button and an 'Add Selected...' button.

Properties	
▼ Shift	
id	1234
URL	http://trac.phoebus.gov/issue/1234
▼ Experiment	
id	34556
type	generator
scan-id	116926

Available Pro...
Track
Add Selected...

Grouping Log Entries

- Users may create a group of log entries (a “thread”).
 - Explicitly by selecting a number of entries.
 - Implicitly by “replying” to an entry.

The screenshot displays a log management interface. On the left, a table lists log entries with columns for user, group name, timestamp, and count. A blue bracket on the left side of the table is labeled "Log entry + replies". The right pane shows the details of a selected log entry, including its timestamp, user, group name, and a detailed description of the event.

Log Entry Table	
Query: start=70 days&end=now	search
▼ georgweiss	
Test log group	2021-06-16 08:28:19
Operations	155
Contrary to popular belief, Lorem Ipsum is not simply random text. It...	
▼ georgweiss	
Test log group	2021-06-16 08:28:18
Operations	156
Contrary to popular belief, Lorem Ipsum is not simply random tex...	
▼ georgweiss	
Test log group	2021-06-16 08:30:01
Operations	157
Contrary to popular belief, Lorem Ipsum is not simply random tex...	
▼ georgweiss	
Test log group	2021-06-16 08:30:42
Operations	158
Contrary to popular belief, Lorem Ipsum is not simply random tex...	
▼ georgweiss	
Test log group	2021-06-16 08:31:44
Operations	159
Contrary to popular belief, Lorem Ipsum is not simply random tex...	
▼ georgweiss	
Test log group	2021-06-16 08:32:05
Operations	160
Contrary to popular belief, Lorem Ipsum is not simply random tex...	
▼ georgweiss	
Test log group	2021-06-16 08:32:22
Operations	161
Contrary to popular belief, Lorem Ipsum is not simply random tex...	
▼ georgweiss	
Test log group	2021-06-16 08:32:40
Operations	162
Contrary to popular belief, Lorem Ipsum is not simply random tex...	

2021-06-16 08:32:05, georgweiss, Test log group

Contrary to popular belief, Lorem Ipsum is not simply random text. It has roots in a piece of classical Latin literature from 45 BC, making it over 2k Hampden-Sydney College in Virginia, looked up one of the more obscure Latin words, consectetur, from a Lorem Ipsum passage, and going thro undoubtable source. Lorem Ipsum comes from sections 1.10.32 and 1.10.33 of "de Finibus Bonorum et Malorum" (The Extremes of Good and Ev theory of ethics, very popular during the Renaissance. The first line of Lorem Ipsum, "Lorem ipsum dolor sit amet..", comes from a line in section

- Migration 2019-11-07 15:35:25
- ▼ RFLPS-RFQ
- ▼ RFLPS-TS2
- ▼ RFQ_Cond
- ▼ SRF-TS2
- ▼ Test

2021-06-16 08:30:01, georgweiss, Test log group

Contrary to popular belief, Lorem Ipsum is not simply random text. It has roots in a piece of classical Latin literature from 45 BC, making it over 2k Hampden-Sydney College in Virginia, looked up one of the more obscure Latin words, consectetur, from a Lorem Ipsum passage, and going thro undoubtable source. Lorem Ipsum comes from sections 1.10.32 and 1.10.33 of "de Finibus Bonorum et Malorum" (The Extremes of Good and Ev theory of ethics, very popular during the Renaissance. The first line of Lorem Ipsum, "Lorem ipsum dolor sit amet..", comes from a line in section

- Migration 2019-11-07 15:35:25
- ▼ RFLPS-RFQ
- ▼ RFLPS-TS2
- ▼ RFQ_Cond
- ▼ SRF-TS2
- ▼ Test

Viewing Log Entries

Searching

- Basic Search
 - Time
 - Owner (=user account)
 - Logbooks, Tags, and Properties
 - e.g. ***desc=*&logbooks=Operations&start=7 days&end=now***
- Natural Language Searching: handles typos & spelling mistakes
- <https://olog.readthedocs.io/en/latest/#searching-for-log-entries>

Web client

Olog ESNew Log EntrySign In

Filter Log Entries

▼ Logbooks

☐ Beam Commissioning☐ Facility☐ Faults☐ Operations☐ TS1☐ TS2☐ TS3

➤ Tags

➤ Created since

➤ Created from - to

➤ Other search fields

Search results

Search string ⓘ

Search

Today

georgweiss

Markup demo

Markup Demo Body rendered as HTML attachment/2a867a17-4cab-4aac-b479-5af96a...

15:06

georgweiss

Markup Demo

Markup Demo Body text rendered as HTML attachment/f9f21dda-8e71-4052-bcd6-2...

14:51

georgweiss

Markup demo

Markup demo *Commonmark features + few extensions (image size, tables)attac...

14:21

georgweiss

Demo

Markup demo Commonmark features + a few extensions (table and image size) a...

14:11

2021-06-16

georgweiss

Test log group

Contrary to popular belief, Lorem Ipsum is not simply random text. It has r...

08:33

georgweiss

Test log group

08:33

Markup demo

Authorgeorgweiss

Created2021-06-29 15:06:26

LogbooksOperations

Tags

EntryShift Start

Type

Markup Demo

Body rendered as HTML



➤ Attachments

Properties:

➤ LCR Shift Info

React-based JavaScript client: <https://github.com/Olog/phoebus-olog-web-client>

Phoebus client

- Similar Look and Feel
- Work in progress:
 - Launch attached .plt, .opi, .bob files

Log Entry Table X

> Query: start=70 days&end=now search

Reply Show/Hide Group

georgweiss	
Markup demo	2021-06-29 15:06:26
Operations	168
Markup Demo	Shift Start

georgweiss	
Markup Demo	2021-06-29 14:51:11
Operations	167
Markup Demo	Shift Start

georgweiss	
Markup demo	2021-06-29 14:21:22
Operations	166
Markup demo	Shift Start

georgweiss	
Demo	2021-06-29 14:11:47
Operations	165
Markup demo	Shift Start

georgweiss	
Test log group	2021-06-16 08:28:19
Operations	155
Contrary to popular belief, Lorem Ipsum is not simply random text. It...	

georgweiss	
Test log group	2021-06-16 08:09:16
Operations	154
(attachment/fdbe9a07-cb69-4bf3-96f0-9b4d7694addb)	

susanneregnell	
Testing 508	2021-06-02 12:38:34
Operations	153
Services	Shift Start
Testing some more.	

susanneregnell	
Testing again	2021-06-01 16:43:15
Operations	152
Services	Shift Start
New test entry	

georgweiss

Markup demo

Operations

Markup Demo

Body rendered as HTML



Attachments

Properties

LCR Shift Info

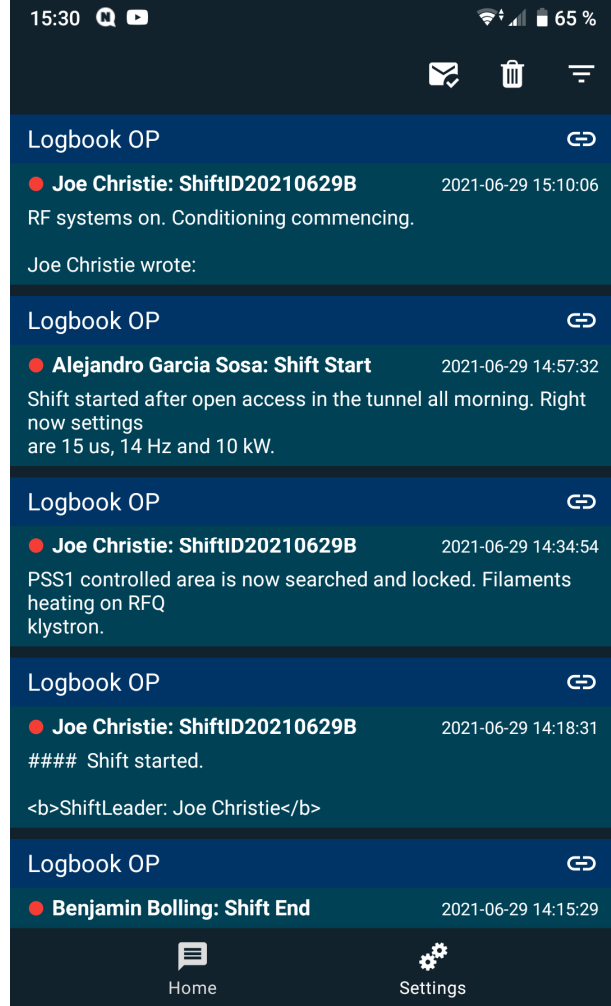
Shift ID	1234567
Operator	
Shift Lead	
Operator Phone	
Shift Lead Phone	
Shift Lead Email	

Notifiers

LogEntryNotifier

```
public interface LogEntryNotifier {  
    void notify(Log logEntry);  
}
```

- Interface for notifying when a new log record has been created.
- Implementations should register through the regular Java SPI.
- Example: Kafka Integration (at ESS)
 - Consists of a Kafka producer which publishes a message when a new log entry is created.
- <https://github.com/Olog/phoebus-olog-modules>



ESS Notify clients

IOS

<https://gitlab.esss.lu.se/ics-software/ess-notify>

App not approved by Apple for distribution in app store, must be provisioned over device management.



ESS Notify (beta)

European Spallation Source Verktyg

3 PEGI 3

📍 Härligt! Du är betatestare för den här appen.

📍 Appen är tillgänglig för några av dina enheter

Du kan dela detta med familjen. [Läs mer om Familjens bibliotek](#)

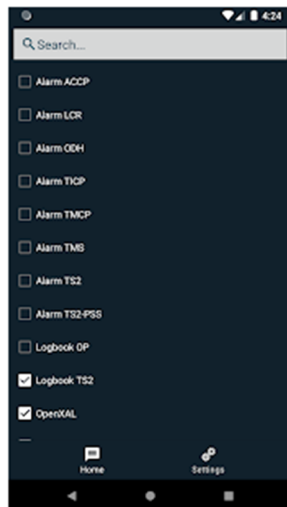
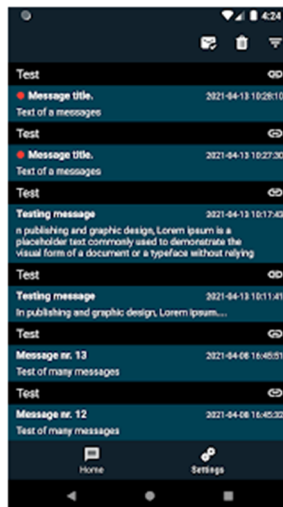
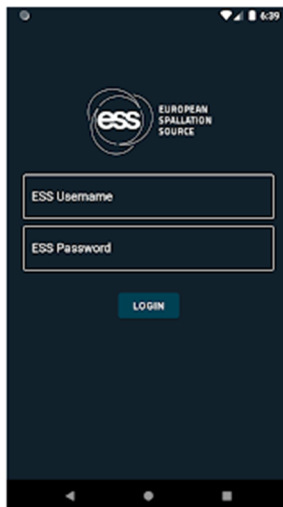
Installerad

Android

<https://gitlab.esss.lu.se/ics-software/ess-notify-android>

App available on Google Play.

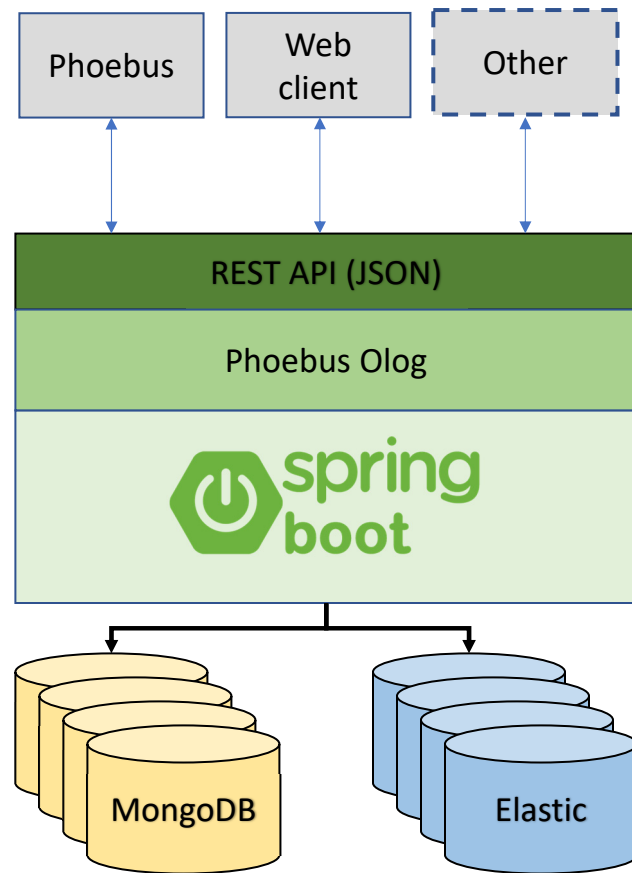
See also paper "Notifications with Native Mobile Applications" (THPV011).



Under the hood

Phoebus Olog Architecture

- NoSQL backend
 - Simple
 - NoSQL backend are easy to maintain
 - Flexible schema
 - Scalability & Reliability
 - Horizontal scaling
 - Easy to set up clusters
 - Easy to set up replication in Elastic
- Spring Boot
 - Open source Java-based framework used to create a Micro Service
- Phoebus Olog service is generic
 - Can be used in any type of electronic logbook context
 - Markup not mandated



Phoebus Olog Architecture

Containerization

- For Development and Integration testing
<https://github.com/Olog/phoebus-olog/blob/master/src/test/resources/docker/docker-compose.yml>
 - Elastic
 - MongoDB
- [WIP] A Complete Deployment solution for Phoebus Olog
<https://github.com/willrogers/olog-es-docker>
 - Elastic
 - MongoDB
 - Phoebus Olog Service

Links and References

- Documentation and API description

<https://olog.readthedocs.io/en/latest/>

- Fork us on GitHub

<https://github.com/Olog/phoebus-olog>

<https://github.com/Olog>