

ELECTRONIC COLLABORATION LOGBOOK

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Project Objective and History

- To provide a web-based electronic logbook tool to collaborations and groups at FNAL to support their research activities
- Project started as Control Room Logbook (CRL) for D0
 - Java based, data stored on local disk in the file system
- Web interface added
 - About 20 instances at FNAL
- Rewritten completely in 2010-2011
 - Main reason: store all data in the database
 - New name: Electronic Collaboration Logbook (ECL)
 - Converted all existing CRL data into ECL
 - Currently 24 instances in production
- Shift Scheduler added in 2012

Logbook Entry

- Immutable text or *form*
- Has timestamp and author
- Belongs to a *category*
- May have picture or document attachments
- May have one or more *tags*
- *Comments* can be added
- May have *related entries*

Forms

- Forms are created by ECL form builder as a list of named fields. Each field has:
 - Name
 - Type
 - Text (1 line or multiline)
 - Selector (1 choice or multi choice)
 - Checkbox
 - Radio button set
 - Optional instructions
- HTML forms

Example of a Form

Create New Entry

Form: Start Shift

Category: --select category-- (required)

Tags:

<input type="checkbox"/> BNEVB	<input type="checkbox"/> Beam	<input type="checkbox"/> Commissioning	<input type="checkbox"/> DAQ Application Manager	<input type="checkbox"/> DAQ Health Monitor (Ganglia)
<input type="checkbox"/> DAQ Run Control	<input type="checkbox"/> DCM	<input type="checkbox"/> DCS	<input type="checkbox"/> DSO/Pedestal Scan	<input type="checkbox"/> Database
<input type="checkbox"/> Installation	<input type="checkbox"/> Trigger			

Textile formatted: [Textile help](#)

Shifter:

Shift: Day

Is a run in progress?: Yes

Are you logged into ECL as yourself?: Yes

Current NDOS Run/Subrun:

Snapshot servers running on all Control Room computers?: Yes Click on the "camera" icon on each Desktop to make sure it's running.

Kerberos tickets renewed on all Control Room computers?: No Click on the "key" icon at the bottom left monitor on each machine.

Is the Online Monitor running?: Yes

Are the DCS Labview monitors running?: Yes If not, they should be!

Is the DCS APD monitor running?: Yes Look for a window called "CSS" (Control Systems Studio) that displays the status of the APD cooling in the "electronics" view. See the [DCS wiki](#) for details.

Is the Event Display running and auto-advancing?: No

Shift Plans/Comments: List any special tasks planned to perform during your shift.

Example of a Form Entry

9086, Jiri Martincik (martincik), Tue, 08/02/2011 23:51:29 General

Form:	Start_Shift
Shifter:	Jiri Martincik
Shift:	Night
Location:	Fermilab
RunInProgress:	Yes
NDOSRunSubrun:	12678/1
NuMIPOT:	28.8E12
BNBPOT:	3.3E16
OnMonRunning:	Yes
EVDRunning:	Yes
Comments:	

Categories and Tags

- Categories and Tags are used add structure to the logbook
- Categories are organized into a tree structure
 - Categories have subcategories, recursively
- Each entry belongs to one and only one category
- Tags are arbitrary strings defined by the administrator
- An entry can have 0 or more tags attached to it

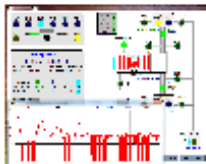
Comments and Related Entries

- Entries are immutable, but can be amended by
- Comments
 - Simple text with an author and a timestamp
- Related entries
 - Full featured entry (with pictures and attachments) with a reference to and referenced by an older entry

Example of a Logbook Thread

21262, Mayling Wong-Squires (mlwong), Mon, 05/07/2012 12:48:03 MP9/Vacuum Oven ▼21261

Screen shot of furnace status at room temperature, start of cycle



[status-start.png](#)

Comments:

Mayling Wong-Squires (mlwong) 05/09/2012 12:56:10
Baking the support frame for FRIB QWR

[+ add related entry](#) [+ add comment](#)

21261, Mayling Wong-Squires (mlwong), Mon, 05/07/2012 10:36:15 MP9/Vacuum Oven ▲ 21262

Support frame for FRIB QWR bakeout started - ramp up 5C/min, soak 600C for 10 hours

Comments:

Mayling Wong-Squires (mlwong) 05/07/2012 10:44:25
Correction – ramp up 10C/min, soak 800C for 3 hours

[+ add related entry](#) [+ add comment](#)

Diagram Labels:

- header
- text
- Picture thumbnail
- comments
- related entry

Entry Search Options

Search Logbook Entries

Use saved search:

Categories: Include subcategories

Entry number: between: and

Posted between: and (mm/dd/yyyy)

Posted within: days hours

Form:

By user:

Has words: e.g. "apples oranges"

Advanced words: e.g. (rat | crab) & !cat

Has text: Will search for substring, equivalent to ****text****. Can be slow!

Has tags:

<input type="checkbox"/> Beam	<input type="checkbox"/> BNEVB	<input type="checkbox"/> Commissioning	<input type="checkbox"/> DAQ Application Manager	<input type="checkbox"/> DAQ Health Monitor (Ganglia)	<input type="checkbox"/> DAQ Run Control
<input type="checkbox"/> Database	<input type="checkbox"/> DCM	<input type="checkbox"/> DCS	<input type="checkbox"/> DSO/Pedestal Scan	<input type="checkbox"/> Installation	<input type="checkbox"/> Trigger

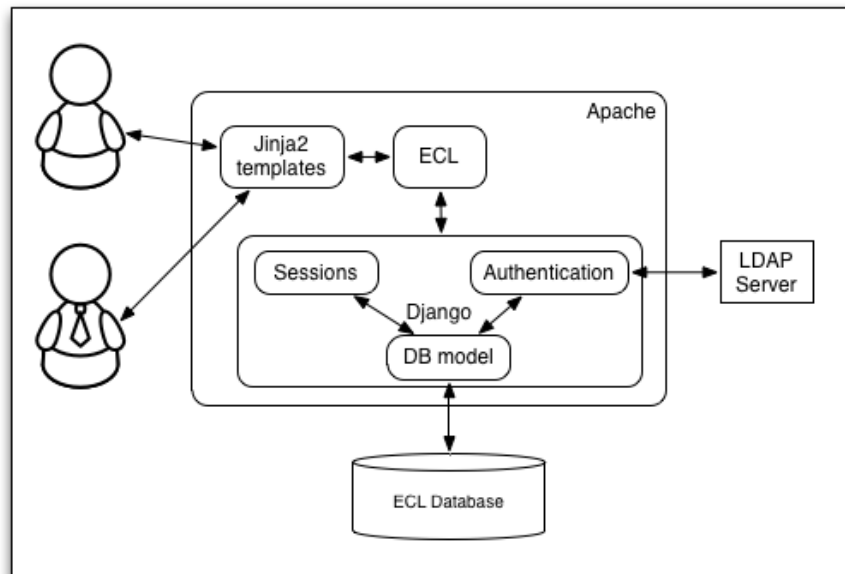
All checked

Attachments: images files

Limit to: entries

- Category
- Form
- Tags
- Dates
- Author
- Text
 - Exact substring
 - Expressions
 - (rat | crab) & !cat
 - Ranking
 - apple orange
- Attachments

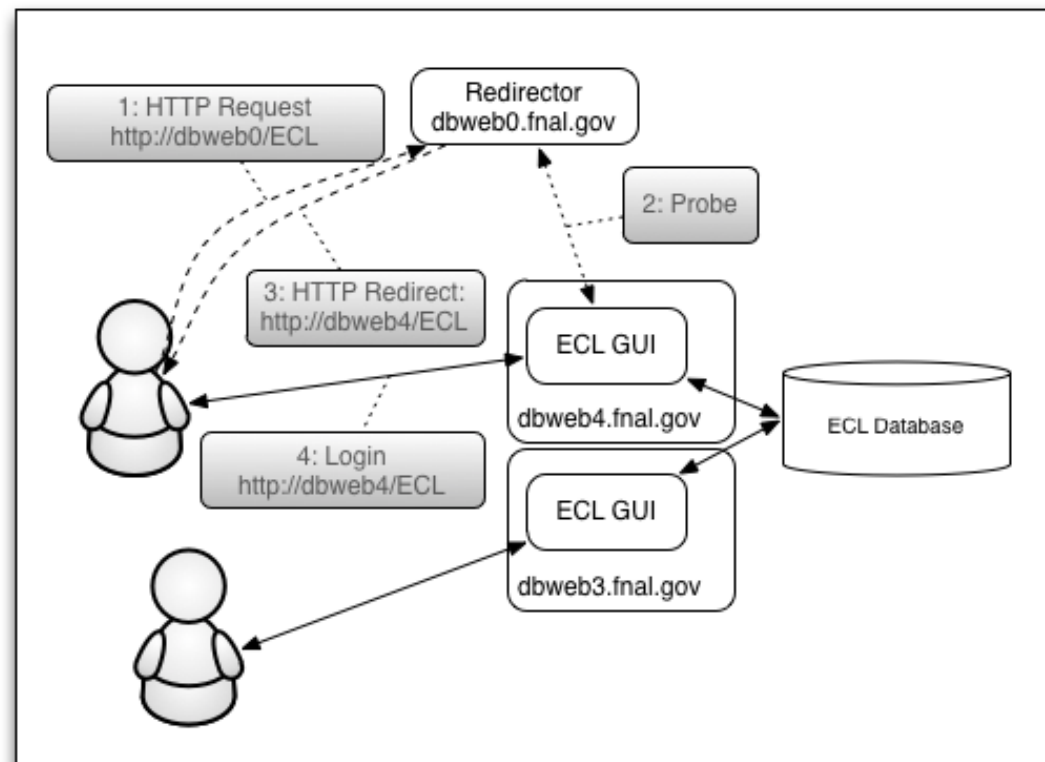
ECL Architecture



What is it made of

- Apache
- Django
 - Database layer
 - Session persistency mechanism
 - User authentication (local passwords and/or LDAP), password sent over HTTPS
- Jinja2 templates
- Python
- Postgres v9 database
 - Everything, including attached documents and pictures is stored in the database
 - Text indexing package is native since v9

Redundant Web Server Infrastructure

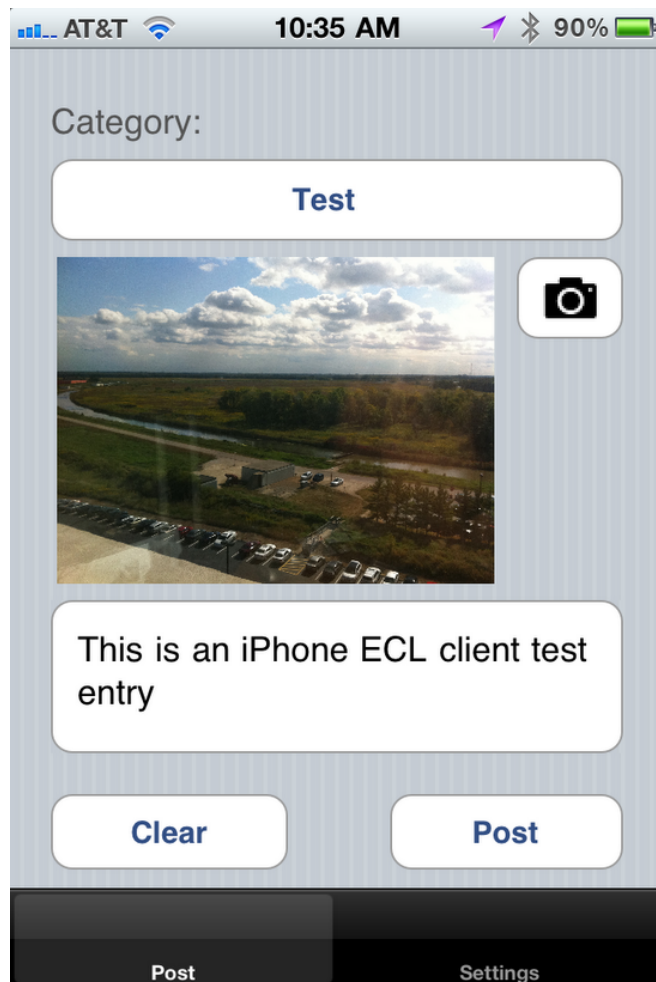


- Increases service availability by finding available server and redirecting the client
- Distributes the load between servers in round-robin fashion

REST/XML API

- HTTP/HTTPS – based XML API
 - Post an entry
 - Search entries by various criteria – return list of entry IDs
 - Get entry by entry ID
- Used by several experiments to make automated entries

There is an app for that !



Entry #48

URL: <http://dbweb0.fnal.gov/ECL/demo/E/show?e=48>

Category: Test

Posted: Fri, 09/23/2011 10:39:34

By: Igor Mandrichenko (ivm_xml)

Tags:

[post related entry](#)

This is an iPhone ECL client test entry

Images



[picture.jpg](#)

Mobile Clients

- Use HTTP/XML API
- We have iOS app for iPhone
 - Take pictures with your phone camera
 - Post them directly to the logbook
 - Same user authentication mechanism as for GUI
- Working on Android, iPad versions
- Distribution is postponed until some legal issues between DOE and Apple are resolved

Latest addition: Shift Scheduler

- Shift Scheduler was added to ECL as an extension of its functionality
- ECL and Shift Scheduler share common Members and Organizations (Institutions) Database

Shift Scheduler

- Shift Schedule is a collection of Scheduling Intervals
- Scheduling Interval has name, begin and end date
- Shift
 - Repeats every day, from start day of the week to end day of the week, within the Scheduling Interval
 - Example:
 - from January 1st to March 31st,
 - every Wednesday, Thursday, Friday
 - from 8am to 4pm
 - Has one or more *roles*
 - E.g. Captain, DAQ Expert
 - Each role has points
 - Institution collects points as members sign up for shifts
- Shifters can swap shifts

Shift Calendar View

Mon 26	Tue 27	Wed 28	Thu 29	Fri 30	Sat 31	Sun 01
Weekday Day Mon-Thu 08:00-16:00 Control Room (1.0) Luke Corwin				Weekend Day Fri-Sun 08:00-16:00 cancelled Control Room (1.0) Ruth Toner		
On-call Expert Day Mon-Sun 08:00-20:00 DAQ (0.25) Andrew Norman						
Weekday Swing Mon-Thu 16:00-00:00 Control Room (1.0) Doug Jensen				Weekend Swing Fri-Sun 16:00-00:00 cancelled Control Room (1.0) Vladimir Kravtsov		
On-call Expert Night Mon-Sun 20:00-08:00 DAQ (0.25)						
DCS Expert Tue-Mon 08:00-07:59 On-call (0.5) Athanasios Hatzikoutelis						

Future Work

- Integration of the Logbook and Shift Scheduler
 - Shift related entries
 - Links between shift calendar and logbook entries
 - Who was on shift ?
- Exporting Shift Scheduler data as a Calendar
- Further development of mobile clients
 - Tablets
 - Logbook viewing, searching
 - Shift reminders