CLAS Collaboration Meeting

Argonne NATIONAL LABORATORY

Analysis Review Process Proposal and Discussion

Whitney Armstrong

6/29/2026

Introduction

- What is being proposed for Collaboration reviews?
- What problems does this solve?

- During the last collaboration meeting there was a discussion about "Analysis and pathway to publication". This Discussion continued for the business session.

Themes: *how to share code, Analysis Committee turnaround time, common analysis code development, validation of service work and task list items, documentation of work*

What is being proposed?

1. I propose to use JLab's gitlab server to facilitate collaboration reviews (code.jlab.org)
2. Create a new type of service work called a "Common Analysis Note" (CAN)
3. Use code.jlab.org to facilitate the "CLAS12 Task List" for service work

Factorize "Analysis Note"→ physics (not service work)

- Singular physics data analysis

"Common Analysis Note"→ reusable analysis component (service work)

- Has different set of requirements and **higher bar for review**
- Documentation, code, examples, reproducible plots, extensible

On way to Analysis Note, doing "Common Analysis Notes" adds service work but can also use existing approved "Common Analysis Notes" to expedite things.

Why is this a good idea?

What problem does it solve?

Solves many problems at once.

1. Unifies the collaboration's work contributions and the documentation of the work
2. More shareable/reusable analysis and code
3. Documents service work/task list
4. Encourages modern workflows and enables new ideas

What is gitlab?

- JLab gitlab server: code.jlab.org — everyone has an account (once they login)
- Gitlab is a more useful version of github
- Stores repos, facilitates software development, etc…
- CI/CD platform (the best IMO)
- Container registry
- Per project wikis, webpages, and more.
- More features than I have time to cover.

Drag and drop file upload (uploaded file and markdown syntax inserted)

Key Benefits

Review Turnaround

- Reviewer comments **immediately available** to author.
- Author's changes **explicitly documented** (as merge-request) or in comments.
- Everything is documented and cross linked when referenced (gitlab feature)
- Use milestones for review, tags for rounds (likely not needed for mature notes)
- Reviewers create issues for each question/change, author follows up with MR which is then reviewed (by committee member(s)), then issue closed when approved.
- Issues can be **addressed immediately**, facilitating single round reviews for complete projects.

Second milestone for second round reviews if returning with significant changes. (Need to be clear when analysis is incomplete and review should pause for author to work).

Key Benefits

Documentation

- Everything is documented and cross linked when referenced (gitlab feature)
- Analysis note (latex document) automatic compiled in CI saved as artifact, and single URL can be used to get latest version. Previous revisions also available.
- Review process is internal but visible to collaboration, private/confidential comments can be used when needed (but should be discouraged).
- Document CLAS Task Lists with automatic links documenting work
- Can use **gitlab pages** to serve static web pages or something more fancy (example from Doug's talk)
- Links reviewed "Analysis" to the related code/repos (required for CAN)

Key Benefits

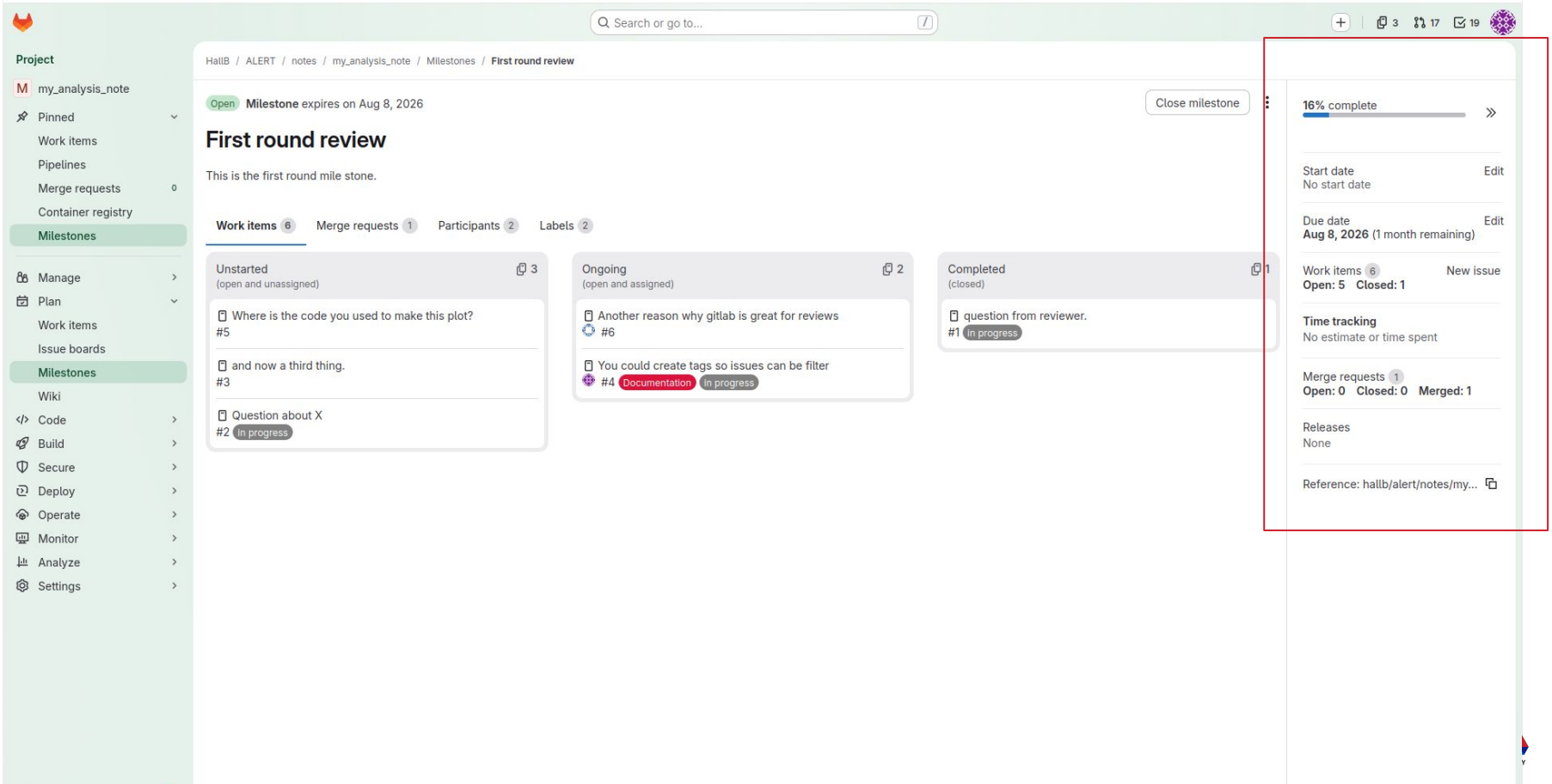
Common Analysis

- Reviewed document (latex) can now have a readme.md (as part of the review) and other files which document reusability (if that is the goal), facilitating the development and documentation of "common analysis" tools and code.

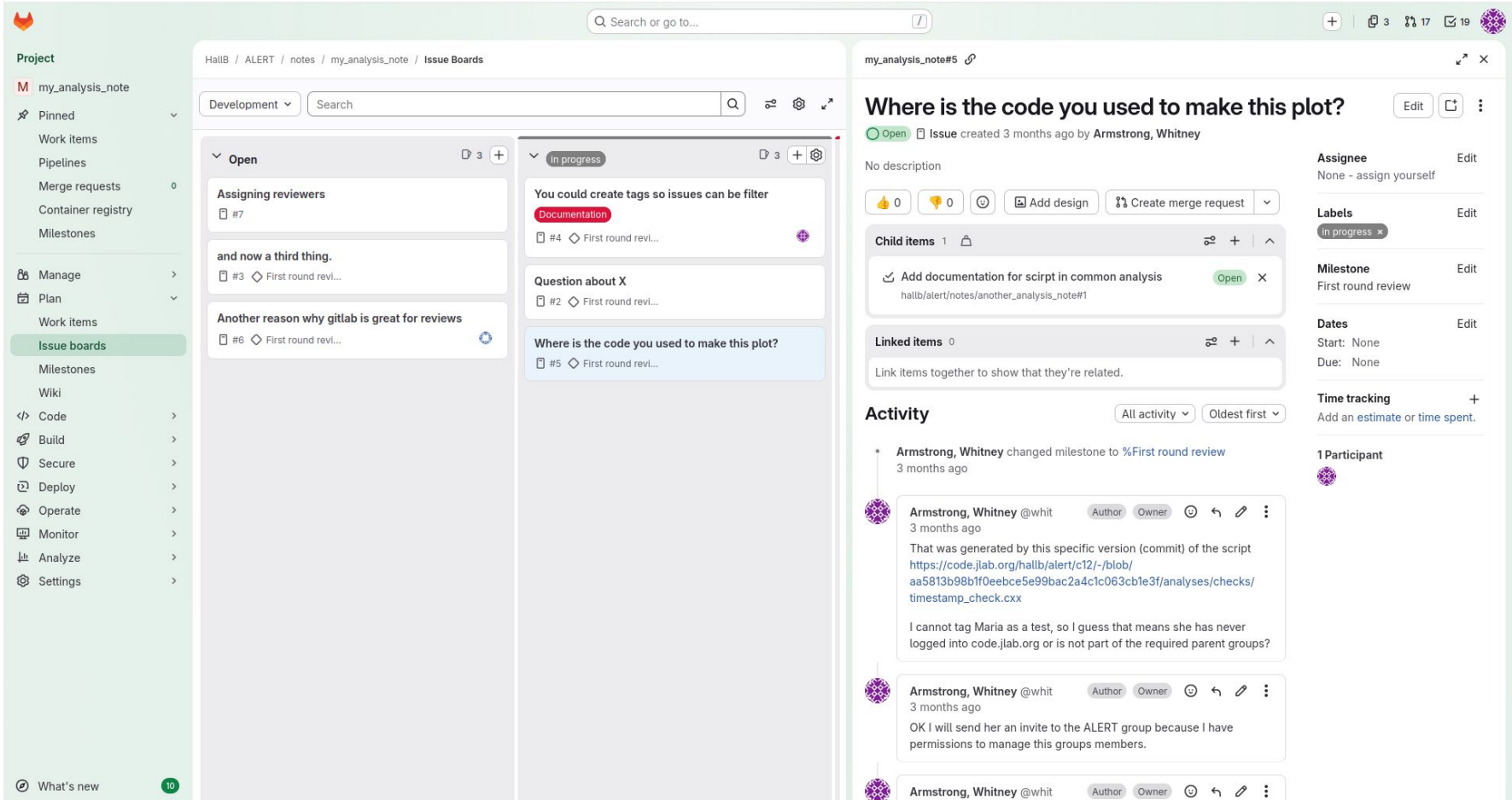
What is a “Common Analysis Note”?

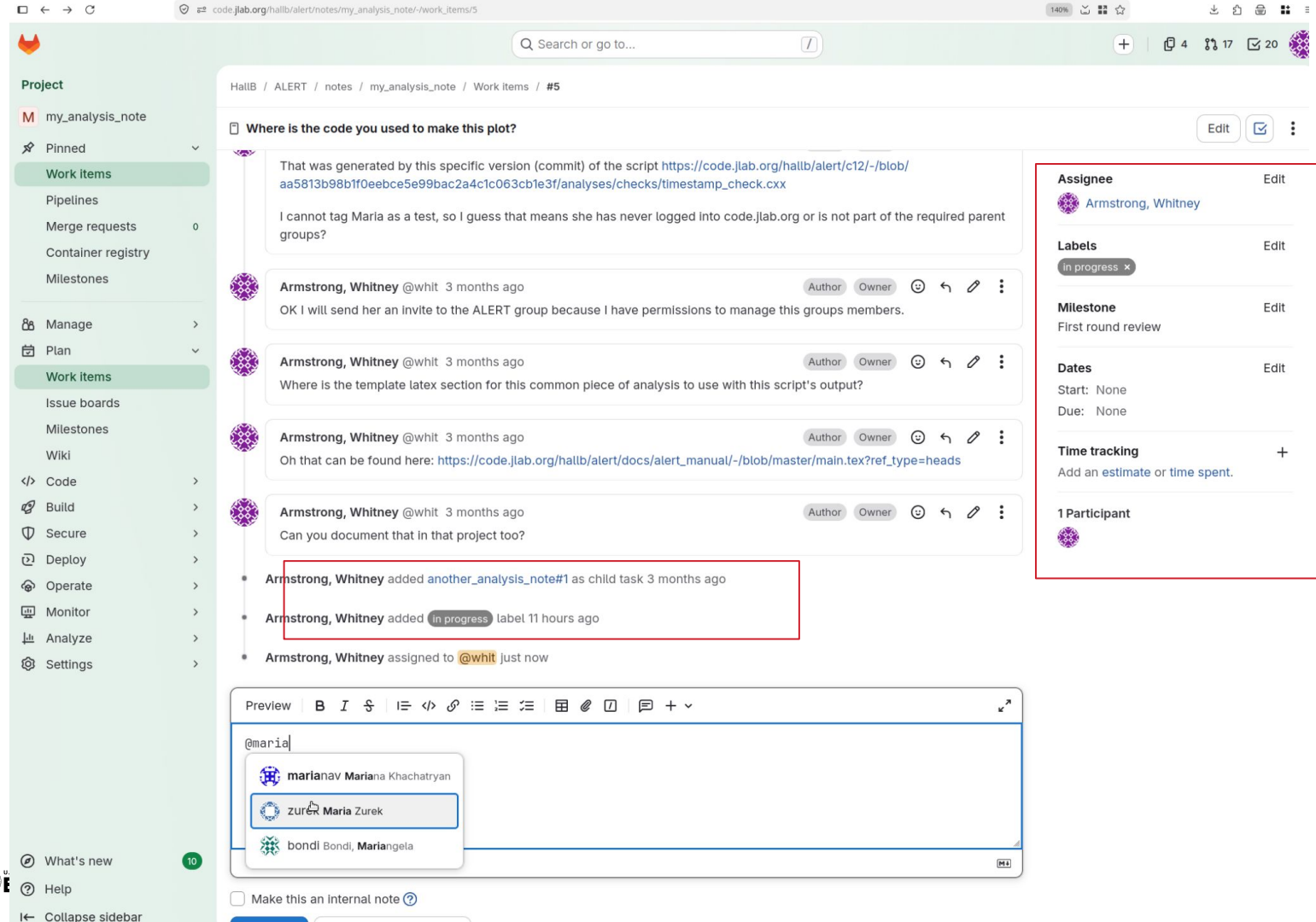
- Not an analysis note, but a well documented piece of analysis that can be extended to new data sets.
- Has a higher bar for review than an “Analysis Review”
- Requires documentation (latex part for including in Analysis notes)
- Requires reproducibility (standard plots)
- Requires reusability (no unnecessary dependencies, backdoored code, etc)
- And others TBD.

Example Review - via Milestones

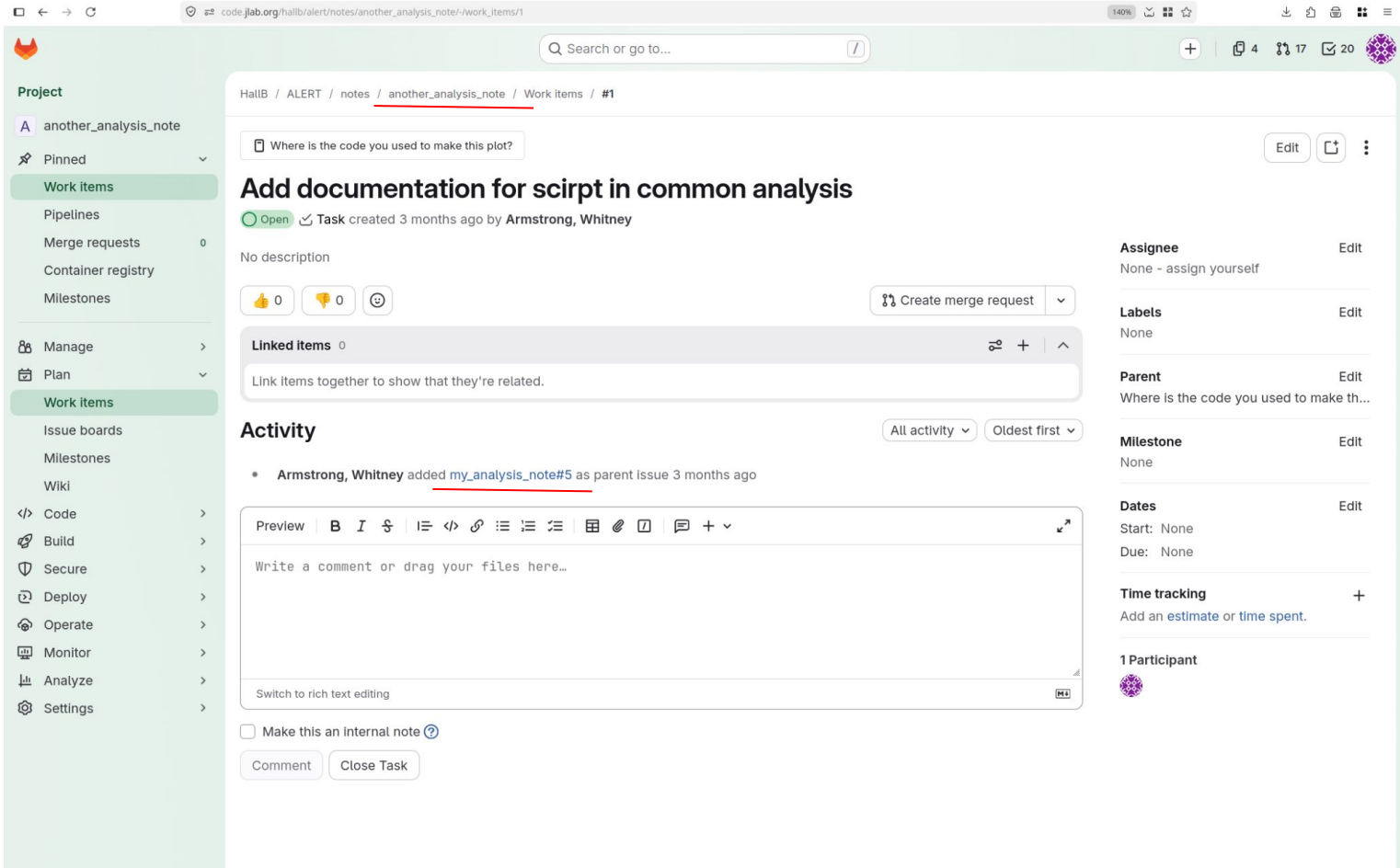


A review question and documentation




code.jlab.org/hallb/alert/notes/my_analysis_note/-/work_items/5
Search or go to...
Project
my_analysis_note
Pinned
Work items
Pipelines
Merge requests 0
Container registry
Milestones
Manage
Plan
Work items
Issue boards
Milestones
Wiki
Code
Build
Secure
Deploy
Operate
Monitor
Analyze
Settings
What's new 10
Help
Collapse sidebar
HallB / ALERT / notes / my_analysis_note / Work items / #5
Where is the code you used to make this plot?
Edit
That was generated by this specific version (commit) of the script https://code.jlab.org/hallb/alert/c12/-/blob/aa5813b98b1f0eebce5e99bac2a4c1c063cb1e3f/analyses/checks/timestamp_check.cxx
I cannot tag Maria as a test, so I guess that means she has never logged into code.jlab.org or is not part of the required parent groups?
Armstrong, Whitney @whit 3 months ago
Author Owner
OK I will send her an invite to the ALERT group because I have permissions to manage this groups members.
Armstrong, Whitney @whit 3 months ago
Author Owner
Where is the template latex section for this common piece of analysis to use with this script's output?
Armstrong, Whitney @whit 3 months ago
Author Owner
Oh that can be found here: https://code.jlab.org/hallb/alert/docs/alert_manual/-/blob/master/main.tex?ref_type=heads
Armstrong, Whitney @whit 3 months ago
Author Owner
Can you document that in that project too?
Armstrong, Whitney added another_analysis_note#1 as child task 3 months ago
Armstrong, Whitney added in progress label 11 hours ago
Armstrong, Whitney assigned to @whit just now
Preview
@maria
marianav Mariana Khachatryan
zurek Maria Zurek
bondi Bondi, Mariangela
Make this an internal note
Assignee Edit
Armstrong, Whitney
Labels Edit
in progress
Milestone Edit
First round review
Dates Edit
Start: None
Due: None
Time tracking
Add an estimate or time spent.
1 Participant

Linked work in another repo.



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Search or go to... / 3 17 19

Project

my_analysis_note

- Pinned
  - Work items
  - Pipelines
  - Merge requests 0
  - Container registry
  - Milestones
- Manage
- Plan
  - Work items
  - Issue boards
  - Milestones
  - Wiki
- Code
- Build
- Secure
- Deploy
- Operate
- Monitor
- Analyze
- Settings

What's new 10

Help

Collapse sidebar

HallB / ALERT / notes / my_analysis_note / Work items / #2

Question about X

Edit

Open Issue created 3 months ago by **Armstrong, Whitney**

here is anothering thing you need to address.

0 0

Add design | Create merge request

Child items 0

No child items are currently assigned. Use child items to break down work into smaller parts.

Linked items 0

Link items together to show that they're related.

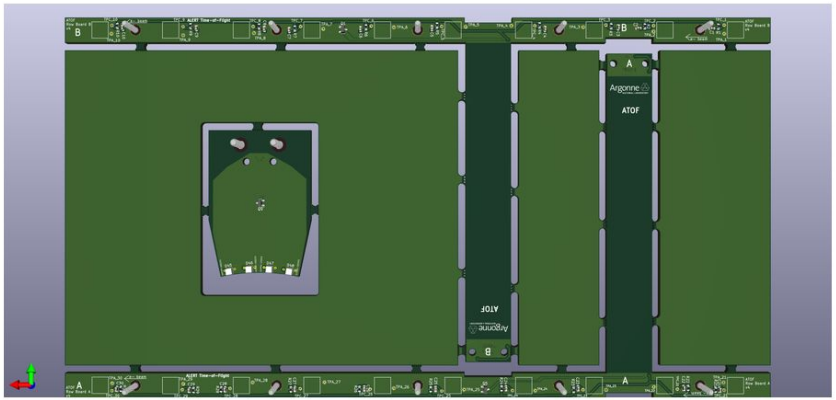
Activity

All activity | Oldest first

Armstrong, Whitney changed milestone to %First round review 3 months ago

Armstrong, Whitney @whit 3 months ago — Author Owner

Oh that came from here https://code.jlab.org/hallb/alert/atof/atof_docs/-/blob/9e5eaa2ec1e6c80b0c18d0530f36b647fb32fbc7/design/sipm_boards_v4.1.3_bot.png



Assignee Edit

Armstrong, Whitney

Labels Edit

in progress ×

Milestone Edit

First round review

Dates Edit

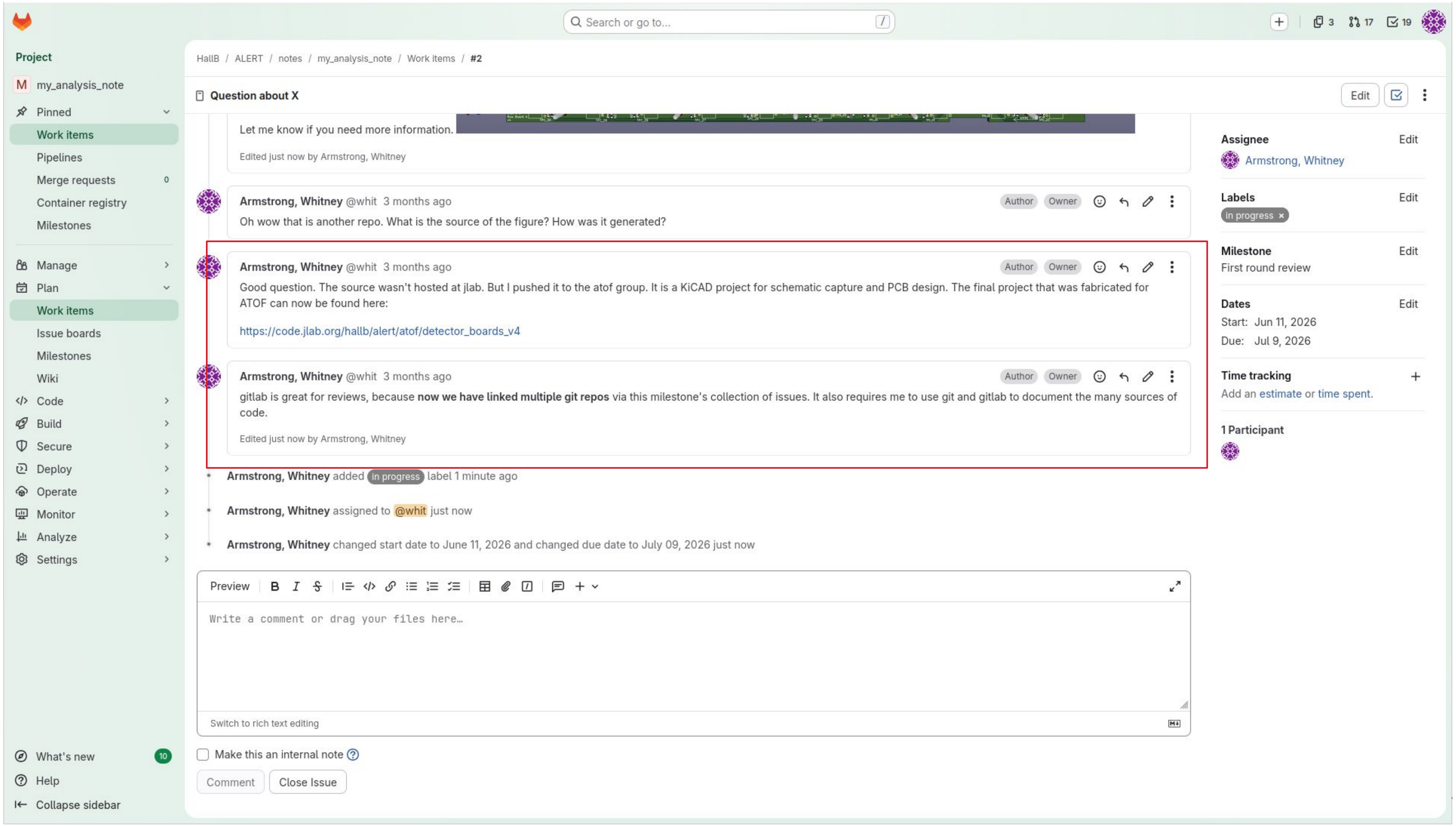
Start: Jun 11, 2026

Due: Jul 9, 2026

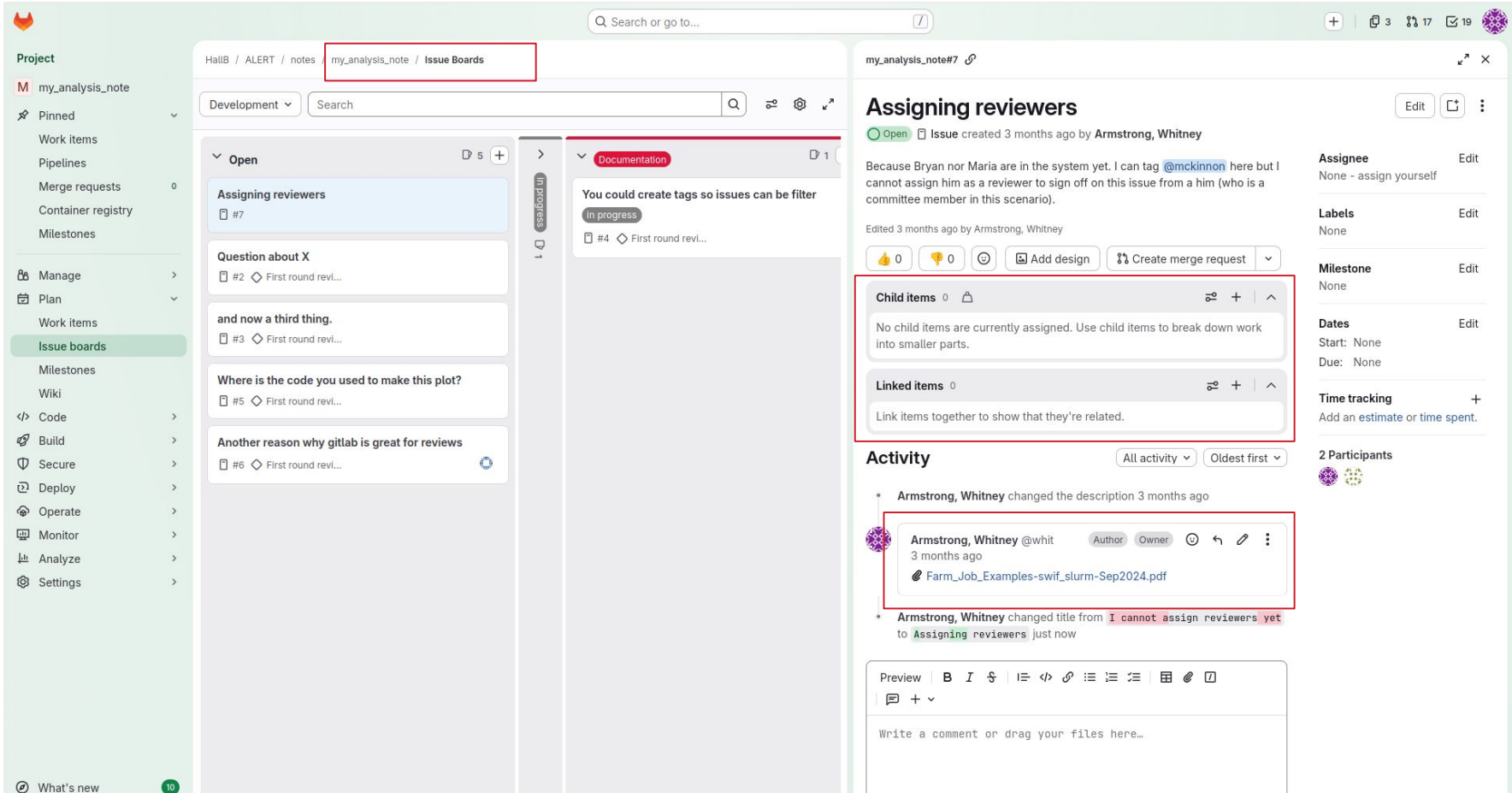
Time tracking

Add an estimate or time spent.

1 Participant


Search or go to...
3
17
19
Project
HallB / ALERT / notes / my_analysis_note / Work items / #2
my_analysis_note
Question about X
Edit
Pinned
Work items
Pipelines
Merge requests 0
Container registry
Milestones
Manage
Plan
Work items
Issue boards
Milestones
Wiki
Code
Build
Secure
Deploy
Operate
Monitor
Analyze
Settings
What's new 10
Help
Collapse sidebar
Let me know if you need more information.
Edited just now by Armstrong, Whitney
Armstrong, Whitney @whit 3 months ago
Author Owner
Oh wow that is another repo. What is the source of the figure? How was it generated?
Armstrong, Whitney @whit 3 months ago
Author Owner
Good question. The source wasn't hosted at jlab. But I pushed it to the atof group. It is a KiCAD project for schematic capture and PCB design. The final project that was fabricated for ATOF can now be found here:
https://code.jlab.org/hallb/alert/atof/detector_boards_v4
Armstrong, Whitney @whit 3 months ago
Author Owner
gitlab is great for reviews, because **now we have linked multiple git repos** via this milestone's collection of issues. It also requires me to use git and gitlab to document the many sources of code.
Edited just now by Armstrong, Whitney
Armstrong, Whitney added in progress label 1 minute ago
Armstrong, Whitney assigned to @whit just now
Armstrong, Whitney changed start date to June 11, 2026 and changed due date to July 09, 2026 just now
Preview
Write a comment or drag your files here…
Switch to rich text editing
Make this an internal note
Comment
Close Issue
Assignee
Edit
Armstrong, Whitney
Labels
Edit
in progress
Milestone
Edit
First round review
Dates
Edit
Start: Jun 11, 2026
Due: Jul 9, 2026
Time tracking
Add an estimate or time spent.
1 Participant

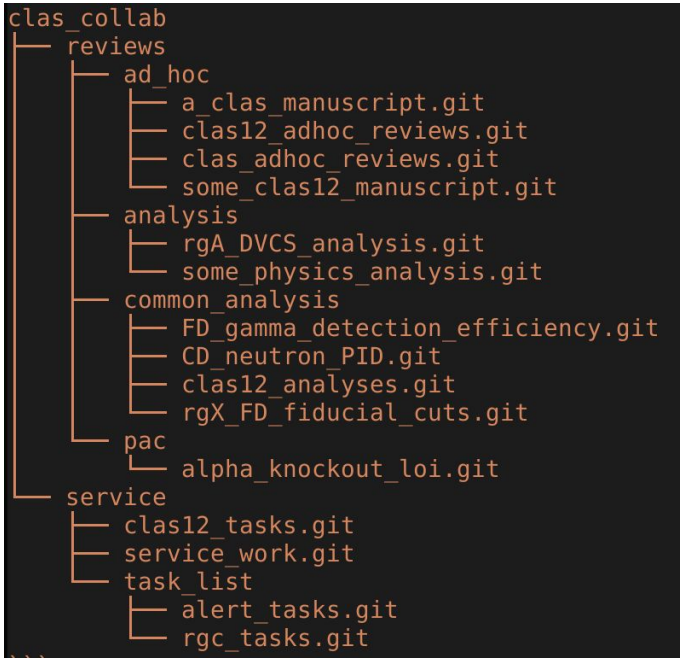
Some other features



Moving Forward

First steps

- Create a new top level group (request to JLab admins)
- Create a reasonable group structure
- Create a some template repos
- Do a a first review?
- Need to formally define “Common Analysis Note” (CAN)
- Slowly move away from old review website
- Build static web page for each review type listing those completed (approved reviews) including old ones



Summary and Discussion

- Proposed to use code.jlab.org for collaboration reviews
- Propose to add “Common Analysis Note” (TBD) as service work
- The goal is to facilitate reviews and encourage modern/reusable workflows with documentation
- Gitlab is a clear choice, it is supported by JLab, new ideas can developed and implemented

Discussion

What is “reproducible”?

Containerization needed

- Reproducible means I can take the code and the inputs and run it identically to get the same output.
- In the CAN context it means:
  - Images can be rebuilt and pushed to register
  - Input data is defined and available (even if it is on tape)
  - Execution of code in container produces standard outputs

Is it complete?

Review #3315727: "Coherent and Incoherent DVpi0P with CLAS EG6" (1st round ended on January 9, 2019)

Initiated by: Michael Wood
Review type: Analysis
Status: 1st round ended. When updated material is available, please contact Michael Wood to restart the review.
Contact author: Frank Cao
Experiment/Working group: eg6/NP
Committee: Chaden Djalali (Chair), Ahmed El Alaoui , Axel Schmidt
Review deadline: January 9, 2019
Notes:

```
Thank you for agreeing to review this analysis.

The task is to determine whether the analysis is sound and the quoted errors are reasonable. Please take into
account any  previous related CLAS results. There is no need to worry about polishing the text as long as the
information is accurate. The CLAS procedure foresees a nominal month for the first round.  However, since
the end date for the initial review falls on a holiday, it has been extended until January 9, 2019.

Along with the analysis note, a checklist has been uploaded.  Feel free to use this as a shortcut to find
common analysis tools applied like PID cuts, etc.  Since not all analyses are the same, some items are left
blank.  The goal is to have more polished analysis notes before the review begins.
```

Options

None at this time

Tables below are sortable. Click column headers to reorder.

Associated documents

File name	Version	Date	Uploaded by	
fcao_analysis_note-3315727-2018-11-30-v1.pdf	v1	November 30, 2018	Michael Wood	Start version
fcao_AnalysisNoteChecklist-3315727-2018-11-30-v2.docx	v2	November 30, 2018	Michael Wood	Analysis review checklis
Review_of_Frank_Thanh_Cao_Analysis_Note_Commnets1-3315727-2019-01-02-v3.pdf	v3	January 2, 2019	Michael Wood	Comments from the con
fcao_analysis_note_v003-3315727-2019-02-14-v4.pdf	v4	February 14, 2019	Frank Cao	New version that have a
fcao_analysis_note_v003-3315727-2019-02-14-v5.pdf	v5	February 14, 2019	Frank Cao	New version that have a
comments_axel_20190217-3315727-2019-02-17-v6.txt	v6	February 17, 2019	Axel Schmidt	Here are my comments
fcao_analysis_note_v004-3315727-2019-02-21-v7.pdf	v7	February 21, 2019	Frank Cao	New version that have a Axel's most recent comm 9-11, 15-6) - PID (pgs 3
fcao_analysis_note_v004-3315727-2019-02-21-v8.pdf	v8	February 21, 2019	Frank Cao	New version that have a Axel's most recent comm 9-11, 15-6) - PID (pgs 3
fcao_analysis_note_v005-3315727-2019-03-06-v9.pdf	v9	March 6, 2019	Frank Cao	This the updated analysi (pgs 69-71) - The updat procedure selected the s
comments_axel_20190309-3315727-2019-03-09-v10.txt	v10	March 9, 2019	Axel Schmidt	Here are my comments on the latest draft of the note (v9)
fcao_analysis_note_v006-3315727-2019-03-12-v11.pdf	v11	March 12, 2019	Frank Cao	Updated note to address comments Axel brought up. Changes since the last version were made to: - pgs 69-70 - pgs 82-83

Review #9190756: "Measurement of the Deeply Virtual Compton Scattering Cross Section from the Proton at 10.6 GeV using the CLAS12 Detector" (1st round ended on April 22, 2023)

Initiated by: Maxime Defurne
Review type: Analysis
Status: 1st round ended. When updated material is available, please contact Maxime Defurne to restart the review.
Contact author: Sangbaek Lee
Experiment/Working group: CLAS12/DP
Committee: Carlos Munoz Camacho (Chair), Andrey Kim , Harut Avakian
Review deadline: April 22, 2023
Notes:

```
This is the first cross section extraction using CLAS12. So all aspects must be carefully reviewed: signal selection, background subtraction, acceptance+radiative correcti
polishing the text as long as the information is accurate. The
CLAS procedure foresees a nominal month for the first round.
```

Options

None at this time

Tables below are sortable. Click column headers to reorder.

Associated documents

File name	Version	Date	Uploaded by	Notes
RGA_DVCS_xsec_analysis_note-9190756-2022-11-14-v1.pdf	v1	November 14, 2022	Maxime Defurne	Start version
AN_DVCS_x_sec-9190756-2022-12-21-v2.pdf	v2	December 21, 2022	Carlos Munoz Camacho	Comments to v1
Version2.pdf-9190756-2023-07-19-v3.pdf	v3	July 19, 2023	Bryan McKinnon	Second round analysis note (uploaded by Brya
AN_v2.pdf-9190756-2023-10-16-v4.pdf	v4	October 16, 2023	Maxime Defurne	Comments/questions from the analysis commi
Version3.pdf-9190756-2024-10-18-v5.pdf	v5	October 18, 2024	Sangbaek Lee	Third round analysis note with review response
Addendum_to_AN_V3.pdf-9190756-2025-01-23-v6.pdf	v6	January 23, 2025	Sangbaek Lee	Additional note to the V3, based on the meetin
Reply_Addendum.pdf-9190756-2025-02-12-v7.pdf	v7	February 12, 2025	Carlos Munoz Camacho	Reply to Addendum document
responses_to_reply_addendum.pdf-9190756-2025-02-14-v8.pdf	v8	February 14, 2025	Sangbaek Lee	Responses to the reply
Erratum_responses_to_reply_addendum.pdf-9190756-2025-02-17-v9.pdf	v9	February 17, 2025	Sangbaek Lee	Correction of the previous document.
Reply_v3.pdf-9190756-2025-03-31-v10.pdf	v10	March 31, 2025	Carlos Munoz Camacho	I uploaded my comments as PDF.
answer_to_approval_notice.pdf-9190756-2025-04-09-v11.pdf	v11	April 9, 2025	Sangbaek Lee	Formal responses to the approval notice and c
RGA_DVCS_xsec_analysis_note_final.pdf-9190756-2025-04-09-v12.pdf	v12	April 9, 2025	Sangbaek Lee	AN final version

Comments and replies

Contributor	Comment		Date
Carlos Munoz Camacho	I uploaded my comments as PDF.	Hide	December 21, 202
Maxime Defurne	I uploaded my comments as PDF.	Hide	October 16, 2023
Reply by author(s)	I uploaded my comments as PDF.	Hide	October 18, 2024
Carlos Munoz Camacho	I uploaded my comments as PDF.	Hide	February 12, 202

Examples

Alert manual build via CI with link to latest artifact in readme

https://code.jlab.org/hallb/alert/docs/alert_manual