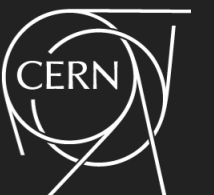
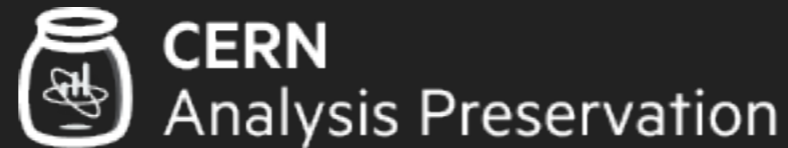


PAMFILOS FOKIANOS

# CERN ANALYSIS PRESERVATION PORTAL

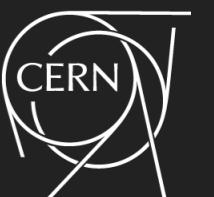
IMPROVE PRESERVATION AND RE-USE OF  
RESEARCH RESULTS AT CERN





# CERN ANALYSIS PRESERVATION PORTAL

tool for physicists to capture, preserve and make their analysis components reusable for the future



# ANALYSIS PRESERVATION @ CERN

The Analysis Preservation effort aims at responding to two parallel demands:

(1) Inside of the Collaborations:

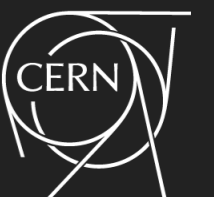
The high complexity of the analyses create major challenges in terms of capturing and preserving the analysis and the knowledge around it.

**+ CERN Open Data Policy for the LHC**

**+ Landscape project initiative**

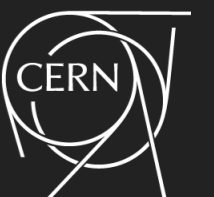
(2) Externally:

Increasing number of funding agencies have put in place data management policies demanding the development of comprehensive data management frameworks for data and knowledge preservation, and for future reuse (or even reinterpretation and reproducibility) of research outcomes.



# ANALYSIS PRESERVATION @ CERN

In general, preservation efforts and needs at CERN change from one experiment to another. Even between the same collaboration, there are different working groups that work and do analyses in their own way.

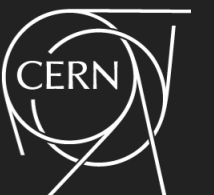




# CERN ANALYSIS PRESERVATION PORTAL

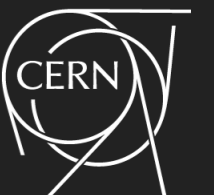
With CERN Analysis Preservation, we have built a tool that tries to accommodate these needs, depending on the specifications and requirements of individual groups (e.g. they can have their own data models/collections, to preserve their analysis knowledge and make it reusable and understandable)

- **Goal:** capture as many elements needed to understand and reiterate an analysis even several years later and link them together persistently
- **Goal:** make analysis components easily reusable (e.g. from scripts or CI/CD, writing tools, workflow engines, push to other services)



# CERN ANALYSIS PRESERVATION PORTAL

- Flexible data models (JSON-Schemas), FAIR practices
- Customisable forms
- Versioning of metadata & files, using the publishing draft/record model
- Review process
- Integration with related scientific services and universal identifiers (i.e. Github, Gitlab, Zenodo, ORCID, ROR, etc)
- Sync with and indexing of various experiment DBs/APIs/sources for searching and integration
- Powerful API (records, files, users, search)



# PRESERVATION $\rightleftharpoons$ RE-USABILITY



# USE CASE: REUSE

## Reuse of CAP data

### CMS public results page

- ▶ Example of reuse of information
- ▶ Dedicated website
- ▶ Fetching data from CAP REST API

CERN Accelerating science

**CMS Public Results** Visit us: [CMS Public Website](#) | [CMS Publications](#) | Contact us: [CMS Publications Committee](#)

Select **Papers** or/and **PAS** Show **10** entries Previous **1** 2 3 4 5 ... 106 Next

Only show results that match **any** **all** of the selected categories [Clear all filters](#)

**Filters**

- Collision system
- Accelerator Parameters
- Physics Theme
- Working Group
- SM: Analysis Characteristics
- Interpretation
- Final states
- Final states signature
- Further search categorisation
- Further categorisation Heavy Ion results

Showing 1 to 10 of 1,059 entries

Code	Title	Status/Link	Date
B2G-20-005	Search for $W'$ bosons decaying to a top and a bottom quark at $\sqrt{s} = 13$ TeV in the hadronic final state	Submitted to Phys. Lett. B	11 Apr 2021
HIG-20-017	Search for charged Higgs boson pairs in proton-proton collisions at $\sqrt{s} = 13$ TeV	Submitted to Eur. Phys. J. C	10 Apr 2021
LUM-17-003	Precision luminosity measurement in proton-proton collisions at $\sqrt{s} = 13$ TeV in 2015 and 2016 at CMS	Submitted to Eur. Phys. J. C	05 Apr 2021
HIN-19-003	High precision measurements of Z boson production in PbPb collisions at $\sqrt{s_{NN}} = 5.02$ TeV	Submitted to Phys. Rev. Lett.	25 Mar 2021
HIG-19-015	Measurements of Higgs boson production cross sections and couplings in the diphoton decay channel at $\sqrt{s} = 13$ TeV	Submitted to J. High Energy Phys.	12 Mar 2021
HIG-19-001	Measurements of production cross sections of the Higgs boson in the four-lepton final state in proton-proton collisions at $\sqrt{s} = 13$ TeV	Submitted to Eur. Phys. J. C	08 Mar 2021
HIN-19-006	Using Z boson events to study parton-medium interactions in PbPb collisions	Submitted to Phys. Rev. Lett.	07 Mar 2021
EXO-19-019	Search for resonant and nonresonant new phenomena in high-mass dilepton final states at $\sqrt{s} = 13$ TeV	Submitted to J. High Energy Phys.	04 Mar 2021
SUS-19-010	Search for top squark production in fully-hadronic final states in proton-proton collisions at $\sqrt{s} = 13$ TeV	Submitted to Phys. Rev. D	01 Mar 2021
HIN-18-003	Study of Drell-Yan dimuon production in proton-lead collisions at $\sqrt{s_{NN}} = 8.16$ TeV	Submitted to J. High Energy Phys.	26 Feb 2021

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# CERN ANALYSIS PRESERVATION PORTAL

CERN Analysis Preservation

Home What is Cap Get Started Integrations Documentation [Log In](#)

## CERN Analysis Preservation

Capture, preserve and reuse physics analyses



**Capture**

Preserve elements needed to understand and rerun your analysis

**Collaborate**

Share your analysis with other users, your collaboration or group

**Reuse**

Run containerized workflows and easily reuse analysis components

## Discover

CERN Analysis Preservation (CAP) is a service for researchers to preserve and document the various components of their physics analyses, e.g. datasets, software, documentation, so that they are reusable and understandable in the future. By using this tool, researchers ensure these outputs are preserved, findable and accessible by their collaborators for the long-term.

CAP uses existing collaboration tools and a flexible data model, and it is designed to be easily integrated into researchers' workflows. CAP provides standard collaboration access restrictions so that the individual users and collaborations are in full control of sharing their

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## What

### Metadata

Your analysis description, input data, sources, referenced analyses, collaborators

### Files

Plots, tables, formulas, likelihoods

### Code

Scripts, instructions, repositories

### Workflows

Containerized images, workflows

### Documentation

Publications, presentations, conferences, notes

## How

### Web Interface

Login from your browser and explore all the features

### Command Line

Use our command line client to automate the preservation process and make it part of your everyday work cycle

### RESTful Interface

Integrate CERN Analysis Preservation with your existing services and tools by using our REST API

## Who

### Researchers

It doesn't matter on which stage of your analysis you are, it's never too early or too late to preserve your work

### Collaborators

Share your work with others and invite them to contribute

### Reviewers

Access analyses and all their components from one central place

### Students

Search through older analyses, share with your supervisors, and preserve your work so that it never gets lost



# DASHBOARD

Intro page: overview of work done and shared with the user

Login through CERN

Anyone with a CERN account can login. Depending on the e-groups in his account - content and experience can vary

The screenshot shows the CERN Analysis Preservation dashboard. At the top left is the CERN logo and 'Analysis Preservation' text. A search bar contains the text 'from EXO group see all drafts search for muon by TOP group all my published analysis from QCD my drafts higgs boson proton-proton MET electron drafts shared with me jet higgs vertex T quark pair harvested from CADI and not edited yet all from HIG group'. A '+ Create' button is in the top right. Below the search bar are two main sections: 'Draft Documents' and 'Published Documents in CAP'. The 'Draft Documents' section lists five items, including 'TEST with ML' and 'TEST: Search for a new scalar resonance...'. The 'Published Documents in CAP' section lists five items, including 'testemptyreq' and 'alice-test'. A 'Your Collections' section shows various analysis categories like 'ALICE Analysis' and 'ATLAS Analysis'. A footer contains copyright information and an 'Admin' button.

**Search** (points to search bar)

**Create new content** (points to + Create button)

**Quick search** (points to search results)

**Created and shared drafts** (points to Draft Documents list)

**Collections user can see** (points to Your Collections list)

**Created and shared content freezed and versioned to the collaboration** (points to Published Documents in CAP list)

# ADVANCED SEARCH

[Check tips on how to search](#)

Status:  Drafts

Created by:  All

- Collection**
- CMS Analysis 2627
  - CMS Statistics Questionnaire 234
  - ATLAS Analysis 19
  - LHCb Analysis 8
  - ALICE Analysis 6
  - FASER Analysis 3
- Interpretation**
- Simplified Model Spectrum 213
  - Generator and simulation tuning 146
  - Combination 109
  - Effective Field Theory 97
  - Standard Model Fits inc. PDFs 94



- Final States**
- Muon 892
  - Electron 689
  - Di-lepton; opposite charge 628
  - Jets: B-jets 566
  - Missing energy/invisible 525
  - Z boson 393
  - Higgs bosons 383
  - Jets: 2 jets 379
  - Jets: all hadronic 319
  - Single lepton 319
  - W boson 310

2897 Results Newest First

**Drell-Yan angular coefficients**  
 cms-analysis  30 August 2023  SMP-23-007  
 Updated 59 minutes ago

**Search for long-lived particles decaying into displaced jets**  
 cms-analysis  6 July 2023  EXO-23-013  
 Updated 59 minutes ago

**Pseudorapidity distributions of charged hadrons in PbPb collisions at 5.36 TeV**  
 cms-analysis  15 June 2023  HIN-23-007  
 Updated 59 minutes ago

**Search for  $Z^* \rightarrow h/H A \rightarrow 4\tau$**   
 cms-analysis  12 May 2023  SUS-23-007  
 Updated 59 minutes ago

**Performance of heavy flavour jet identification in boosted topologies with full Run2 data**  
 cms-analysis  27 September 2022  BTV-22-001  
 Physics measurements in the highly Lorentz-boosted regime, including the search for the Higgs boson or beyond standard model particles, are a critical part of the LHC physics program. In the CMS Collaboration, various boosted-jet tagging algorithms, designed to identify hadronic jets originating from a massive particle decaying to  $b\bar{b}$  or  $c\bar{c}$ , have been...  
 Updated 59 minutes ago

**First measurement of the top quark pair cross section at 13.6 TeV**  
 cms-analysis  15 July 2022  TOP-22-012

**SM Analysis Characteristics**

- Measurement
- Cross Section
- Couplings and/or properties
- Rare Production and Decays
- Mass and/or width
- Spectroscopy

**CMS Working Group**

- EXO
- HIG
- TOP
- SUS
- SMP
- HIN
- BPH
- B2G
- FTR
- QCD
- EWK

**Physics Objects**

- jet 8
- muon 9
- electron 3
- vertex 3
- MET 3
- photon 3
- tau 2
- bjet 1
- track 1

**Final States**

- Muon 892
- Electron 689
- Di-lepton; opposite charge 628
- Jets: B-jets 566
- Missing energy/invisible 525
- Z boson 393
- Higgs bosons 383
- Jets: 2 jets 379
- Jets: all hadronic 319
- Single lepton 319
- W boson 310

**Further Search Categorization**

- New Resonances 303
- Supersymmetry 233
- Additional Higgs bosons 156
- Extra Dimensions 154
- Supersymmetry; Squarks and gluinos 121
- Supersymmetry; Stops and sbottoms 106
- Dark Matter & Dark sector 100
- Heavy additional fermions 80
- Compositeness 77
- Supersymmetry; Charginos; neutralinos; winos; h... 57
- Long-lived particles 56

**CADI Status**

- PUB 1241
- PAS-only-PUB 702
- AWG 120
- Completed 108

**How to Search**

To perform a free text search, simply enter a text string. This will search for given terms in the whole document	<code>validation data 2011</code>
To make more detailed query ask for terms in a specific fields	<code>object:electron</code>
To point to nested fields use <code>.</code> operator or one of many available aliases	<code>researcher reviewer ananote arxiv status keyword dataset trigger object</code>
To make your query more generic, use wildcards: <code>?</code> for a single character <code>*</code> for multiple ones	<code>/DoubleMu*/*/AOD</code>
To search for terms contatining special characters escape them with <code>/</code>	<code>* ? . : ! ( ) [ ] " ~</code>
To search for a range of dates, put them in brackets, using the keyword <code>TO</code> between them. The dates follow the <code>YYYY-MM-DD</code> standard.	<code>deadline: [2018-01-20 TO 2020-02-01]</code>





# COLLECTION PAGE

- ▶ quick link and overview of each collection
- ▶ detailed page, with extra guides and information
- ▶ collection permissions overview

## FAKER Analysis

[faser](#)

No Description

---

### Read me

This is a **guide** written to explain in more detail how to use this collection

**Useful links and guides:**

- [What to do before you start here](#)
- [Literature on analysis](#)

**Creation**

Steps for new analysis:

1. Create a form from the "+ Create" button in the header
2. Make sure to give a nice title , so it is easily separated from other analysis in the search page 3 .....

All Versions ▾

- All Versions
- 0.0.1
- 0.0.11
- 0.0.12
- 0.0.11
- 0.0.14
- 0.0.19
- 0.0.15
- 0.0.17

### Read me

This is a **guide** written to explain in more detail how to use this collection

**Useful links and guides:**

- [What to do before you start here](#)
- [Literature on analysis](#)

**Creation**

Steps for new analysis:

1. Create a form from the "+ Create" button in the header
2. Make sure to give a nice title , so it is easily separated from other analysis in the search page

#### Latest Drafts

[all](#) [yours](#)

<b>new fas</b>	updated
No abstract provided	10 months ago
<b>h</b>	updated
No abstract provided	1 year ago
<b>new</b>	updated
No abstract provided	1 year ago
<b>Test Test Test 2</b>	updated
No abstract provided	1 year ago
<b>test test test SDT</b>	updated
No abstract provided	1 year ago

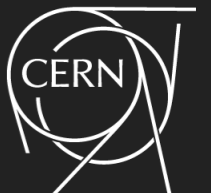
#### Latest F

<b>fas re</b>	No abs
<b>FAS v</b>	No abs
<b>FASEF</b>	No abs
<b>faser</b>	No abs
<b>faser :</b>	No abs

#### Permissions

User	Type	Read	Create	Review	Update	Admin
faser-all@cern.ch	🔗	<span style="border: 1px solid blue; padding: 2px;">D</span> <span style="border: 1px solid purple; padding: 2px;">P</span>	×	×	×	×
faser-cap-admin@cern.ch	🔗	<span style="border: 1px solid blue; padding: 2px;">D</span>	<span style="border: 1px solid blue; padding: 2px;">D</span>	×	<span style="border: 1px solid blue; padding: 2px;">D</span>	<span style="border: 1px solid blue; padding: 2px;">D</span>

< 1 >





# RECORD EDITOR/PREVIEW

## Overview of the draft

The screenshot displays the CERN Analysis Preservation Record Editor/Preview interface. The interface is divided into several sections:

- Header:** CERN Analysis Preservation logo, search bar, and navigation links (+ Create, ? FAQ, Account).
- Left Sidebar:** Draft navigation menu with options: Overview, Edit, Connect, Workflows, and Settings.
- Main Content Area:**
  - Metadata:** Includes revision count (11), users/roles (2), repositories (2), files (7), and schema version (0.0.1). It features an "Edit" button and a "Show More" button. A red arrow points to this section with the label "Metadata edit/preview".
  - Full reproducibility mode:** A section with a text input field and a description: "please turn this mode on if you want to capture additional information about main and auxiliary measurements, systematic uncertainties, background estimates, final state particles".
  - Basic Information:** A section with a text input field for "CADI ID" (e.g., JME-10-107) and an "AutoFill" button. A red arrow points to this section with the label "Overview of connected repositories".
  - Connected Repositories:** A list of repositories with their names and associated actions (e.g., "on Push", "on Release/Tag"). A red arrow points to this section with the label "Overview of connected repositories".
  - Uploaded Repositories:** A list of repositories (github.com, gitlab.cern.ch).
- Right Panel:**
  - General Info:** A table with fields: ID, Collection (CMS Analysis v0.0.1), Status (draft), Creator (pamfilos.fokianos@cern.ch), Published URL (Not published yet), Created (3 years ago), and Last Updated (4 weeks ago). A red arrow points to this section with the label "General Info".
  - Files & Repositories:** A section with tabs for Files, Data, and Repos. It lists files (Screen Recording..., Screenshot 2021-0..., Screenshot from 2..., test (1).txt) and repositories (github.com, gitlab.cern.ch). A red arrow points to this section with the label "Files & Repositories".

# RECORD EDITOR/PREVIEW

## Metadata Editor

Metadata editor, built by the underlying JSON-schema. It is also responsible for data validation - very customisable

**Metadata editor**

Search

+ Create ? FAQ Account

Demo analysis

Overview

Edit

Connect

Workflows

Settings

Edit Preview

Reuse Mode

Basic Information

Information from CADI databa...

Input Data

N-tuples Production

Additional Resources

Test one

Conclusion

con

Analysis Notes

No Items added

Add Item

Analysis Keywords

Accelerator Parameters  
(will be ORed inside this category)

7 TeV

Collision system  
(will be ORed inside this category)

p-p

Final states  
(will be ORed inside this category)

Jets: 2 jets Jets: all hadronic Detector performance

Further categorisation Heavy Ion results  
(will be ORed inside this category)

Save

ID	9a7f1bad7e734dce8573c7c15119c2ea
Collection	CMS Analysis v0.0.1
Status	draft
Creator	pamfilos.fokianos@cern.ch
Published URL	Not published yet
Created	3 years ago
Last Updated	4 weeks ago

Files | Data | Repos

All Files

Screen Recording...12.18.mov	1.44 MB
Screenshot 2021-0...23.15.jpg	185 KB
Screenshot from 2...-20-37.png	238 KB
test (1).txt	20 B

testdir

All Repositories

- github.com
- gitlab.cern.ch

Admin

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# RECORD EDITOR/PREVIEW

Feature: Suggestions & Auto-completes

Automated fetching from experiment DBs/APIs/other sources

CADI ID \*  
e.g. JME-10-107

JME-10-007 AutoFill



**Information from CADI database**  
Automatically taken from CADI, based on CADI ID

**Name**  
HCAL Commissioning in pp Collisions at sqrt{s}=7 TeV

**Description**  
HCAL Commissioning in pp Collisions at sqrt{s}=7 TeV

**Contact Person**  
chlebana@fnal.gov

**Twiki**  
NO URL

**Created**  
2010-04-21

**Paper**

**PAS**  
<http://cms.cern.ch:80/iCMS/analysisadmin/get?analysis=JME-10-007-pas-v2.pdf>

**Publication Status**

**Status**  
SUPERSEDED

# RECORD EDITOR/PREVIEW

Feature: Suggestions & Auto-completes

Batch imports

### Provide a pattern to fetch available paths

Fetch from URL    Add list manually

Insert your pattern e.x /dataset/\*

Fetch

Cancel    Import

### Provide a pattern to fetch available paths

Fetch from URL    Add list manually

`/*Comm*2017*/*`    Fetch

- /AlCaLumiPixels/Commissioning2017-LumiPixels-PromptReco-v1/ALCARECO
- /BTagCSV/Commissioning2017-23Jun2017-v1/AOD
- /BTagCSV/Commissioning2017-23Jun2017-v1/MINIAOD
- /Charmonium/Commissioning2017-23Jun2017-v1/AOD
- /Charmonium/Commissioning2017-23Jun2017-v1/MINIAOD
- /Cosmics/Commissioning2017-CosmicSP-PromptReco-v1/RAW-RECO
- /Cosmics/Commissioning2017-CosmicTP-PromptReco-v1/RAW-RECO
- /Cosmics/Commissioning2017-DtCalibCosmics-PromptReco-v1/ALCARECO
- /Cosmics/Commissioning2017-HcalCalHOCosmics-PromptReco-v1/ALCARECO
- /Cosmics/Commissioning2017-LogError-PromptReco-v1/RAW-RECO

Cancel    Import

### analysis\_contacts-1

Description: Analysis Contact    Person (user): Jamie Boyd (jamie.boyd@cern.ch, EP/ADE)

### analysis\_contacts-2

Description: Paper Editor    Person (user): Deion Elgin Fellers (dfellers@uoregon.edu, EP/UHC)

### analysis\_contacts-3

# RECORD EDITOR/PREVIEW

Feature: Link with other documents

- make queries with nested data
- customisable
- same/different collection documents
- goal: split/compact forms, easy submission

[✎ Editable](#) [👁 Published](#)

## 1. Analysis Context

### 1.1 Your name

Please insert the name of the person filling up the questionnaire.

### 1.2 Your email address

### ML Questionnaire

Link here your Questionnaire from the Machine Learning (ML) team

CMS Machine Learning Questionnaire **TEST: Search for a new scalar resonance decaying to a pair of Z bosons** [🔗](#) [👁](#) [🗑](#)  
No description

### 1.3. Working group

PAG/POG identifier

### ML Questionnaire

Link here your Questionnaire from the Machine Learning (ML) team

### 1.4. CADI entry number

If a CADI entry is available  
CADI entry is available

### 1.5. Title and reference

If you don't have a CADI entry

**TEST: Search for a new scalar resonance decaying to a pair of Z bosons**  
  
It is all, nothing more 😞

# RECORD EDITOR/PREVIEW

Feature: Sharable links for fields

[https://cap-test.cern.ch/drafts/302cc66fdd8f4d8baad79f587d99a718/edit#root::cadi\\_info::twiki](https://cap-test.cern.ch/drafts/302cc66fdd8f4d8baad79f587d99a718/edit#root::cadi_info::twiki)

Publication Status

Basic Information

Information from CADI dat...

Input Data

N-tuples Production

Additional Resources

### Information from CADI database

Automatically taken from CADI, based on CADI ID

**Name**

Elliptic Flow of D0 using Event Shape Engineering in Pb-Pb Collisions at 5.02 TeV

**Description**

#17

**Contact Person**

chand140@purdue.edu

**Twiki**

<https://twiki.cern.ch/twiki/bin/viewauth/CMS/DOESE>

**Created**

2024-06-25

**Paper**

**PAS**

**Publication Status #**

**Status**

# RECORD EDITOR/PREVIEW

Features to help in usability - e.g LaTeX exporter

Reuse Mode

Basic Information

Information from CADI databa...

**Input Data**

N-tuples Production

Additional Resources

### Input Data

Please list all datasets and triggers relevant for your analysis here

#### Primary Datasets

Please list all primary datasets here

/AlCaLumiPixels/Commissioning2015-LumiPixels-PromptReco-v1/ALCARECO	↑ ↓	🗑
/AlCaLumiPixels/Commissioning2017-LumiPixels-PromptReco-v1/ALCARECO	↑ ↓	🗑
/BarrelMuon/Commissioning08-EW35_3T_v1/RECO	↑ ↓	🗑

#### Monte Carlo Signal Datasets

Please list all Monte Carlo Signal datasets

mc\_sig\_datasets-0\*

▼

#### Monte Carlo Background Datasets

Please list all Monte Carlo Background datasets

📁

No Items added

```
1
2 \usepackage{tabularx}
3
4 \begin{tabularx}{10cm}{|X|}
5 \hline
6
7 \textbf{Primary Datasets} \\ \hline
8 /AlCaLumiPixels/Commissioning2015-LumiPixels-Pr
9 /AlCaLumiPixels/Commissioning2017-LumiPixels-Pr
10 /BarrelMuon/Commissioning08-EW35\_3T\_v1/RECO \
11
12 \hline
13 \end{tabularx}
14
```

Close Copy to clipboard

# RECORD EDITOR/PREVIEW

Files/Repositories: File upload - versioning, tagging

The screenshot displays the CERN Analysis Preservation interface. At the top, there is a search bar and navigation links for 'Create', 'FAQ', and 'Account'. The main content area is divided into several sections:

- File Upload:** A modal window for uploading files. It includes a 'Click or drag file to this area to upload' instruction, a filename field (CAP-slidedeck.key, 17.9 MB), an upload directory field (/presentations/2023/), and two tag fields (type: presentation, category: general). There are 'Cancel' and 'Upload' buttons.
- File Overview:** A central area showing 'No Items added' with an 'Add Item' button. A red arrow points to this area with the text 'File overview (uploaded versions, etc)'.
- File Info:** A modal window showing details for 'Screenshot 2021-03-09 at 16.23.15.jpg'. It lists two versions with their MD5 hashes, dates, and sizes. The first version is marked as 'latest'.
- Metadata Panel:** A panel on the right showing metadata for the current file, including ID, Collection (CMS Analysis v0.0.1), Status (draft), Creator (pamfilos.fokianos@cern.ch), Published URL, Created (3 years ago), and Last Updated (4 weeks ago). Below this is a list of files and repositories.

ID	9a7f1bad7e734dce8573c7c15119c2ea
Collection	CMS Analysis v0.0.1
Status	draft
Creator	pamfilos.fokianos@cern.ch
Published URL	Not published yet
Created	3 years ago
Last Updated	4 weeks ago

All Files		
Screen Recording...12.18.mov	1.44 MB	
Screenshot 2021-0...23.15.jpg	185 KB	
Screenshot from 2...-20-37.png	238 KB	
test (1).txt	20 B	
testdir		
All Repositories		
github.com		

MD5 Hash	Version	Date	Size	Actions
md5:b542a7dce9067d013076f2bfe202a37f	latest	19 January 2022	185 KB	🔗
md5:d85e53fcbbeab6cc3c2b7a527d51e874		9 April 2021	512 KB	🔗



# RECORD EDITOR/PREVIEW

## Files/Repositories:

**CERN Analysis Preservation** Search + Create ? FAQ Account

← Demo analysis ↗

- Overview
- Edit
- Connect**
- Workflows
- Settings

### Repositories

**Download** a snapshot of repository, that you'd like to preserve with your analysis. You can point to the whole repo, specific branch or even a single file - whatever your analysis needs. Some repositories are private or restricted for CERN users only (like all the repos in CERN Gitlab) - to download those you need to connect your Github/Gitlab account first

**Connect** repositories with analysis that are still in progress, to keep them in sync. We'll make a new snapshot on any changes pushed in this repository. This way your analysis will be always up to date with your code. Keep in mind that you cannot connect to public repositories (owner has to give you a specific access to do that).

### Add new repository

Github/Gitlab URL

Please provide a valid Github/Gitlab repository or file URL

### Connected Repositories

> analysispreservation/nginx-ui	on Tag/Release	master	🔗
> cernanalysispreservation/cap-logos	on Tag/Release		🔗

ID	9a7f1bad7e734dce8573c7c15119c2ea 🔗
Collection	CMS Analysis v0.0.1
Status	draft
Creator	pamfilos.fokianos@cern.ch
Published URL	Not published yet
Created	3 years ago
Last Updated	4 weeks ago

Files | Data | Repos C +

### Add new repository

Github/Gitlab URL

https://github.com/cernanalysispreservation/analysispreservation.cern.ch

You have selected the following repository:

cernanalysispreservation/analysispreservation.cern.ch

Upload a specific file and not the whole repo:  Branch/Ref:

Upload snapshot of repository

Upload

Upload and preserve the current snapshot of a repository on a branch, release/tag or ref

Automatically Upload on release

Upload onRelease

Create a webhook and give us permission to automatically upload a snapshot of a repository, when a new version is released or a tag is created

Automatically Upload on push event

Upload onPush

Create a webhook and give us permission to automatically upload a snapshot of a repository, when a push event takes place

# RECORD EDITOR/PREVIEW

## Reviews

1.2 Your email address

1.3 We have received your request

**Reviews** Add Review

Resolved [analysis.submitter@cern.ch](mailto:analysis.submitter@cern.ch) changes requested

test

[pamfilos.fokianos@cern.ch](mailto:pamfilos.fokianos@cern.ch) changes requested

please also update "input data"

Resolve 🗑️

**Add new Review** ✕

\* Review Type

Approve **Request Changes** Decline

\* Review Comment

please change .... |

Cancel Submit Review

Add Review

---

## ADMIN AREA

- ▶ area for collection administrators (eg experiment coordinators)
- ▶ manage forms - content/metadata collected by the users
- ▶ manage notifications config - send customised emails when a specific action is taking place (eg when a entry is published, when a review happens, on file upload, etc)
- ▶ control collection permissions - admins can give read, write, review, publish rights to users and egroups, without having to go through the CAP team

# ADMIN AREA – METADATA/FORMS

- ▶ area for collection administrators (eg experiment coordinators) to
- ▶ create/update their forms - content/metadata collected by the users

The screenshot shows the 'Form Builder' interface for the 'CMS Statistics Questionnaire'. It is divided into four main sections:

- Field types:** A grid of UI components including Object, List, Accordion, Tab, Layer, Text, Text area, Number, Checkbox, Switch, Radio, Select, and Date.
- Schema tree:** A hierarchical view of the questionnaire structure, showing sections like 'analysis\_context', 'general\_information', 'multivariate\_discriminants', 'ml\_app\_use', 'ml\_survey', 'data\_fitting', 'confidence\_intervals\_limits', 'discovery', and 'unfolding'.
- Preview:** A list of sections to be rendered, including '1. Analysis Context', '2. General Information', '3. Multivariate Discriminants...', '3.a Use of ML Applications', '3.b Optional ML Survey', '4. Data Fitting', '5. Confidence intervals and li...', '6. Discovery', '7. Unfolding', '8. Systematic Uncertainties', '9. Parton Distribution Functions', '10. Other Statistics-related It...', and '11. Comments and feedback'.
- Preview (Detailed):** A detailed view of the '1. Analysis Context' section, showing fields for '1.1 Your name', '1.2 Your email address', '1.3. Working group', '1.4. CADI entry number, if available', and '1.5. Title and references (if CADI number...)'.

## Create your form dynamically

The interface is divided into three main options for creating a form:

- Create your own schema:** A form with fields for '\* Name' and '\* Description', and a 'Submit' button.
- Import your own JSON:** A section with a 'Browse Files' button, an 'OR' option, and a 'Drop your JSON file here' area.
- Select a pre-defined schema:** A grid of buttons for pre-defined schemas: ALICE Analysis, ATLAS Analysis, CMS Analysis, CMS Statistics Questionnaire, FASER Analysis, and LHCb Analysis.

The screenshot shows the 'Field settings' and 'Schema Diff' interface. The 'Field settings' panel on the left shows the configuration for the '6. Discovery Section' field, including its title and description. The 'Schema Diff' panel on the right shows a comparison of the schema between two versions, highlighting changes in the '6. Discovery Section' field. The diff shows that the field's title is '6. Discovery Section' and its description is 'This is the discovery section'.

# ADMIN AREA – NOTIFICATION

- ▶ Create/update notifications - send customised emails when a specific action is taking place (eg when a entry is published, when a review happens, on file upload, etc)

The screenshot displays the CERN Analysis Preservation Admin Area. The main interface shows a sidebar with 'Notification categories' including 'publish' and 'review'. The main content area is titled 'publish notifications' and contains two notification cards, 'Notification #1' and 'Notification #2', each with a 'See more' button. Below the cards, there is a checkbox labeled 'Plain text or HTML' which is checked.

Overlaid on the main interface is a modal window titled 'Customize Current Template'. It includes an 'Email Subject' field with the value 'Customize Current Template'. The 'Template string (Jinja format)' field contains the following Jinja code:

```
Questionnaire for {{ cadid_id if cadid_id else "" }} {{ published_id if published_id else "" }} of Published Analysis" if revision > 0 else "New Published Analysis Preservation
```

Another modal window titled 'recipients-0' is also overlaid, showing 'Mails' configuration. It includes a 'Default' section with a '+ New Tag' button, a 'Formatted' section, and a 'Mail' section. The 'Mail' section contains a 'Template' field with the value: `{% if cadid_id %}hn-cms-{{ cadid_id }}@cern.ch{% endif %}`. Below this is a 'Context (ctx) Options' section with a dropdown menu set to 'Manual params'. Under 'Manual params', there are two fields: 'Variable name' with the value 'cadi\_id' and 'Variable Path' with the value 'analysis\_context / cadi\_id'.

At the bottom of the page, the footer text reads: 'Copyright 2023 © CERN. Created & Hosted by CERN. Powered by Invenio Software. About Policy'.

# ADMIN AREA – PERMISSIONS

- ▶ Control collection permissions - admins can give read, write, review, publish rights to users and e-groups, without having to go through the CAP team

The screenshot shows the 'Permissions' page in the Admin Area. The main page has a navigation bar with 'Admin Home Page', 'Form Builder', 'Notifications', 'Settings', 'Export Schema', 'Diff', and 'Save updates'. The left sidebar shows 'Collection settings' and 'Permissions'. The main content area is titled 'Permissions' and includes an 'Edit' button and an 'Add' button. Below the title, there is a description: 'Here you can manage access to your cms-mi-questionnaire (0.0.2) collection. You can determine who can perform specific action for both states of your document (draft/published)'. Below the description, there are 'Actions' buttons: 'read', 'create', 'update', 'admin', and 'review'. A table lists users and their permissions for 'Read', 'Create', 'Review', 'Update', and 'Admin'.

User	Read	Create	Review	Update	Admin
pamfilos.fokianos@cern.ch		<input type="checkbox"/>			
pietro.vischia@cern.ch	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

The modal window is titled 'Permissions' and has a 'Close' button. It contains a search bar with the text 'cms-mem' and a 'Search for:' dropdown menu with 'Users' and 'E groups' options. Below the search bar, there is a table listing users and their permissions for 'Read', 'Create', 'Review', 'Update', and 'Admin'.

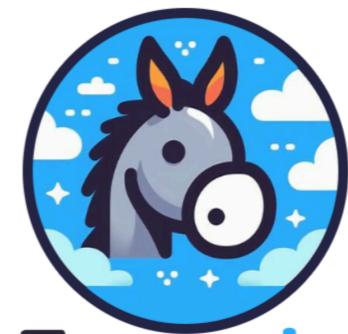
User	Read	Create	Review	Update	Admin
cms-members@cern.ch	<input type="checkbox"/> <input type="checkbox"/>	<input type="checkbox"/> <input type="checkbox"/>	<input type="checkbox"/> <input type="checkbox"/>	<input type="checkbox"/> <input type="checkbox"/>	<input type="checkbox"/> <input type="checkbox"/>
cms-members-admins@cern.ch	<input type="checkbox"/> <input type="checkbox"/>	<input type="checkbox"/> <input type="checkbox"/>	<input type="checkbox"/> <input type="checkbox"/>	<input type="checkbox"/> <input type="checkbox"/>	<input type="checkbox"/> <input type="checkbox"/>
cms-members-cern-admin@cern.ch	<input type="checkbox"/> <input type="checkbox"/>	<input type="checkbox"/> <input type="checkbox"/>	<input type="checkbox"/> <input type="checkbox"/>	<input type="checkbox"/> <input type="checkbox"/>	<input type="checkbox"/> <input type="checkbox"/>
cms-members-cern-fell@cern.ch	<input type="checkbox"/> <input type="checkbox"/>	<input type="checkbox"/> <input type="checkbox"/>	<input type="checkbox"/> <input type="checkbox"/>	<input type="checkbox"/> <input type="checkbox"/>	<input type="checkbox"/> <input type="checkbox"/>

# REACT-FORMULE

- ▶ JSON-schema builder, form builder, form rendered, data validation
- ▶ Open source
- ▶ Standalone tool
- ▶ First npm release happened ~ Q2 '24
- ▶ To be used as replacement for our main code-base in CAP

<https://github.com/cern-sis/react-formule>

DEMO: <https://cern-sis.github.io/react-formule/>



## Formule

### 🐴 What is Formule?

Formule is a **powerful, user-friendly, extensible and mobile-friendly form building library** based on [JSON Schema](#) and [RJSF](#), which aims to make form creation easier for both technical and non-technical people.

It originated from the need of a flexible tool for physicists at CERN to create their custom forms in the [CERN Analysis Preservation](#) application (a process that was originally done by the CAP team who had to manually define the JSON schemas for every member experiment) in a zero-code fashion. This tool proved to be very useful for us to more easily scale and expand, reaching a wider audience here at CERN. So, we thought it could also be useful for other people and decided to decouple it from CAP and release it as an open source library.

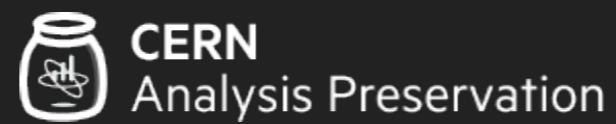
## WHAT'S NEXT?

- ▶ Better metadata/file retention (back up) - tapes with use of SIP (Submission Information package)
- ▶ Promote "admin area" to coordinators, preservation heads, admins etc
- ▶ Onboard more experiments and smaller WG
- ▶ Document/file previewers - editors
- ▶ Add search configurations to admin (aggregations, filters, etc)

## LANDSCAPE PROJECT

- ▶ Aim for CAP to be used by small experiments
- ▶ Collect/ landscape project features/ requirements
- ▶ Authors collection - example use case
  - ▶ example author collections (searching, export to CSV, XMLs, etc)
- ▶ Other CAP features to be further developed:
  - ▶ Review process





Web: <https://analysispreservation.cern.ch>

Github: <https://github.com/cernanalysispreservation>

Email: [analysis-preservation-support@cern.ch](mailto:analysis-preservation-support@cern.ch)



# CERN ANALYSIS PRESERVATION

Documentation section

## Documentation



### User Guide

Find out how you can use the CAP service to capture, preserve and reuse your analysis through user guides and stories

General Docs



### CLI Client

Learn how to interact with your analysis workspace via the command line interface, to make the preservation process part of your everyday work.

CAP-client Guide



### RESTful API

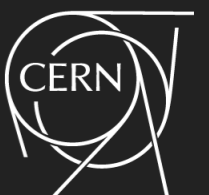
Try using our RESTful interface, to integrate CAP with your daily tools and services using HTTP requests.

API Guides & Docs

<https://analysispreservation.cern.ch/docs/general/>

<https://analysispreservation.cern.ch/docs/api/>

<https://analysispreservation.cern.ch/docs/cap-client/>



**THANK YOU**

