Semester Summary

Anil Panta

Defended Prospectus

- Measurement of Branching fraction for $\Xi_c^+ \rightarrow \Sigma^+ \pi^+ \pi^-$
- Measurement of $A_{CP}(\Xi_c^+ \rightarrow \Sigma^+ \pi^+ \pi^-)$
- Dalitz plot analysis.

OZAKI Fellowship

- Finished all the logistic relating to Olemiss.
- Planning for the start of Fall Semester.
- Depends upon travel restriction.

Dataset searcher tools:

1. gb2_ds_searcher_create
2. gb2_ds_searcher_update
3. gb2_ds_searcher_delete

- gb2_ds_search

- gb2_prod_show_metadata

Pull Request[‘Done’] 3 Approval, 1 left

Linked confluence page to --usages

On the verge of [‘Merge’]

Dataset Searcher handler returning requests in chunks. BIIDCD-1005

- Implementation ready for webapp side.
- Will implement on command line tool after the tools is merged.

BIIDCD-781	gb2_se_list to check SE Access status in RSS instead of that in CS	
BIIDCD-902	gb2_ds_list displaying only files with status 'good' in metadata	
BIIDCD-948	b2dc_se_surl displaying full SURL of SE.	
BIIDCD-994	Transfer data-searcher tools to gb2_tools.	
BIIDCD-1005	Dataset Searcher handler returning requests in chunks.	
BIIDCD-1003	Dataset searcher querying description for signal datasets	

Working in 6 JIIRA ticket.

- 4 in PR
- 1 half Done
- 1 just started

Two Expert Shift

1 Training for CR shift

Physics Work:

- Worked on Signal MC of Ξ_C^+
- Made some progress .

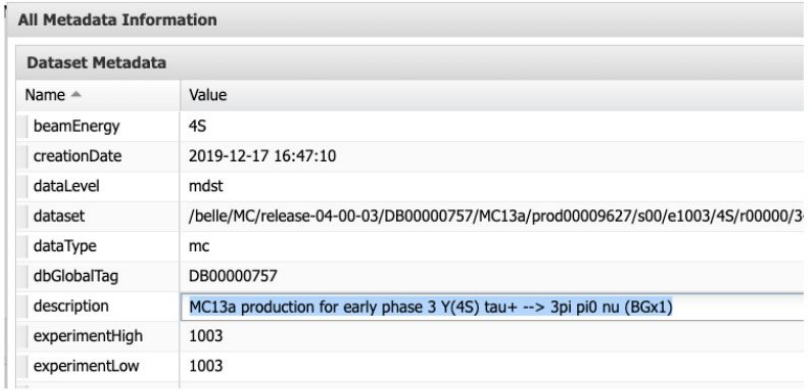
- Amplitude analysis on Xi2lambdaKpi no progression yet.

Plans for Summer:

- More Focus on Physics Analysis
- Development work will go on.

Dataset searcher querying description.

- **Description of datasets**
  - Useful information for analysis is (will be) encoded in the description of datasets (channel, int luminosity, bkg overlay).
  - We are aiming for a smart way of using such information (BIIDCD-1003). Several possibilities:
    - Queries in strings.
    - Elasticsearch.
    - Not using the description. Extend AMGA attributes instead.



All Metadata Information

Dataset Metadata

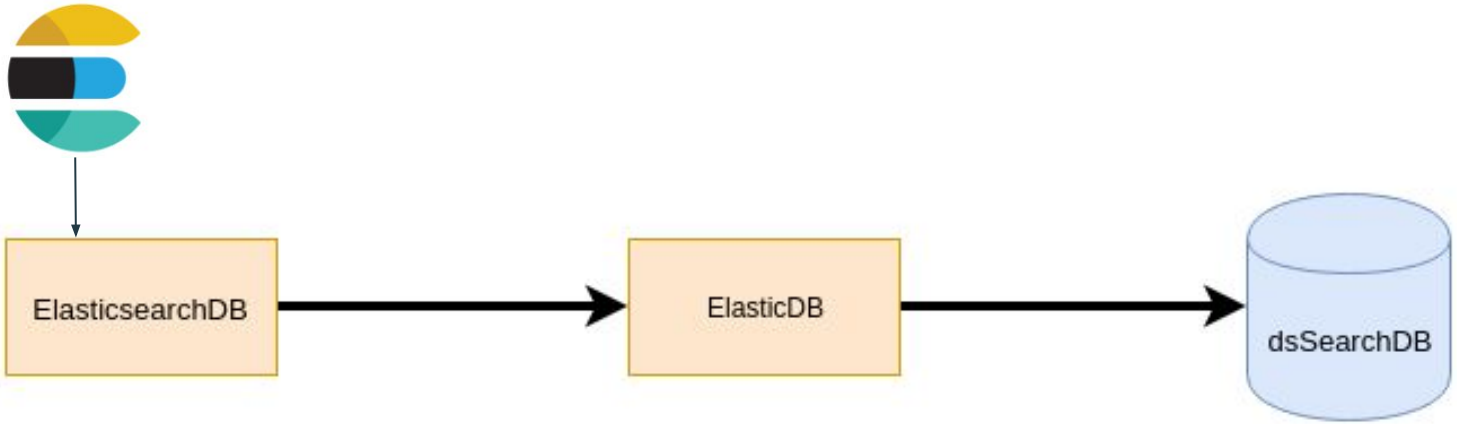
Name	Value
beamEnergy	4S
creationDate	2019-12-17 16:47:10
dataLevel	mdst
dataset	/belle/MC/release-04-00-03/DB00000757/MC13a/prod00009627/s00/e1003/4S/r00000/3
dataType	mc
dbGlobalTag	DB00000757
description	MC13a production for early phase 3 Y(4S) tau+ --> 3pi pi0 nu (BGx1)
experimentHigh	1003
experimentLow	1003

Study of possibility of using Elasticsearch

Elasticsearch:

- Full-text, distributed NoSQL database
- Restful API
- Scalability

Make Elastic DB in DIRAC

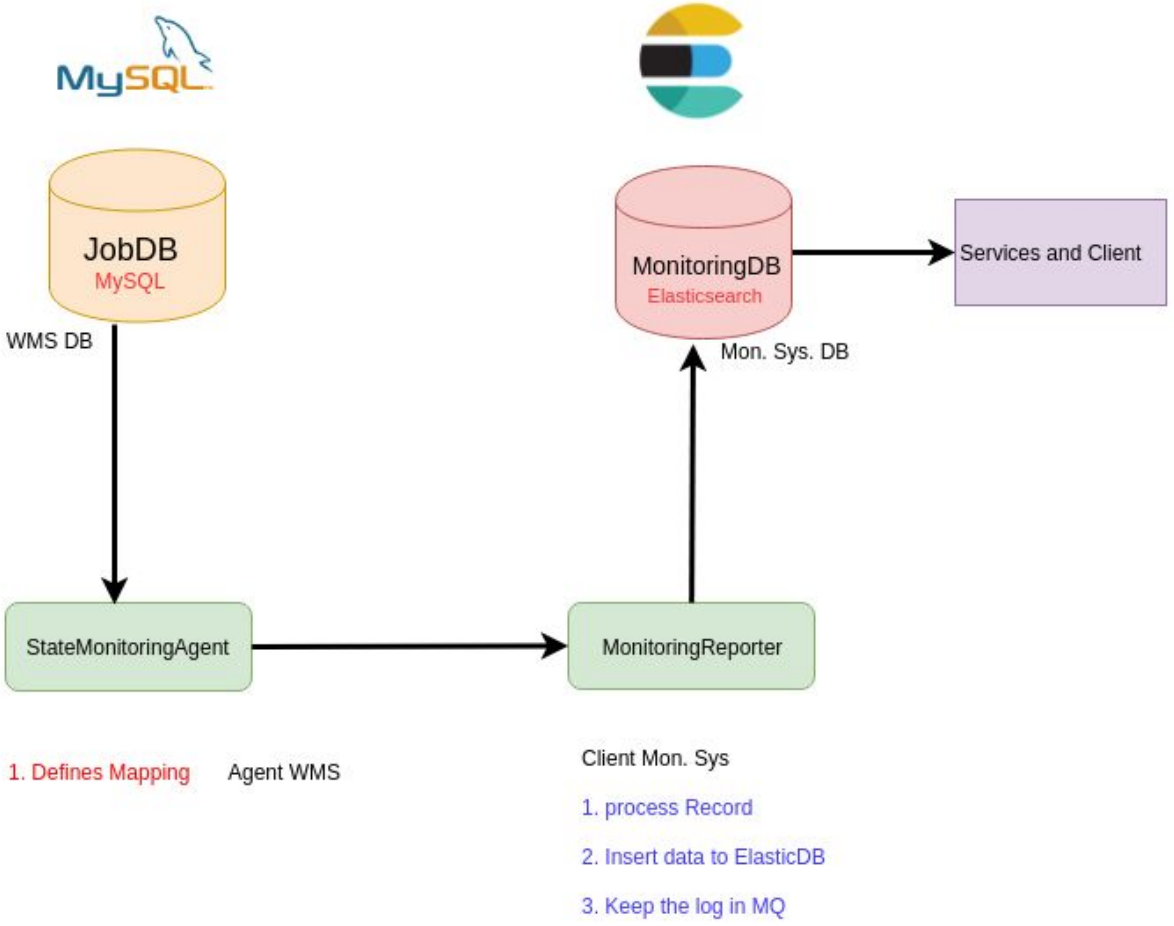


1. Wrapper around Elasticsearch-py
2. Quey the Elastic Database

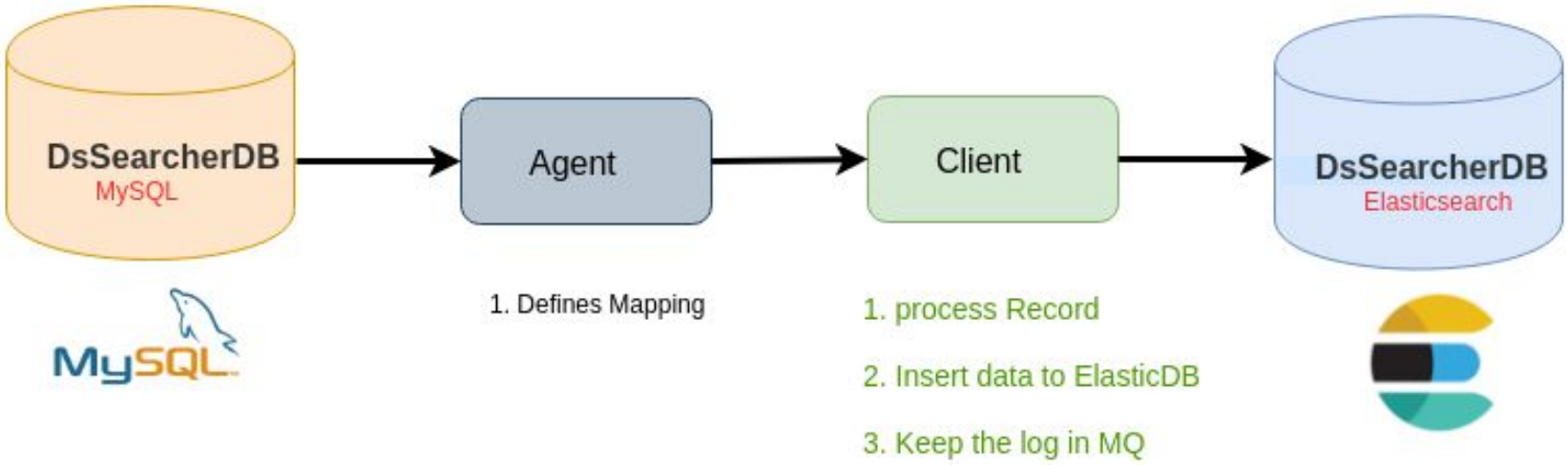
1. Base class used to connect an Elasticsearch database
2 . manages queries

1. front-end to the main Elastic database

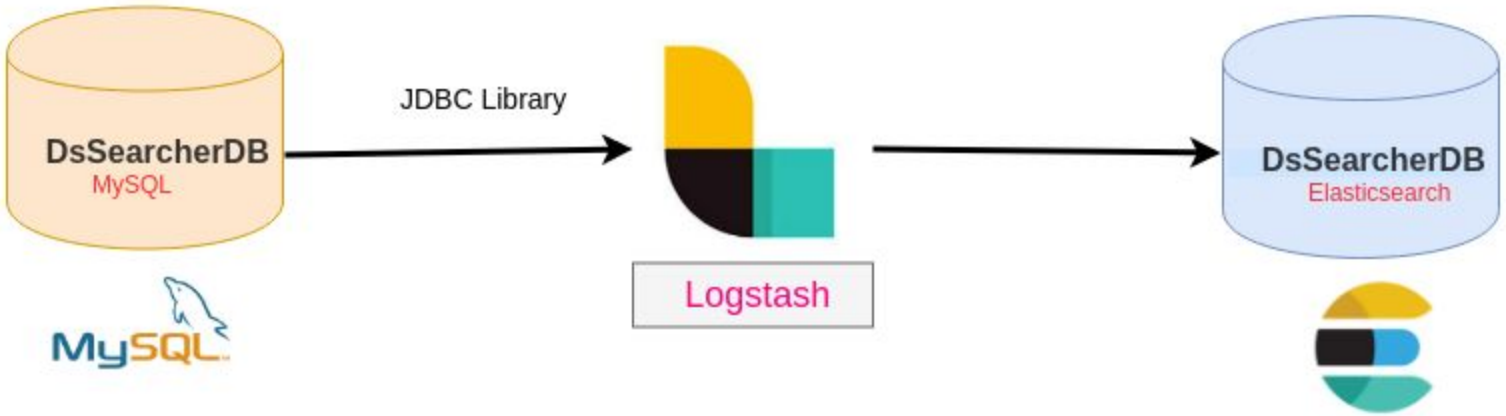
Example:


MySQL
JobDB
MySQL
WMS DB
MonitoringDB
Elasticsearch
Mon. Sys. DB
Services and Client
StateMonitoringAgent
MonitoringReporter
1. Defines Mapping
Agent WMS
Client Mon. Sys
1. process Record
2. Insert data to ElasticDB
3. Keep the log in MQ

Idea:

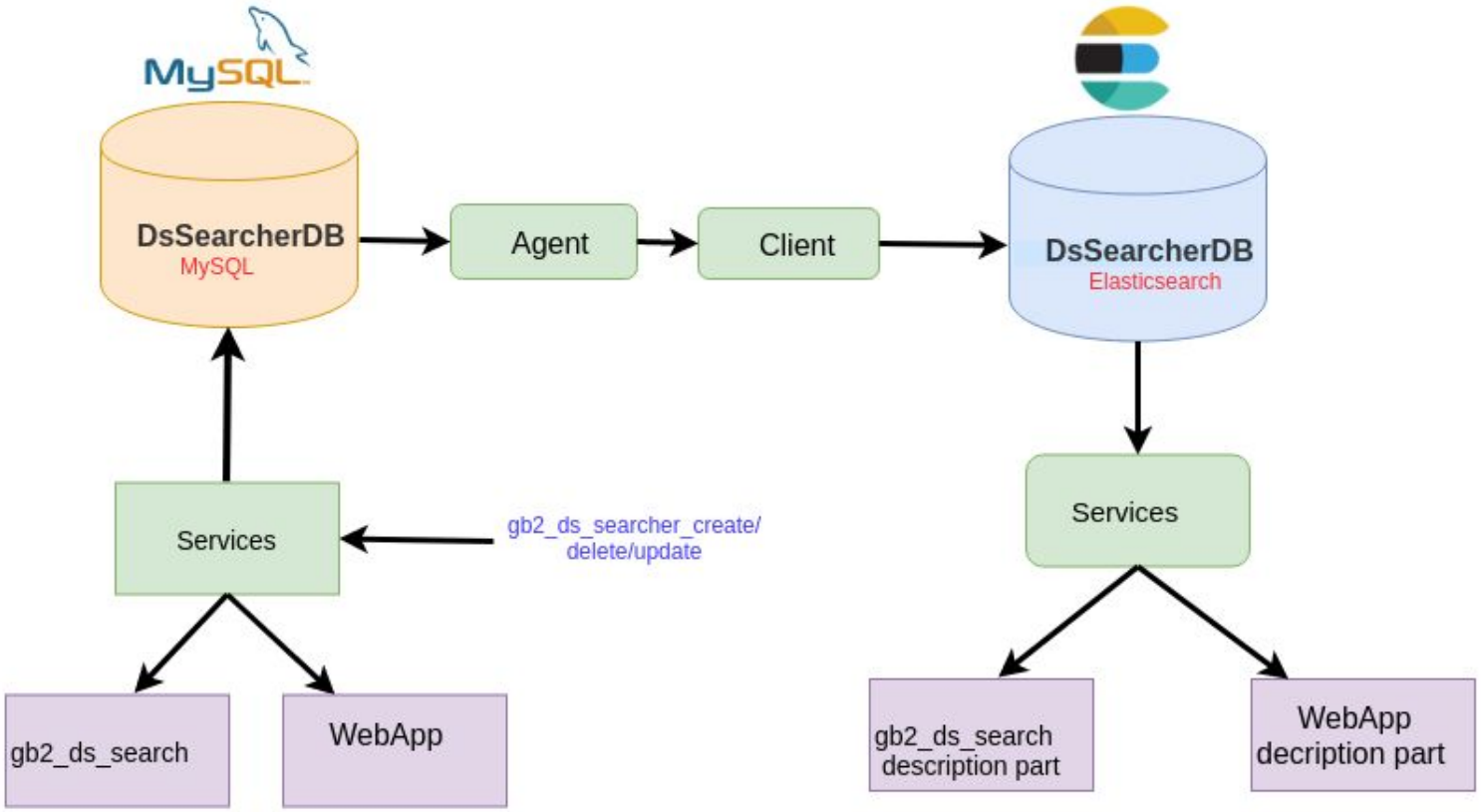

DsSearcherDB
MySQL
Agent
Client
DsSearcherDB
Elasticsearch
MySQL
1. Defines Mapping
1. process Record
2. Insert data to ElasticDB
3. Keep the log in MQ

What I did for now:



1. process Record
2. Insert data to ElasticDB
3. Keep the log in MQ

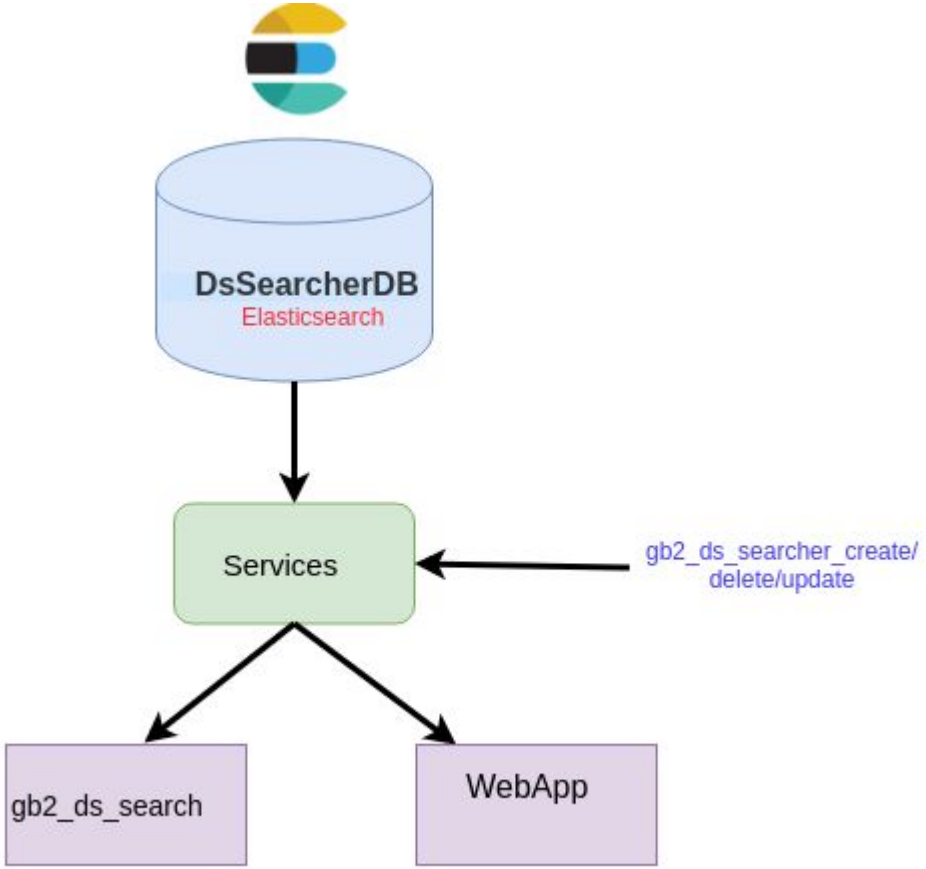
Idea:


MySQL
DsSearcherDB
MySQL
Agent
Client
DsSearcherDB
Elasticsearch
Services
gb2_ds_searcher_create/
delete/update
Services
gb2_ds_search
WebApp
gb2_ds_search
description part
WebApp
decription part

Only use ElasticDB

1. Have to changes Service Structure as whole.

2. Have to scope out how much changes should be done CLI and WebAPP



Datasets Table

DatasetID	lpn	BkgLevelID
1	/belle/MC/….	4
2	/belle/Data/..	8
3	/belle/MC/…	6
4	/belle/MC/...	5

MAPPING

BkgLevel Table

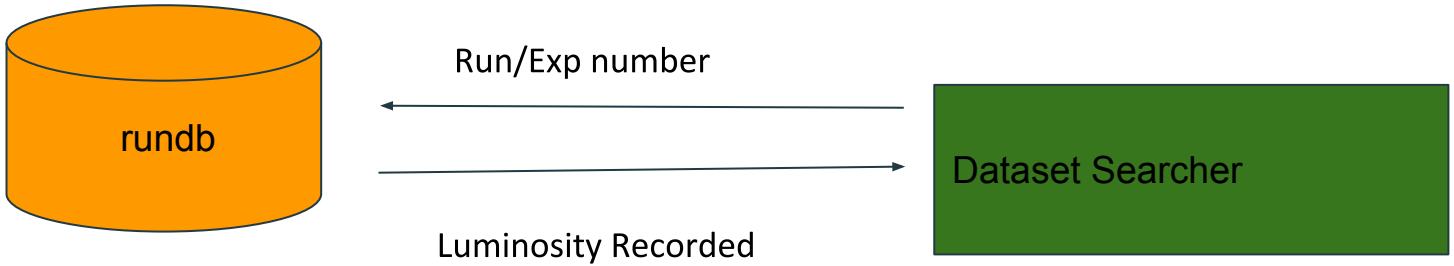
BkgLevelID	BkgLevel
8	
4	BGx0
6	BGx0.5
5	BGx1


```
"hits": [
  {
    "_index": "dssearchelasticdb",
    "_type": "Datasets",
    "_id": "4tgO3HEB64YGA6Z79-8Z",
    "_score": 1,
    "_source": {
      "lpn": "/belle/MC/release-04-00-03/DB00000757/MC13a/prod00012125/s00/e1003/4S/r00000/3420930002/mdst",
      "@timestamp": "2020-05-03T19:41:40.028Z",
      "bkglevel": "BGx0",
      "@version": "1",
      "bkglevelid": 4
    }
  },
  {
    "_index": "dssearchelasticdb",
    "_type": "Datasets",
    "_id": "49gO3HEB64YGA6Z79-8Z",
    "_score": 1,
    "_source": {
      "lpn": "/belle/MC/release-04-00-03/DB00000757/MC13a/prod00012115/s00/e1003/4S/r00000/3410931004/mdst",
      "@timestamp": "2020-05-03T19:41:40.030Z",
      "bkglevel": "BGx1",
      "@version": "1",
      "bkglevelid": 5
    }
```

Luminosity in rundb:

	Exp	Run	Run Type	Events	Luminosity Delivered	Luminosity Recorded
Details	12	3473	physics			
Details	12	3472	physics		56.19	20.83
Details	12	3471	physics		199972.43	199549.01
Details	12	3470	physics	1376243	6214.60	6145.61
Details	12	3469	physics	1716658	7659.43	7574.88

Luminosity



If a user selects a “Run” and “Exp” number, then return the total luminosity.

But Question(?) from me referencing Miyake-san comments in one of the JIIRA ticket is …..