New MC naming scheme proposal and access to the external DB information

MC production - Statistic

MC productions:

- 319 productions registered at https://alimonitor.cern.ch/PWG/
  - production table available until July 2013
- 692 productions registered in alien production folder (15.02.205) /alice/cern.ch/user/a/aliprod
- 164 production with QA automatically published on the central QA web page
  - automatic QA since 2012
  - automatic QA web page creation since June 2014 (TPC,TOF)
    - some detector joined later therefore amount of the production smaller (TRD 50)

O(10^3) productions generated in RUN1

The same order of magnitude can be expected in RUN2, RUN3

Some DB support needed in order to handle information and to make automatic procedures possible

Do we need the automatic procedures ?

New naming convention/DB approach

New naming convention for the MC announced (Igor, Evgeny, Alexander)

- Metadata information related to production coded into the production name
- Usage of such names (not clear to me) to be clarified

Alternative proposal - keep current simple names **(DB surrogate keys)** and aim for standard DB support

- "meaningful" names can be generated according rules based on fields in DB tables
  - can be the same as proposal above

Comparing proposal for naming convention/DB solution

- it is not scaling /DB is scaling
- does not take into account old data/ DB will support old data

My suggestion

- Collect use cases
- Prepare proposal covering use cases
- Proposal should be coherent with other development the QA/lobook/monalisa DB integrations.

MC Detector QA - Use cases

Related JIRA task:

- https://alice.its.cern.ch/jira/browse/ATO-46 - Provide access to external info.
- https://alice.its.cern.ch/jira/browse/ALIROOT-4345 - Automatic procedure to obtain production statistic on Monalisa

1) Provide automatic links between the MC and real data QA.

1) http://aliqatpc.web.cern.ch/aliqatpc/sim/
    1) links to appropriate raw productions to be added (one-to-one)
2) http://aliqatpc.web.cern.ch/aliqatpc/data/
    1) link/tables to anchor MC productions to be added (one to many)
3) http://aliqatpc.web.cern.ch/aliqatpc/anchoredSim/

2) Provide automatic code to compare MC and real data QA on the data level

1) Overlay MC and Data
2) Sensitivity studies

MC QA - Use case -status

Case 1: We managed only partially point 1 (anchoredSim page has a problem).

Case 2: not even start as the DB information was not sufficiently reliable.

Access to MC production tables (MONALISA) provided, but..

- table was not reliable - e.g anchored periods not available in consistent way

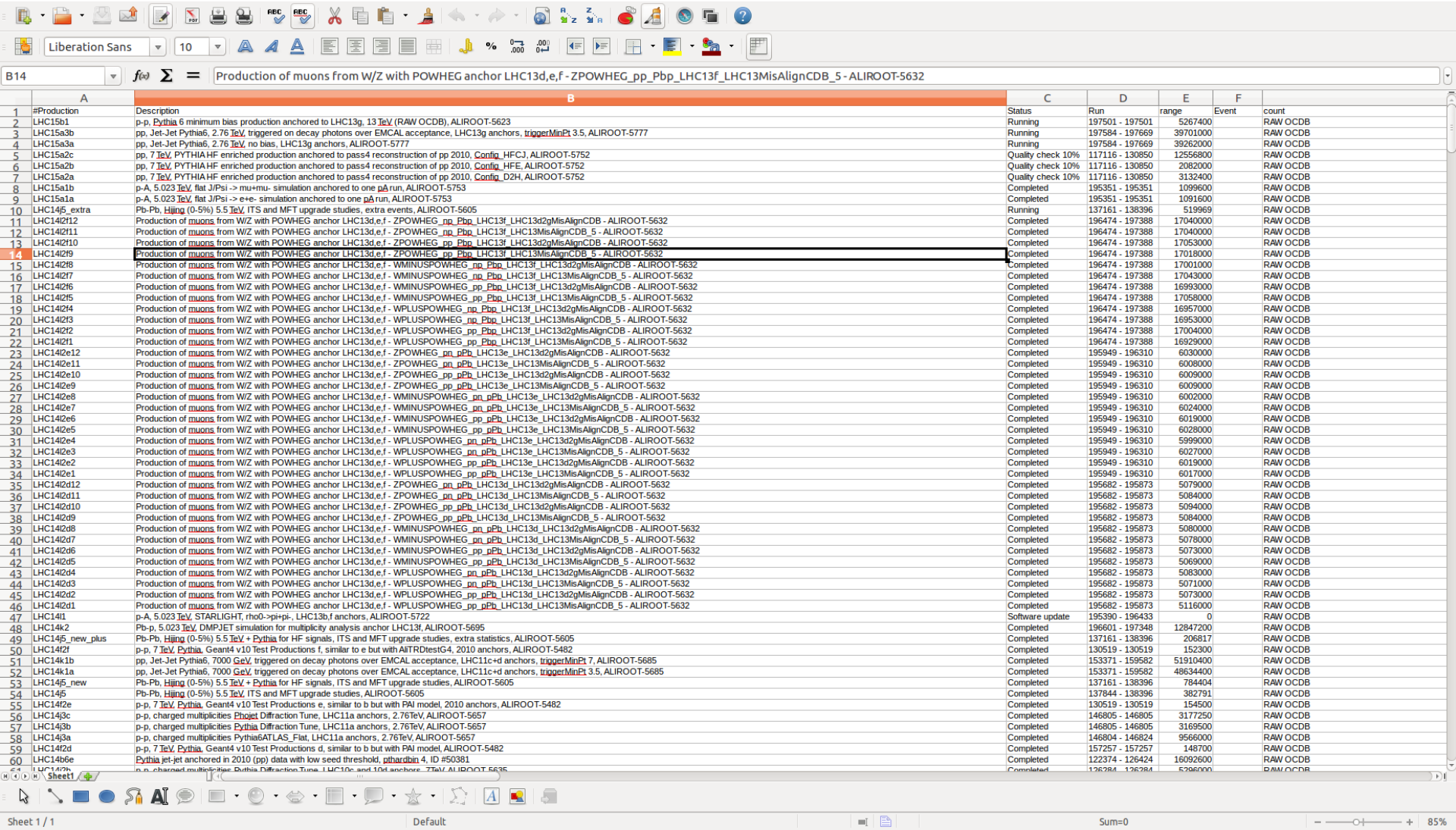
Particular case of csv/xml the transformation to the tree, resp. automatic query using

- curl -k --cert $HOME/.globus/usercert.pem --key $HOME/.globus/userkey.pem --capath $ALIEN/globus/share/certificates/ "https://alimonitor.cern.ch/job_details.jsp?$&res_path=csv" > mc.csv

Information retrieval

- guessing from the comment fields.
- query, greping/quering the alien production files jdl/rec.C/sim.C.
  - We keep up to date local cache of production info at GSI
  - Not solution

Use case: What do we have currently



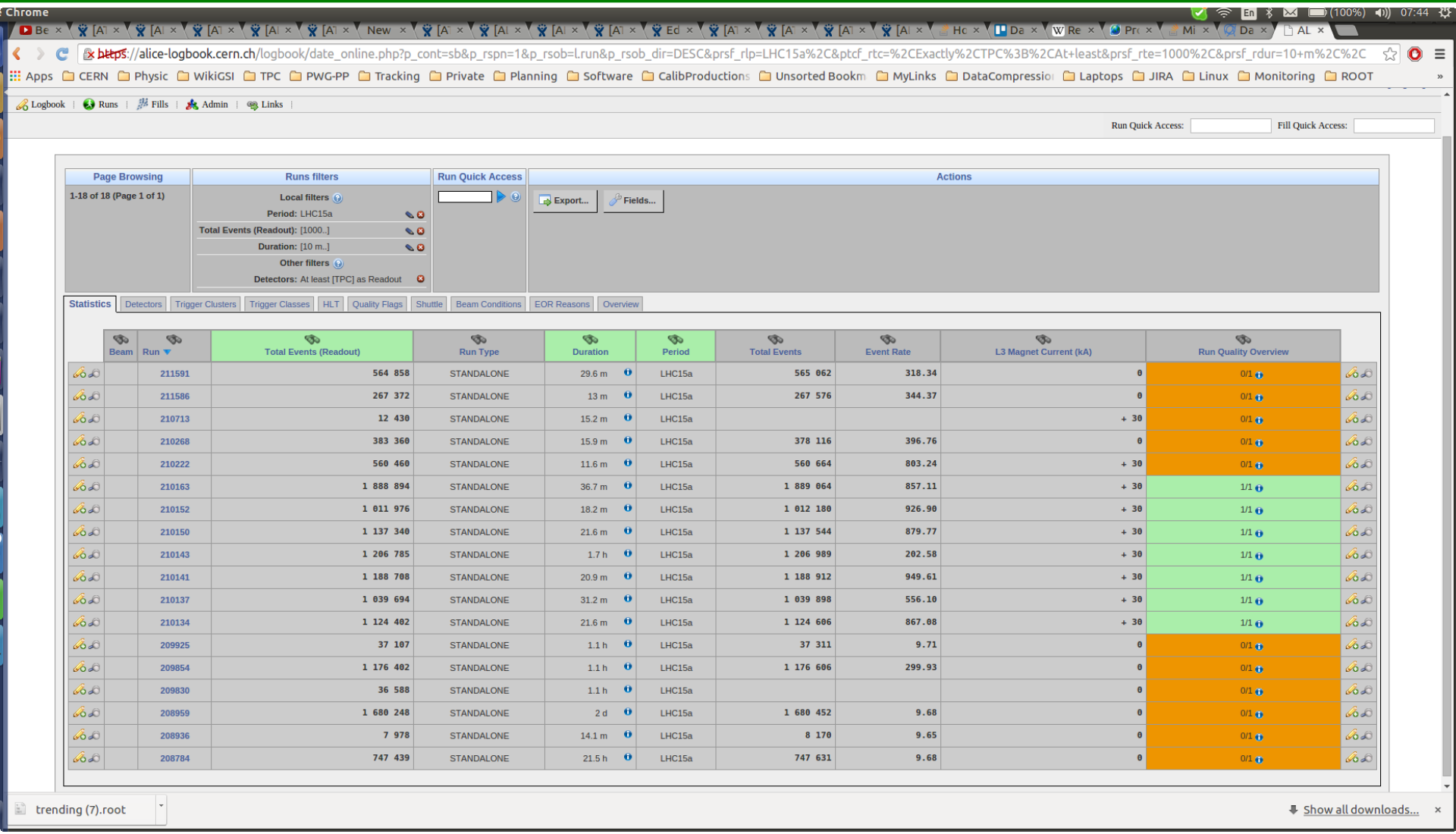
B14: Production of muons from W/Z with POWHEG anchor LHC13d,e,f - ZPOWHEG_pp_Pbp_LHC13f_LHC13MisAlignCDB_5 - ALIROOT-5632

	A	B	C	D	E	F	
1	#Production	Description	Status	Run	range	Event	count
2	LHC15b1	p-p, Pythia 6 minimum bias production anchored to LHC13g, 13 TeV (RAW OCDB), ALIROOT-5623	Running	197501 - 197501	5267400		RAW OCDB
3	LHC15a3b	pp, Jet-Jet Pythia6, 2.76 TeV, triggered on decay photons over EMCAL acceptance, LHC13g anchors, triggerMinPt 3.5, ALIROOT-5777	Running	197584 - 197669	39701000		RAW OCDB
4	LHC15a3a	pp, Jet-Jet Pythia6, 2.76 TeV, no bias, LHC13g anchors, ALIROOT-5777	Running	197584 - 197669	39262000		RAW OCDB
5	LHC15a2c	pp, 7 TeV, PYTHIA HF enriched production anchored to pass4 reconstruction of pp 2010, Config_HFCJ, ALIROOT-5752	Quality check 10%	117116 - 130850	12556800		RAW OCDB
6	LHC15a2b	pp, 7 TeV, PYTHIA HF enriched production anchored to pass4 reconstruction of pp 2010, Config_HFE, ALIROOT-5752	Quality check 10%	117116 - 130850	2082000		RAW OCDB
7	LHC15a2a	pp, 7 TeV, PYTHIA HF enriched production anchored to pass4 reconstruction of pp 2010, Config_D2H, ALIROOT-5752	Quality check 10%	117116 - 130850	3132400		RAW OCDB
8	LHC15a1b	p-A, 5.023 TeV, flat J/Psi -> mu+mu- simulation anchored to one pA run, ALIROOT-5753	Completed	195351 - 195351	1099600		RAW OCDB
9	LHC15a1a	p-A, 5.023 TeV, flat J/Psi -> e+e- simulation anchored to one pA run, ALIROOT-5753	Completed	195351 - 195351	1091600		RAW OCDB
10	LHC14j5_extra	Pb-Pb, Hijing (0-5%) 5.5 TeV, ITS and MFT upgrade studies, extra events, ALIROOT-5605	Running	137161 - 138396	519969		RAW OCDB
11	LHC14l2f12	Production of muons from W/Z with POWHEG anchor LHC13d,e,f - ZPOWHEG_np_Pbp_LHC13f_LHC13d2gMisAlignCDB - ALIROOT-5632	Completed	196474 - 197388	17040000		RAW OCDB
12	LHC14l2f11	Production of muons from W/Z with POWHEG anchor LHC13d,e,f - ZPOWHEG_np_Pbp_LHC13f_LHC13MisAlignCDB_5 - ALIROOT-5632	Completed	196474 - 197388	17040000		RAW OCDB
13	LHC14l2f10	Production of muons from W/Z with POWHEG anchor LHC13d,e,f - ZPOWHEG_pp_Pbp_LHC13f_LHC13d2gMisAlignCDB - ALIROOT-5632	Completed	196474 - 197388	17053000		RAW OCDB
14	LHC14l2f9	Production of muons from W/Z with POWHEG anchor LHC13d,e,f - ZPOWHEG_pp_Pbp_LHC13f_LHC13MisAlignCDB_5 - ALIROOT-5632	Completed	196474 - 197388	17018000		RAW OCDB
15	LHC14l2f8	Production of muons from W/Z with POWHEG anchor LHC13d,e,f - WMINUSPOWHEG_np_Pbp_LHC13f_LHC13d2gMisAlignCDB - ALIROOT-5632	Completed	196474 - 197388	17001000		RAW OCDB
16	LHC14l2f7	Production of muons from W/Z with POWHEG anchor LHC13d,e,f - WMINUSPOWHEG_np_Pbp_LHC13f_LHC13MisAlignCDB_5 - ALIROOT-5632	Completed	196474 - 197388	17043000		RAW OCDB
17	LHC14l2f6	Production of muons from W/Z with POWHEG anchor LHC13d,e,f - WMINUSPOWHEG_pp_Pbp_LHC13f_LHC13d2gMisAlignCDB - ALIROOT-5632	Completed	196474 - 197388	16993000		RAW OCDB
18	LHC14l2f5	Production of muons from W/Z with POWHEG anchor LHC13d,e,f - WMINUSPOWHEG_pp_Pbp_LHC13f_LHC13MisAlignCDB_5 - ALIROOT-5632	Completed	196474 - 197388	17058000		RAW OCDB
19	LHC14l2f4	Production of muons from W/Z with POWHEG anchor LHC13d,e,f - WPLUSPOWHEG_np_Pbp_LHC13f_LHC13d2gMisAlignCDB - ALIROOT-5632	Completed	196474 - 197388	16957000		RAW OCDB
20	LHC14l2f3	Production of muons from W/Z with POWHEG anchor LHC13d,e,f - WPLUSPOWHEG_np_Pbp_LHC13f_LHC13MisAlignCDB_5 - ALIROOT-5632	Completed	196474 - 197388	16953000		RAW OCDB
21	LHC14l2f2	Production of muons from W/Z with POWHEG anchor LHC13d,e,f - WPLUSPOWHEG_pp_Pbp_LHC13f_LHC13d2gMisAlignCDB - ALIROOT-5632	Completed	196474 - 197388	17004000		RAW OCDB
22	LHC14l2f1	Production of muons from W/Z with POWHEG anchor LHC13d,e,f - WPLUSPOWHEG_pp_Pbp_LHC13f_LHC13MisAlignCDB_5 - ALIROOT-5632	Completed	196474 - 197388	16929000		RAW OCDB
23	LHC14l2e12	Production of muons from W/Z with POWHEG anchor LHC13d,e,f - ZPOWHEG_pn_pPb_LHC13e_LHC13d2gMisAlignCDB - ALIROOT-5632	Completed	195949 - 196310	6030000		RAW OCDB
24	LHC14l2e11	Production of muons from W/Z with POWHEG anchor LHC13d,e,f - ZPOWHEG_pn_pPb_LHC13e_LHC13MisAlignCDB_5 - ALIROOT-5632	Completed	195949 - 196310	6008000		RAW OCDB
25	LHC14l2e10	Production of muons from W/Z with POWHEG anchor LHC13d,e,f - ZPOWHEG_pp_pPb_LHC13e_LHC13d2gMisAlignCDB - ALIROOT-5632	Completed	195949 - 196310	6009000		RAW OCDB
26	LHC14l2e9	Production of muons from W/Z with POWHEG anchor LHC13d,e,f - ZPOWHEG_pp_pPb_LHC13e_LHC13MisAlignCDB_5 - ALIROOT-5632	Completed	195949 - 196310	6009000		RAW OCDB
27	LHC14l2e8	Production of muons from W/Z with POWHEG anchor LHC13d,e,f - WMINUSPOWHEG_pn_pPb_LHC13e_LHC13d2gMisAlignCDB - ALIROOT-5632	Completed	195949 - 196310	6002000		RAW OCDB
28	LHC14l2e7	Production of muons from W/Z with POWHEG anchor LHC13d,e,f - WMINUSPOWHEG_pn_pPb_LHC13e_LHC13MisAlignCDB_5 - ALIROOT-5632	Completed	195949 - 196310	6024000		RAW OCDB
29	LHC14l2e6	Production of muons from W/Z with POWHEG anchor LHC13d,e,f - WMINUSPOWHEG_pp_pPb_LHC13e_LHC13d2gMisAlignCDB - ALIROOT-5632	Completed	195949 - 196310	6019000		RAW OCDB
30	LHC14l2e5	Production of muons from W/Z with POWHEG anchor LHC13d,e,f - WMINUSPOWHEG_pp_pPb_LHC13e_LHC13MisAlignCDB_5 - ALIROOT-5632	Completed	195949 - 196310	6028000		RAW OCDB
31	LHC14l2e4	Production of muons from W/Z with POWHEG anchor LHC13d,e,f - WPLUSPOWHEG_pn_pPb_LHC13e_LHC13d2gMisAlignCDB - ALIROOT-5632	Completed	195949 - 196310	5999000		RAW OCDB
32	LHC14l2e3	Production of muons from W/Z with POWHEG anchor LHC13d,e,f - WPLUSPOWHEG_pn_pPb_LHC13e_LHC13MisAlignCDB_5 - ALIROOT-5632	Completed	195949 - 196310	6027000		RAW OCDB
33	LHC14l2e2	Production of muons from W/Z with POWHEG anchor LHC13d,e,f - WPLUSPOWHEG_pp_pPb_LHC13e_LHC13d2gMisAlignCDB - ALIROOT-5632	Completed	195949 - 196310	6019000		RAW OCDB
34	LHC14l2e1	Production of muons from W/Z with POWHEG anchor LHC13d,e,f - WPLUSPOWHEG_pp_pPb_LHC13e_LHC13MisAlignCDB_5 - ALIROOT-5632	Completed	195949 - 196310	6017000		RAW OCDB
35	LHC14l2d12	Production of muons from W/Z with POWHEG anchor LHC13d,e,f - ZPOWHEG_pn_pPb_LHC13d_LHC13d2gMisAlignCDB - ALIROOT-5632	Completed	195682 - 195873	5079000		RAW OCDB
36	LHC14l2d11	Production of muons from W/Z with POWHEG anchor LHC13d,e,f - ZPOWHEG_pn_pPb_LHC13d_LHC13MisAlignCDB_5 - ALIROOT-5632	Completed	195682 - 195873	5084000		RAW OCDB
37	LHC14l2d10	Production of muons from W/Z with POWHEG anchor LHC13d,e,f - ZPOWHEG_pp_pPb_LHC13d_LHC13d2gMisAlignCDB - ALIROOT-5632	Completed	195682 - 195873	5094000		RAW OCDB
38	LHC14l2d9	Production of muons from W/Z with POWHEG anchor LHC13d,e,f - ZPOWHEG_pp_pPb_LHC13d_LHC13MisAlignCDB_5 - ALIROOT-5632	Completed	195682 - 195873	5084000		RAW OCDB
39	LHC14l2d8	Production of muons from W/Z with POWHEG anchor LHC13d,e,f - WMINUSPOWHEG_pn_pPb_LHC13d_LHC13d2gMisAlignCDB - ALIROOT-5632	Completed	195682 - 195873	5080000		RAW OCDB
40	LHC14l2d7	Production of muons from W/Z with POWHEG anchor LHC13d,e,f - WMINUSPOWHEG_pn_pPb_LHC13d_LHC13MisAlignCDB_5 - ALIROOT-5632	Completed	195682 - 195873	5078000		RAW OCDB
41	LHC14l2d6	Production of muons from W/Z with POWHEG anchor LHC13d,e,f - WMINUSPOWHEG_pp_pPb_LHC13d_LHC13d2gMisAlignCDB - ALIROOT-5632	Completed	195682 - 195873	5073000		RAW OCDB
42	LHC14l2d5	Production of muons from W/Z with POWHEG anchor LHC13d,e,f - WMINUSPOWHEG_pp_pPb_LHC13d_LHC13MisAlignCDB_5 - ALIROOT-5632	Completed	195682 - 195873	5069000		RAW OCDB
43	LHC14l2d4	Production of muons from W/Z with POWHEG anchor LHC13d,e,f - WPLUSPOWHEG_pn_pPb_LHC13d_LHC13d2gMisAlignCDB - ALIROOT-5632	Completed	195682 - 195873	5083000		RAW OCDB
44	LHC14l2d3	Production of muons from W/Z with POWHEG anchor LHC13d,e,f - WPLUSPOWHEG_pn_pPb_LHC13d_LHC13MisAlignCDB_5 - ALIROOT-5632	Completed	195682 - 195873	5071000		RAW OCDB
45	LHC14l2d2	Production of muons from W/Z with POWHEG anchor LHC13d,e,f - WPLUSPOWHEG_pp_pPb_LHC13d_LHC13d2gMisAlignCDB - ALIROOT-5632	Completed	195682 - 195873	5073000		RAW OCDB
46	LHC14l2d1	Production of muons from W/Z with POWHEG anchor LHC13d,e,f - WPLUSPOWHEG_pp_pPb_LHC13d_LHC13MisAlignCDB_5 - ALIROOT-5632	Completed	195682 - 195873	5116000		RAW OCDB
47	LHC14l1	p-A, 5.023 TeV, STARLIGHT, rho0->pi+pi-, LHC13b,f anchors, ALIROOT-5722	Software update	195390 - 196433	0		RAW OCDB
48	LHC14k2	Pb-p, 5.023 TeV, DMPJET simulation for multiplicity analysis anchor LHC13f, ALIROOT-5695	Completed	196601 - 197348	12847200		RAW OCDB
49	LHC14j5_new_plus	Pb-Pb, Hijing (0-5%) 5.5 TeV + Pythia for HF signals, ITS and MFT upgrade studies, extra statistics, ALIROOT-5605	Completed	137161 - 138396	206817		RAW OCDB
50	LHC14f2f	p-p, 7 TeV, Pythia, Geant4 v10 Test Productions f, similar to e but with AliTRDtestG4, 2010 anchors, ALIROOT-5482	Completed	130519 - 130519	152300		RAW OCDB
51	LHC14k1b	pp, Jet-Jet Pythia6, 7000 GeV, triggered on decay photons over EMCAL acceptance, LHC11c+d anchors, triggerMinPt 7, ALIROOT-5685	Completed	153371 - 159582	51910400		RAW OCDB
52	LHC14k1a	pp, Jet-Jet Pythia6, 7000 GeV, triggered on decay photons over EMCAL acceptance, LHC11c+d anchors, triggerMinPt 3.5, ALIROOT-5685	Completed	153371 - 159582	48634400		RAW OCDB
53	LHC14j5_new	Pb-Pb, Hijing (0-5%) 5.5 TeV + Pythia for HF signals, ITS and MFT upgrade studies, ALIROOT-5605	Completed	137161 - 138396	784404		RAW OCDB
54	LHC14j5	Pb-Pb, Hijing (0-5%) 5.5 TeV, ITS and MFT upgrade studies, ALIROOT-5605	Completed	137844 - 138396	382791		RAW OCDB
55	LHC14f2e	p-p, 7 TeV, Pythia, Geant4 v10 Test Productions e, similar to b but with PAI model, 2010 anchors, ALIROOT-5482	Completed	130519 - 130519	154500		RAW OCDB
56	LHC14j3c	p-p, charged multiplicities Phojet Diffraction Tune, LHC11a anchors, 2.76TeV, ALIROOT-5657	Completed	146805 - 146805	3177250		RAW OCDB
57	LHC14j3b	p-p, charged multiplicities Pythia Diffraction Tune, LHC11a anchors, 2.76TeV, ALIROOT-5657	Completed	146805 - 146805	3169500		RAW OCDB
58	LHC14j3a	p-p, charged multiplicities Pythia6ATLAS_Flat, LHC11a anchors, 2.76TeV, ALIROOT-5657	Completed	146804 - 146824	9566000		RAW OCDB
59	LHC14f2d	p-p, 7 TeV, Pythia, Geant4 v10 Test Productions d, similar to b but with PAI model, ALIROOT-5482	Completed	157257 - 157257	148700		RAW OCDB
60	LHC14b6e	Pythia jet-jet anchored in 2010 (pp) data with low seed threshold, pthardbin 4, ID #50381	Completed	122374 - 126424	16092600		RAW OCDB
61	LHC14l2b	p-p, charged multiplicities Pythia Diffraction Tune, LHC10c and 10d anchors, 7TeV, ALIROOT-5635	Completed	126284 - 126284	5296000		RAW OCDB

Sheet1

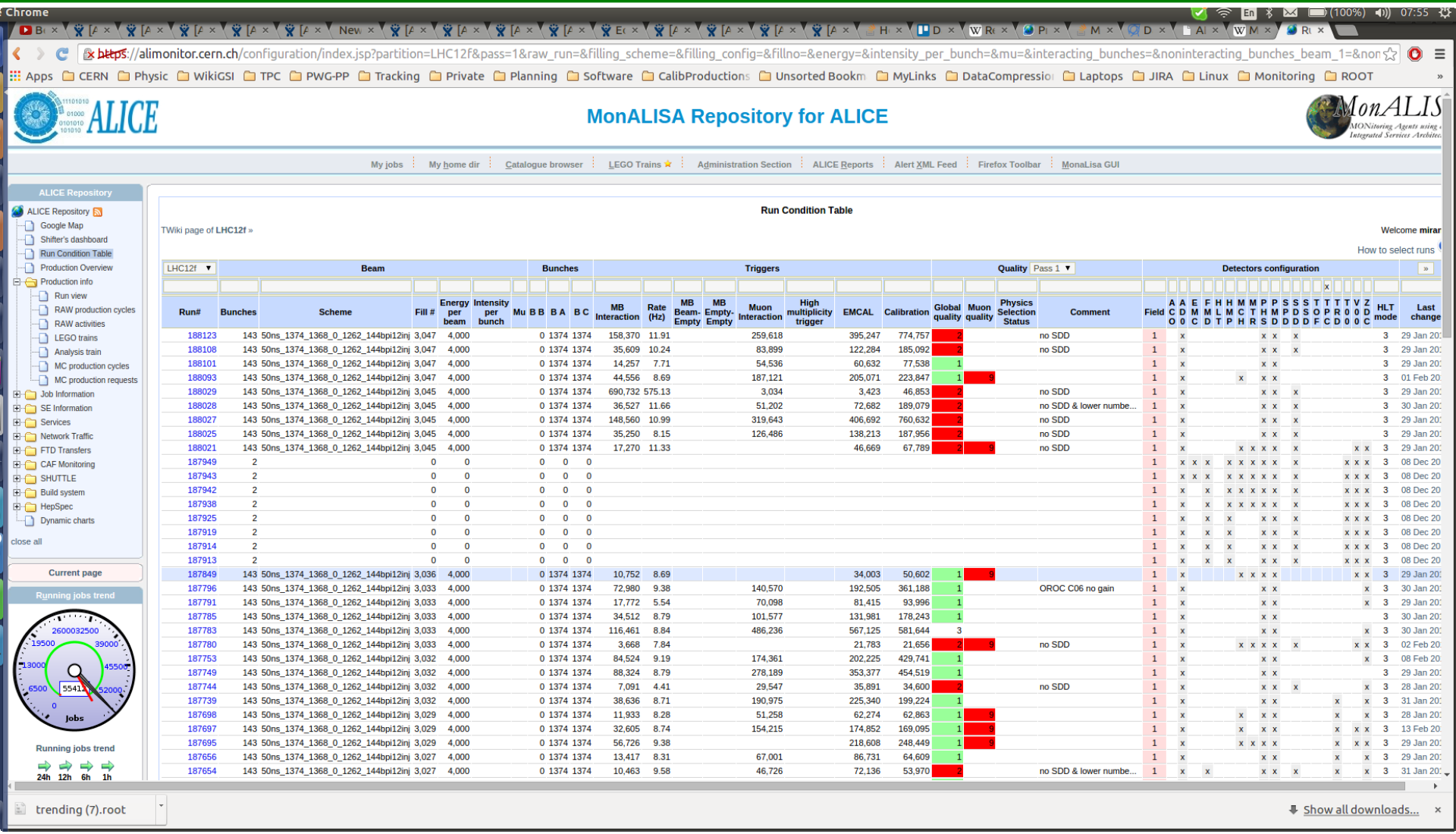
Sheet 1 / 1 | Default | Sum=0 | 85%

Use case: Logbook example



- Logbook example - User defined queries, User defined views (fields)
- On demand programati acces to underlying DB (MySQL)

Use case: Monalisa - RCT example



Proposal

Lack of reliable DB cost our collaboration more time than needed for the implementation and maintenance of the proper DB for MC productions.

Proposal:

- define the list of tags/ variables which are needed
- define standard interface (queries) to access these data in automatic way

DB alternatives (existing):

- **alice-logbook (mySQL)DB** as it exist, interface and support already existing
  - sql queries, easy tree exports (implemented at GSI) for physicist
  - currently opened only at CERN
- **Monalisa** ?
  - can we
- **CERN DB support**
  - http://information-technology.web.cern.ch/services/database-on-demand

- We will need only somebody, to guarantee internal consistencies of tables.
  - To be guaranteed by PWGPP-MC and PWG-QA group?
  - As RCT for raw data production by PWGPP QA group

Tag/Field list (to be discussed)

Jira/Savanah ID

Requester (PWG/PAG)

Anchored period: list (can be empty)

Software:

- AliRoot/root/Geant

QA status (can be undefined)

- per detector
- per PWGPP group (tracking/evs/...)
- per PWG/PAG

Usage in physic analysis

- Analysis/Internal notes
- Papers

Lego train usage statistic

Generator description

Configuration

- sim.C, rec.C, Config.C, JDL
- and regular expression queries

Conclusion

O(1000) MC production available

To keep track of the information needed and to enable automatic procedures for detector/PWGPP and PWG groups

Standardized DB support needed