**6th Collaboration Meeting
of the BM@N Experiment at the NICA Facility**

Status of information services for the BM@N experiment
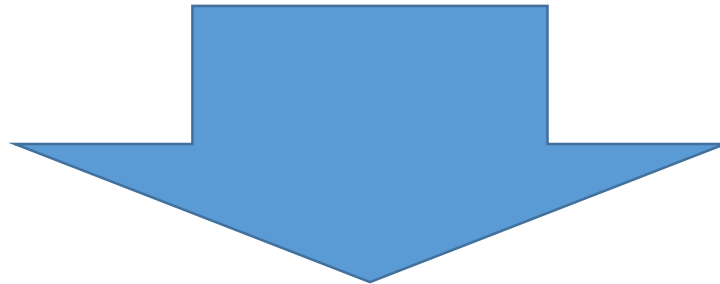
Ivan Slepov, JINR, Dubna

26.10.2020

Nuclotron-based Ion Collider fAcility

Resources of information about the BM@N - 2019

- mpd.jinr.ru – NICA experiments website
- bmnshift.jinr.ru – first document server for BM@N
- bmn.jinr.ru/experiments – first collaboration website

BMN.JINR.RU

Main website with links to all BM@N resources

Migration for centralized access to BM@N information and services

- bmn.jinr.ru – main website and links to all resources
  But many web services required their own domains:

- bmn-wiki.jinr.ru   – documentation service
- bmn-ipa.jinr.ru   – Identity and Authentication service
- bmn-elog.jinr.ru   – Online Electronic Logbook
- bmn-forum.jinr.ru – collaboration forum
- bmn-tango.jinr.ru – Slow Control Interface
- bmn-web.jinr.ru   – BM@N Experiment Database
- bmn-scheduler.jinr.ru – NICA Scheduler Configurator
- git.jinr.ru/nica/bmnroot – BM@N software repositories

Main collaboration website

Website –
bmn.jinr.ru

Platform – WordPress

Architecture –
PHP + MySQL + WP Plugins

Apache with SSL

Main collaboration website

Information about:

- Collaboration

- Physics

- Detectors

- Software

- Computing

- Web Services
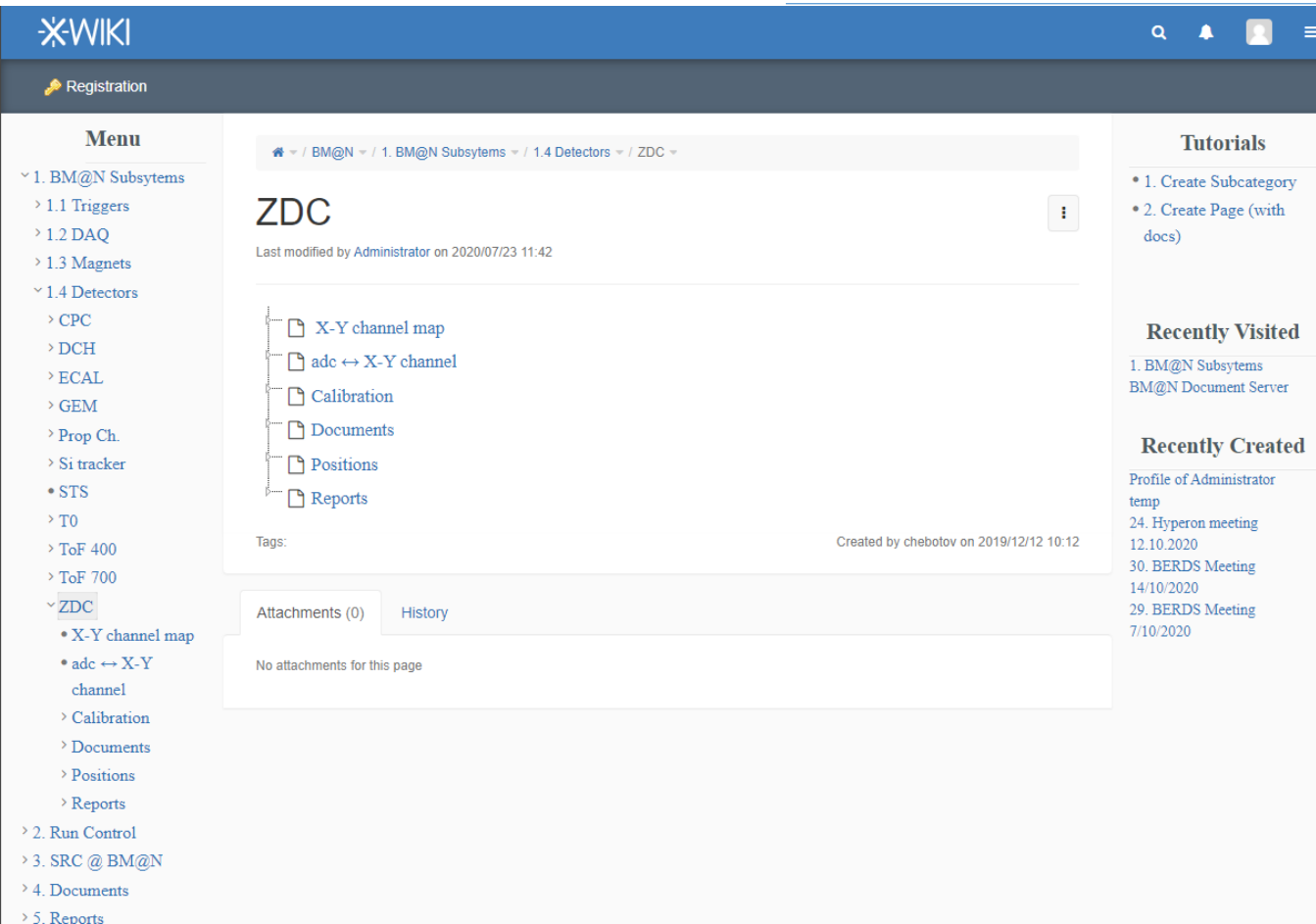
Example: HowTo page

Wiki documentation service

Website – bmn-wiki.jinr.ru

Platform – Xwiki

Architecture – Docker containers:

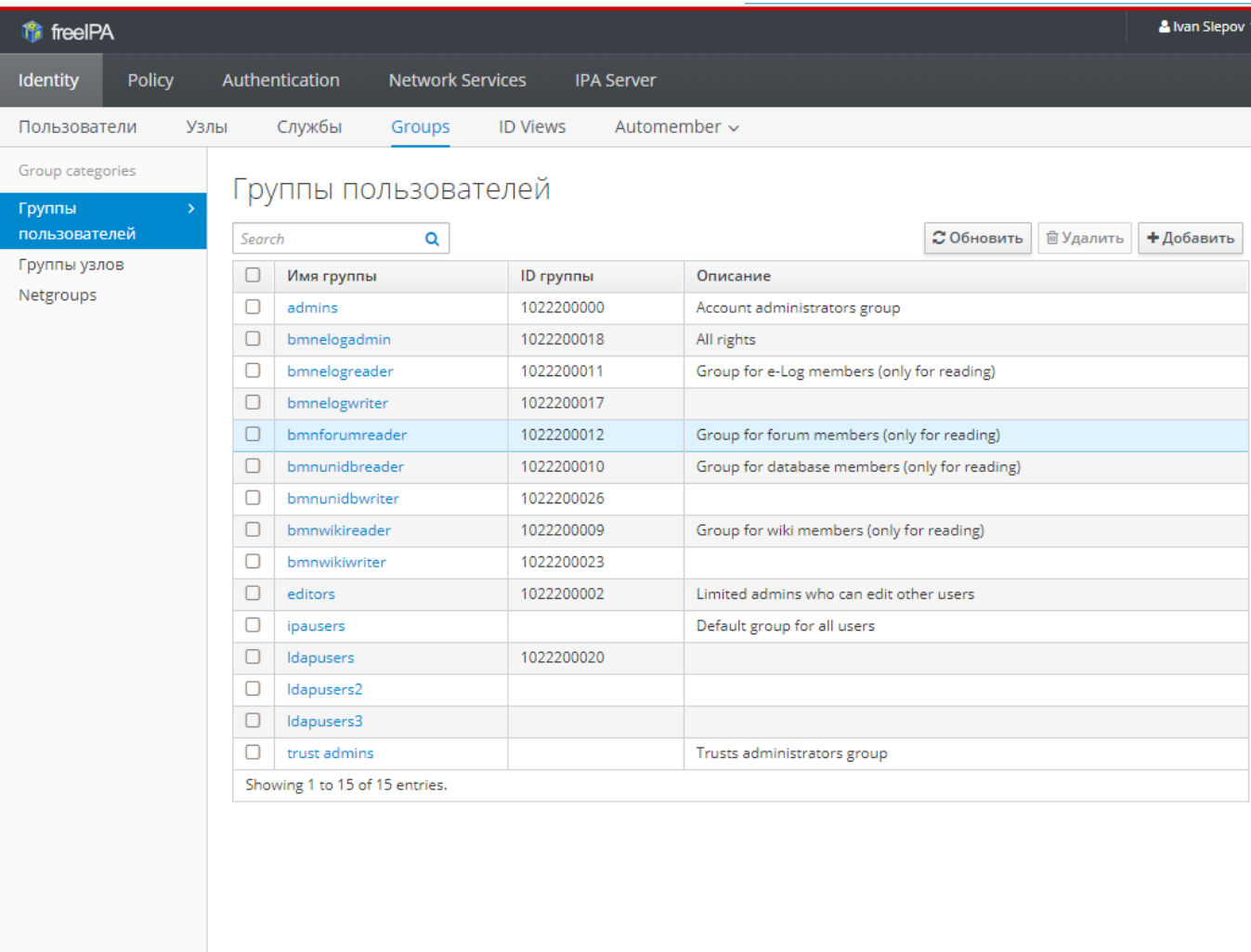Xwiki + MySQL

Apache Reverse Proxy with SSL to Docker local port

Wiki documentation service

Documents about:

- BM@N Subsystems

- Run Control

- SRC for BM@N

- Comon documents

- Reports

- Software

- Computing

- Archive

Example: ZDC detector page

Identity and Authentication service

Website – bmn-ipa.jinr.ru

Platform – FreeIPA

Stand-alone server for it

Architecture –
bind + sssd + krb5 + apache with SSL

Identity and Authentication service

Resource Access Request Web page – bmn.jinr.ru/registration/

The required fields are filled in and the request is sent by e-mail to the resource manager

It is impossible to register yourself on the resources only by sending this request

You must specify the mail, select resources and specify the necessary rights

Online Electronic Logbook

Website –
bmn-elog.jinr.ru

Platform – self-written

Architecture –
PHP + PostgreSQL

Apache with SSL

Online Electronic Logbook

BM@N Electronic Logbook　　　　　　　　　　　　　　**Logged in as shift**

Home　Find　Last day　Account　　　　Page: 1 ▼ of 1　　Number of items per page: ALL ▼　Logout
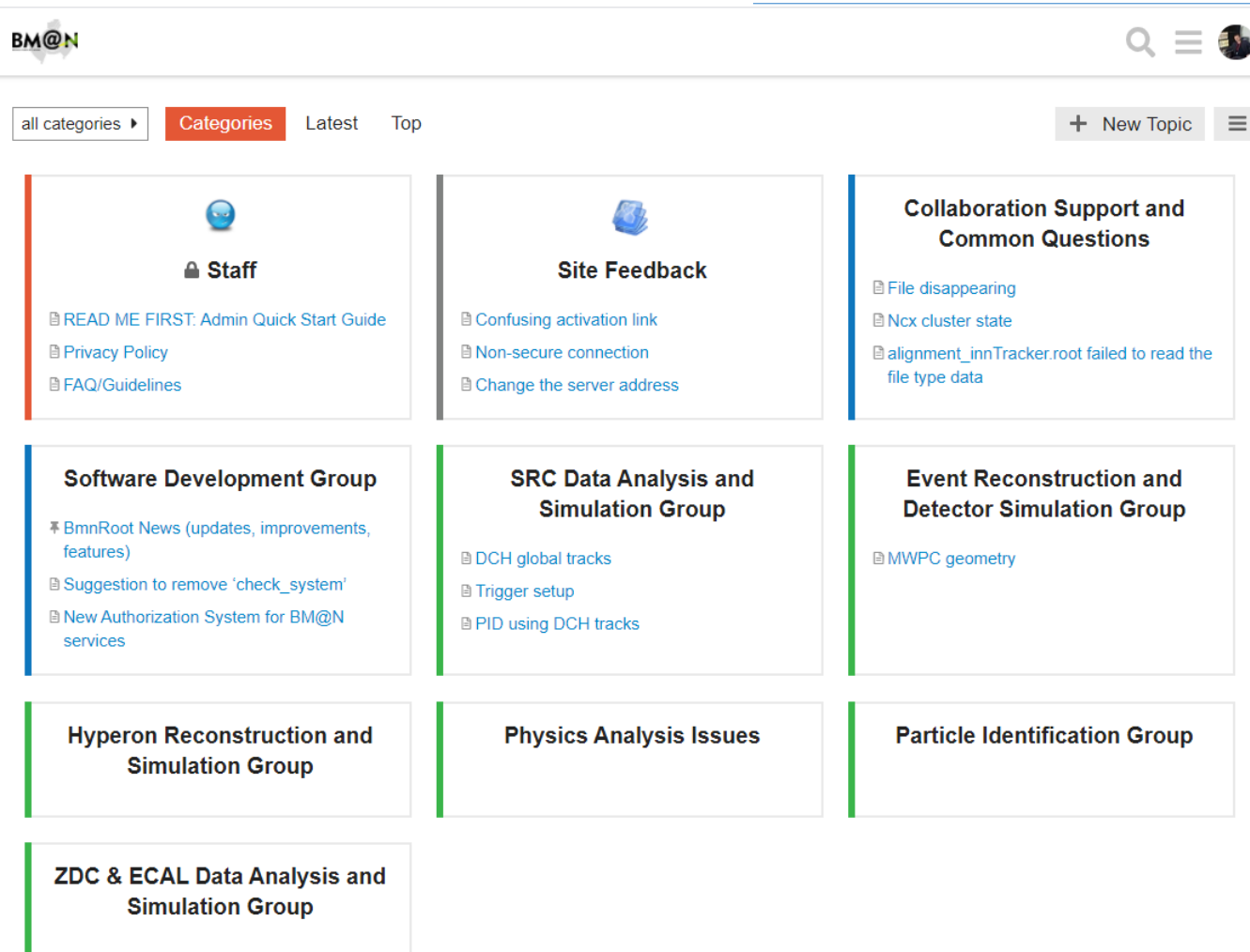
Date	Shift Leader	Type	№ Run	Trigger	DAQ Status	SP-41, A	SP-57, A	VKM2, A	Beam	Energy, GeV	Target	Comment
2018-04-05 11:47:06	Rumyantsev	Inform All	5185 per.7	Special Trigger	All	0	0	0	Kr	2.94	Cu (2 mm)	End of the RUN7
2018-04-05 11:09:20	Rumyantsev	New Run	5184 per.7	Beam Trigger + Si >3	All	1250	50	125	Kr	2.94	Cu (2 mm)	Cu target; Tr.= BC1 & BC2 & VC & Si>3 VKM2: I=125A, SP-57=50A, SP41=1250A; 100 k
2018-04-05 08:12:35	Rumyantsev	New Run	5183 per.7	Beam Trigger + Si >3	All	1250	50	125	Kr	2.94	Cu (2 mm)	Cu target; Tr.= BC1 & BC2 & VC & Si>2 VKM2: I=125A, SP-57=50A, SP41=1250A; 120 k
2018-04-05 07:46:35	Babkin	New Run	5182 per.7	Beam Trigger + Si >3	All	1250	50	125	Kr	2.94	Cu (2 mm)	Cu target; Tr.= BC1 & BC2 & VC & Si>3 VKM2: I=125A, SP-57=50A, SP41=1250A; 208 kev
2018-04-05 07:41:29	Babkin	New Run	5180 per.7	Beam Trigger + Si >3	All	1250	50	125	Kr	2.94	Cu (2 mm)	Cu target; Tr.= BC1 & BC2 & VC & Si>3; VKM2: I=125A, SP-57=50A, SP41=1250A; 201 kev
2018-04-05 07:25:08	Babkin	New Run	5179 per.7	Beam Trigger + Si >3	All	1250	50	125	Kr	2.94	Cu (2 mm)	Cu target; Tr.= BC1 & BC2 & VC & Si>3; VKM2: I=125A, SP-57=50A, SP41=1250A; 201 kev
2018-04-05 06:01:07	Babkin	New Run	5178 per.7	Beam Trigger + Si >3	All	1250	50	125	Kr	2.94	Cu (2 mm)	Cu target; Tr.= BC1 & BC2 & VC & Si>3; VKM2: I=125A, SP-57=50A, SP41=1250A; 201 kev
2018-04-05 05:27:39	Babkin	New Run	5177 per.7	Beam Trigger + Si >3	All	1250	50	125	Kr	2.94	Cu (2 mm)	Cu target; Tr.= BC1 & BC2 & VC & Si>3; VKM2: I=125A, SP-57=50A, SP41=1250A; 204 kev
2018-04-05 05:27:06	Babkin	New Run	5176 per.7	Beam Trigger + BD>3	All	1250	50	125	Kr	2.94	Cu (2 mm)	Cu target; Tr.= BC1 & BC2 & VC & BD>3; VKM2: I=125A, SP-57=50A, SP41=1250A; 150 kev
2018-04-05 04:47:27	Babkin	New Run	5174 per.7	Beam Trigger + BD>3	All	1250	50	125	Kr	2.94	Cu (2 mm)	Cu target; Tr.= BC1 & BC2 & VC & BD>3; VKM2: I=125A, SP-57=50A, SP41=1250A; 213 kev

2020 - software team (contact e-mail: gertsen@jinr.ru)

Information about runs:
- Date
- Shift Leader
- Type of record
- Number of run
- Trigger
- DAQ status
- SP-41
- SP-57
- VKM2
- Beam
- Energy
- Target
- Comments

Example: last runs

Website – bmn-forum.jinr.ru

Platform – Discourse

Architecture – Docker containers with own launcher

Redis + sidekiq + Discourse Nginx + PostgreSQL

Apache Reverse Proxy with SSL to Docker container

Collaboration forum

Forum groups:

- News

- Support

- Software development

- Event reconstruction

- Particle Identification

- Data Analysis and Simulation

- Hyperon Reconstruction and Simulation

- SRC Data Analysis and Simulation

- Physics Analysis Issues

Example: software group page
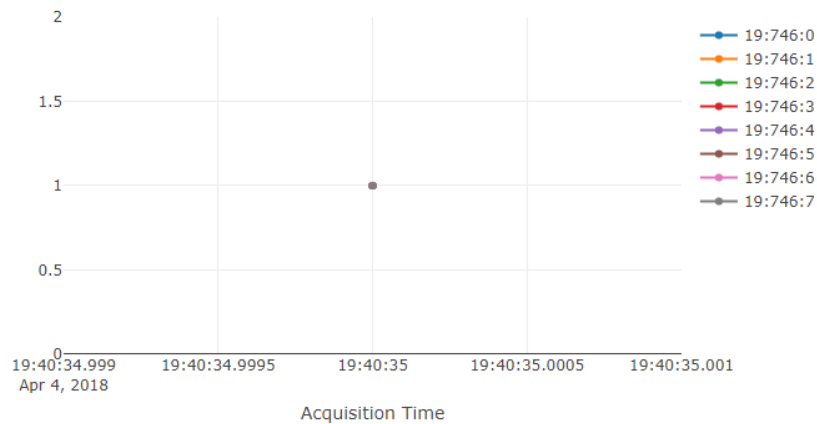
Website –
bmn-tango.jinr.ru

Platform – self-written

Architecture –
Docker containers with
own launcher

Python + PostgreSQL

Apache Reverse Proxy with
SSL to Docker container

15

Website –
bmn-unidb.jinr.ru

Platform – Angular

Architecture –
Docker containers

Website –
bmn-scheduler.jinr.ru

Platform – self-written

Architecture –
HTML + JavaScript

- Using "Jenkins -> Portainer -> Docker " for CI/CD

- Using Traefik for reverse proxy instead Apache

- The services reviewed are constantly evolving, so stay tuned for the main website and collaboration forum

- The current web services architecture is completely fine with us

- We try to keep up to date and use the latest software technologies for the development of BM@N collaboration services

Thank you for your attention!