



Elettra Sincrotrone Trieste

MXCuBE site report

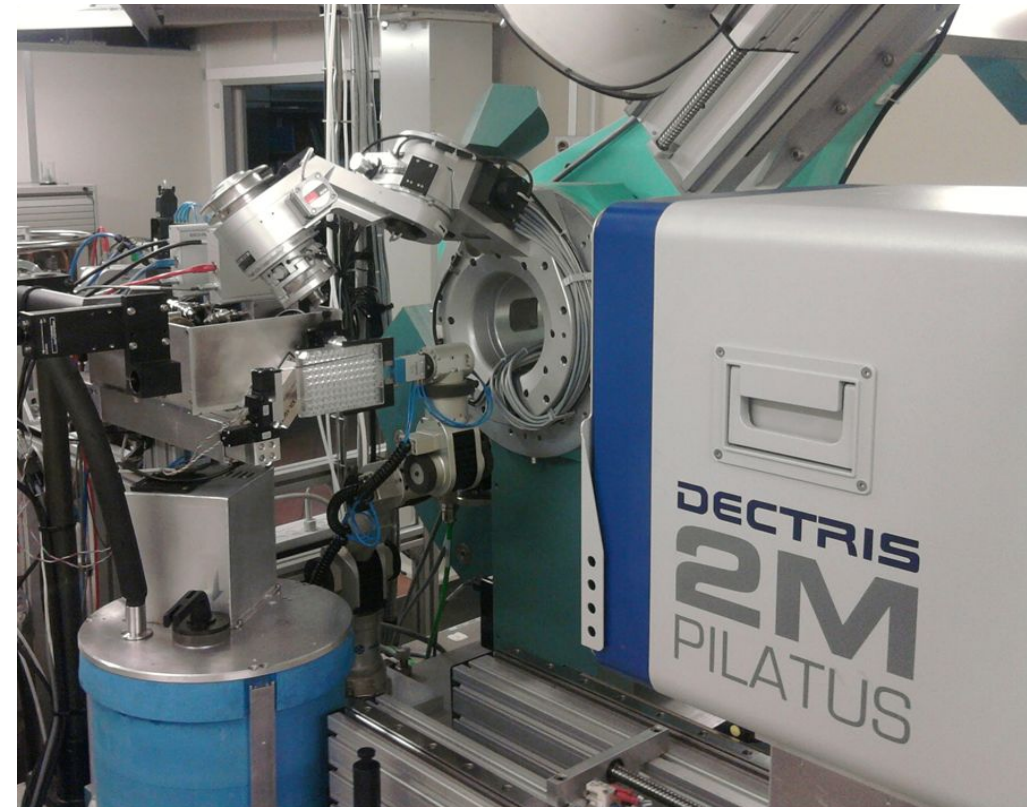
Elettra Sincrotrone Trieste

Brief beamlines summary (1)

XRD1 (X-ray diffraction):

General purpose XRD - multiple sample supports accepted

- Huber Kappa Goniometer
- Pilatus 2M
- Arinax BZoom
- Custom sample changer for SPINE
(Neuronics Katana on internally developed 5 ESRF pucks dewar and in-house developed Galil code)

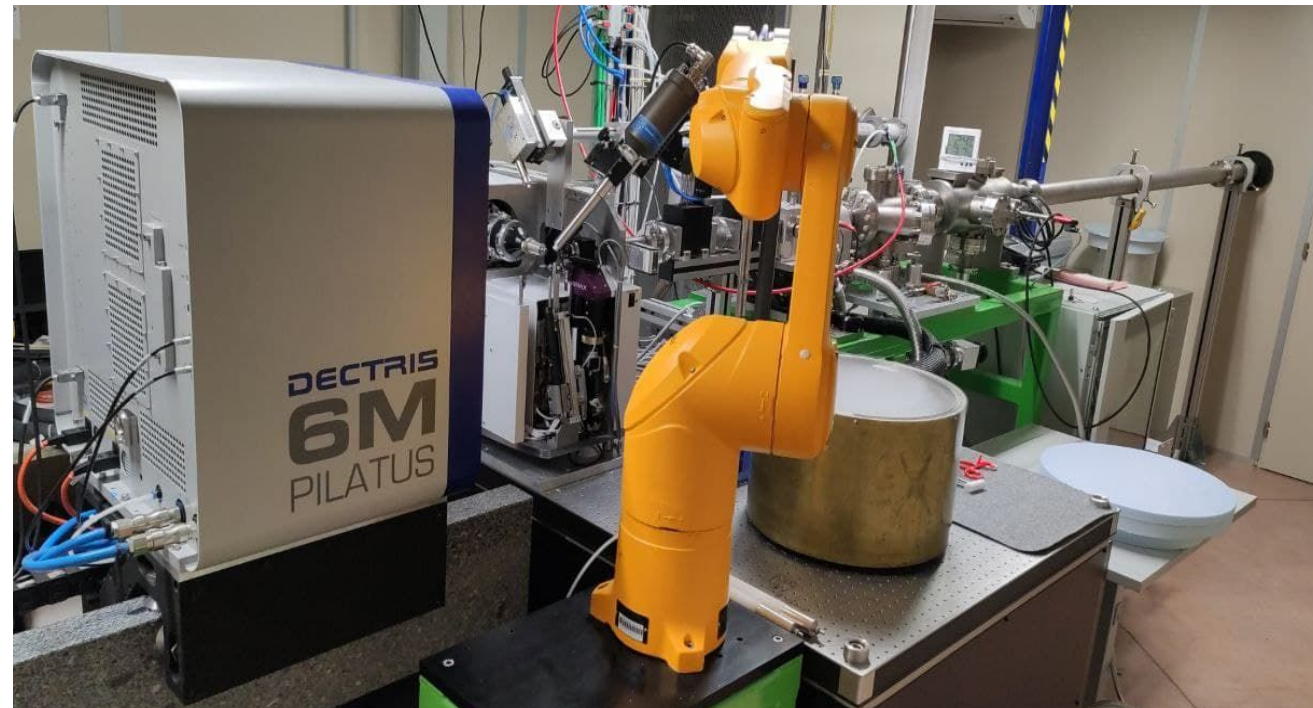


Brief beamlines summary (2)

XRD2 (X-ray diffraction 2):

Focussed on MX - SPINE standard samples only

- Arinax MD2s
- Pilatus 6M
- Arinax BZoom
- Custom sample changer
(Staubli TX60L on internally developed 12 Unipucks dewar and in-house developed Val3 code)



MXCuBE status (1)

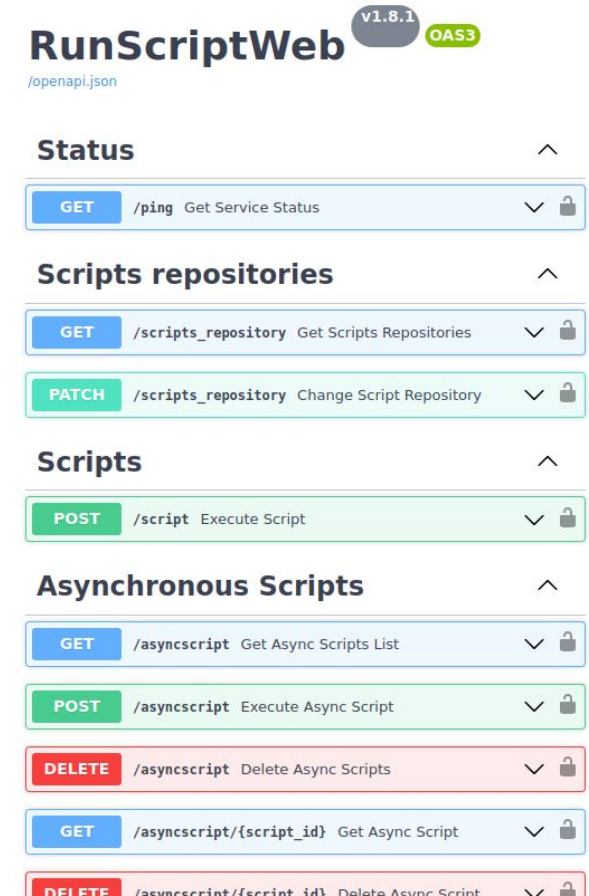
XRD1

- Deployment at glance:
 - Rocky Linux 9 (Red Hat):
 - Python 3.9
 - virtual environment
 - pip
 - MXCuBE Web version 4
- Developments focused on manual mounting (input validation), videostreaming (*videosteramer* extended with **flip**)
- Used for inhouse real samples
- Ready for production

MXCuBE status (2)

XRD2

- Deployment at glance:
 - Ubuntu 18.04.4 LTS
 - Python 2.7
 - pip
 - MXCuBE Web version 3
- continuing to develop and provide support for the MXCuBE web version 3
- GARR security tests (DDoS vulnerability)
- Reverse proxy with **SSL/TLS**
- Processing pipeline executed remotely on HPC using **RunScriptWeb** ⚡ **FastAPI** based
- Porting from 3 to 4

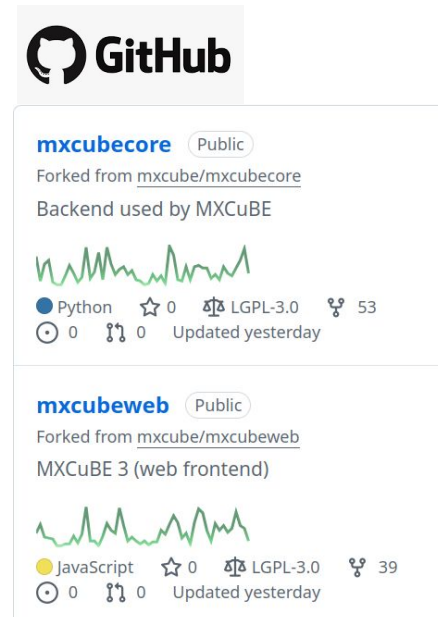


The screenshot shows the RunScriptWeb API interface. At the top right, there are version indicators: 'v1.8.1' in a grey circle and 'OAS3' in a green circle. Below the title 'RunScriptWeb' is the URL '/openapi.json'. The interface is organized into several sections, each with a title and an expand/collapse arrow:

- Status**: Contains one endpoint: GET /ping Get Service Status.
- Scripts repositories**: Contains two endpoints: GET /scripts_repository Get Scripts Repositories and PATCH /scripts_repository Change Script Repository.
- Scripts**: Contains one endpoint: POST /script Execute Script.
- Asynchronous Scripts**: Contains four endpoints: GET /asynscript Get Async Scripts List, POST /asynscript Execute Async Script, DELETE /asynscript Delete Async Scripts, and GET /asynscript/{script_id} Get Async Script.
- DELETE /asynscript/{script_id} Delete Async Script**: This endpoint is partially visible at the bottom.

Codebase management

- Versioning platform:
 - GitHub Elettra public account
 - <https://github.com/ELETTRA-Sincrotrone-Trieste/mxcubecore>
 - <https://github.com/ELETTRA-Sincrotrone-Trieste/mxcubeweb>
 - Self-hosted Gitlab
- Branching as suggested in the MXCuBE guidelines and two more branch *elettra/develop* and *elettra/main*
- Updates during shutdown



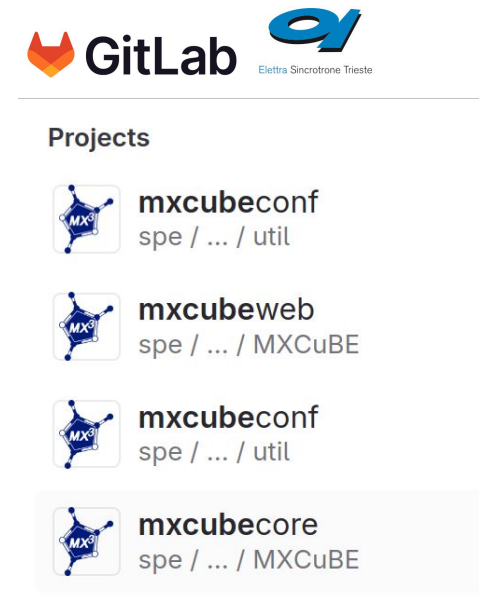
GitHub

mxcubecore Public
Forked from [mxcube/mxcubecore](#)
Backend used by MXCuBE

Python ☆ 0 LGPL-3.0 53
0 0 Updated yesterday





mxcubeweb Public
Forked from [mxcube/mxcubeweb](#)
MXCuBE 3 (web frontend)

JavaScript ☆ 0 LGPL-3.0 39
0 0 Updated yesterday

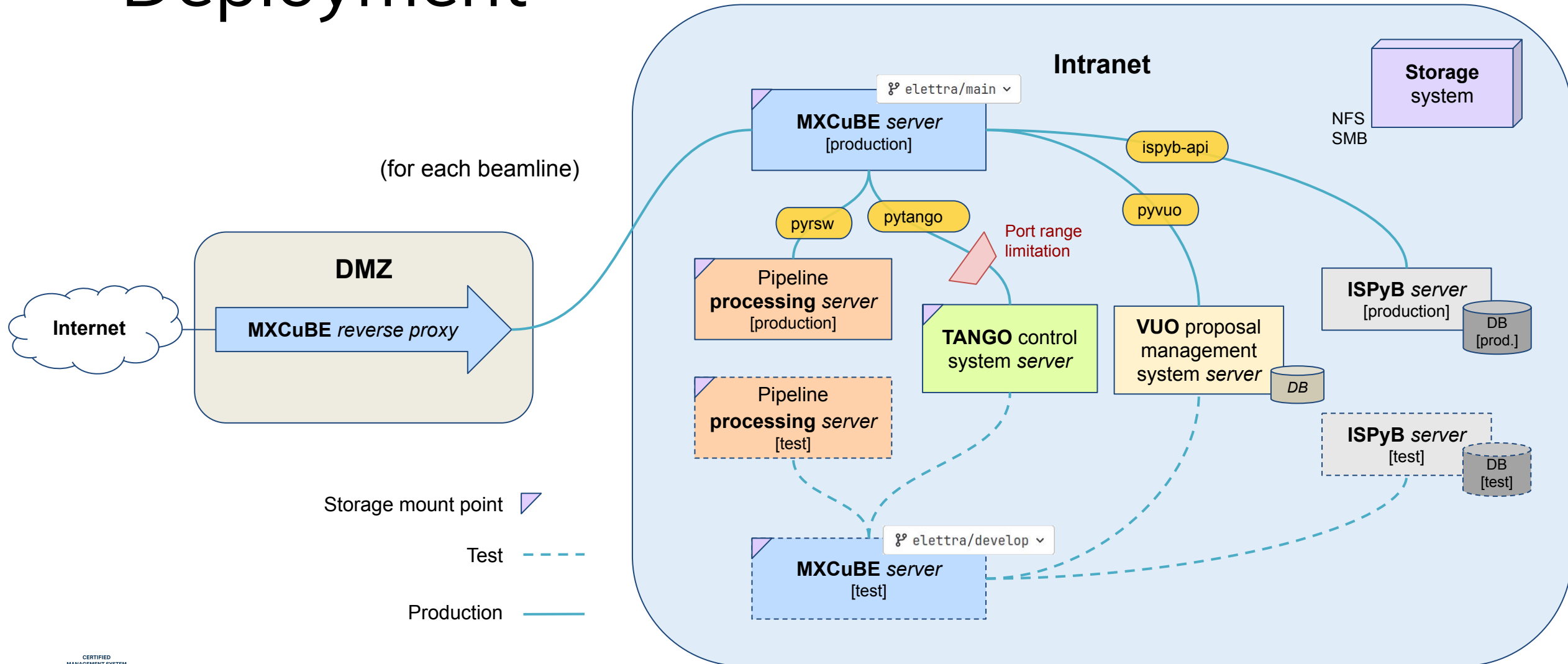


GitLab Elettra Sincrotrone Trieste

Projects

-  **mxcubecore**
spe / ... / util
-  **mxcubeweb**
spe / ... / MXCuBE
-  **mxcubecore**
spe / ... / util
-  **mxcubecore**
spe / ... / MXCuBE

Deployment



Plans for the next six months

- Update the codebase to the latest version from the upstream repository
- Add process pipeline for **XRD1**
- Complete porting from MXCuBE v3 to v4 for **XRD2**
- Pull requests !!!



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www.elettra.eu