New Rod Firmware repository, deploy system
and workflow

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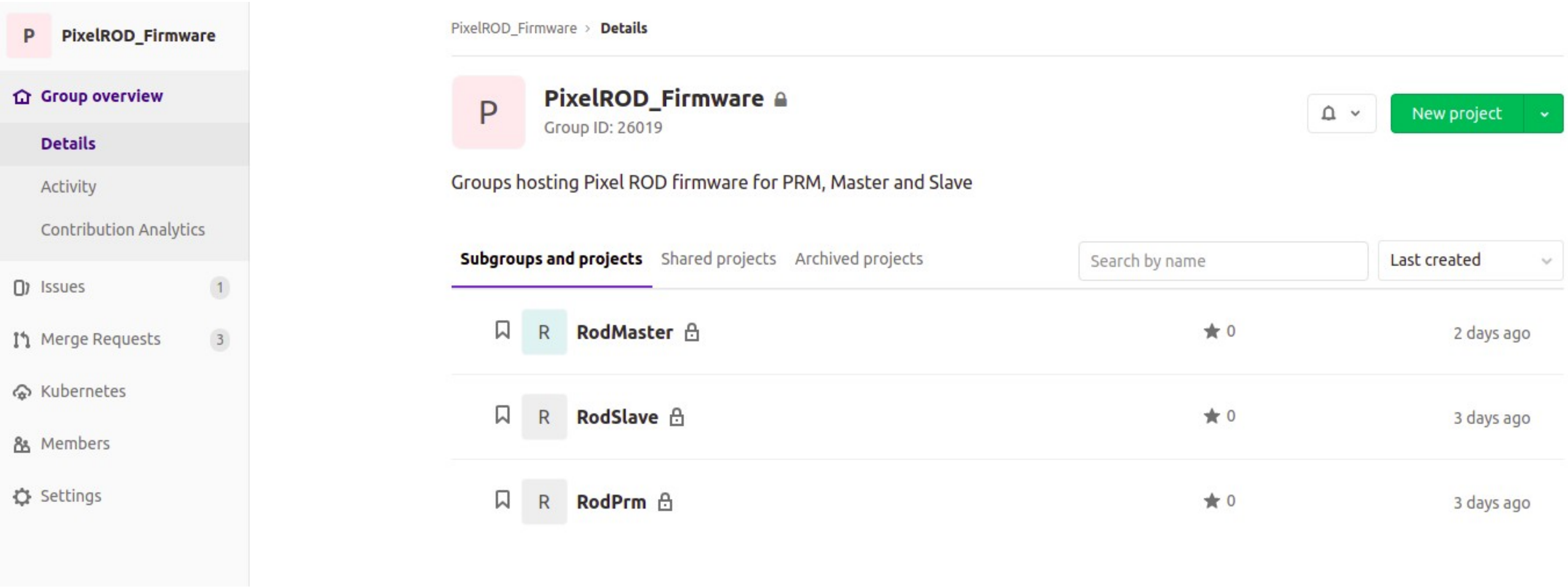
New Firmware repositories

New git group path:

https://gitlab.cern.ch/atlas-pixel/daq/pixelrod_firmware



PixelROD_Firmware

Group ID: 26019

Groups hosting Pixel ROD firmware for PRM, Master and Slave

R RodMaster	★ 0	2 days ago
R RodSlave	★ 0	3 days ago
R RodPrm	★ 0	3 days ago

RodPrm

Git repo path:

https://gitlab.cern.ch/atlas-pixel/daq/pixelrod_firmware/rodprm

Two main branches (protected, cannot push)

1) master → 2018 style branch + latest fixes (minor changes). **Tagged as V0.x**

2) user/bologna/Firmware_UBP → latest modification by Gabriele (major changes). **Tagged as V1.x** (timing failure)

Secondary branches

- **FixTiming** (from user/bologna/firmware_UBP) → empty, to be used to fix Firmware_UBP timing

RodMaster

Git repo path:
https://gitlab.cern.ch/atlas-pixel/daq/pixelrod_firmware/RodMaster

Two main branches (protected, cannot push)

1) master → 2018 style branch + latest fixes (minor changes). **Tagged as V0.x**

2) New_Features → latest modification by Gabriele (major changes). **Tagged as V1.x**

Secondary branches

- **newMasterTTCEmu** (from master)→ new TTC emulator (to be properly validated yet)

RodSlave

Git repo path:
https://gitlab.cern.ch/atlas-pixel/daq/pixelrod_firmware/RodSlave

Two main branches (protected, cannot push)

1) master → 2018 style branch + latest fixes (minor changes). **Tagged as V0.x**

2) Firmware_separated → calibration VS datataking + fix on terminations. **Tagged as V1.x**

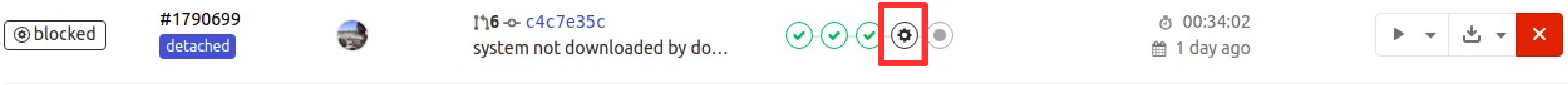
Secondary branches

- **gitSha** (from Firmware_separated)→ attempt to get SHA for dataTaking FW without MB
- **NewMerger** (from Firmware_separated)→ new slave merger for dataTaking
- **Firmware_SmartL1IDAlgorithm** (from Firmware_separated)→ smart L1ID algorithm for Pixel and Slave dataTaking fw
- *user/ngiangia/newTimeout* → very old attempt to implement new timeout mechanism (not working)

Workflow

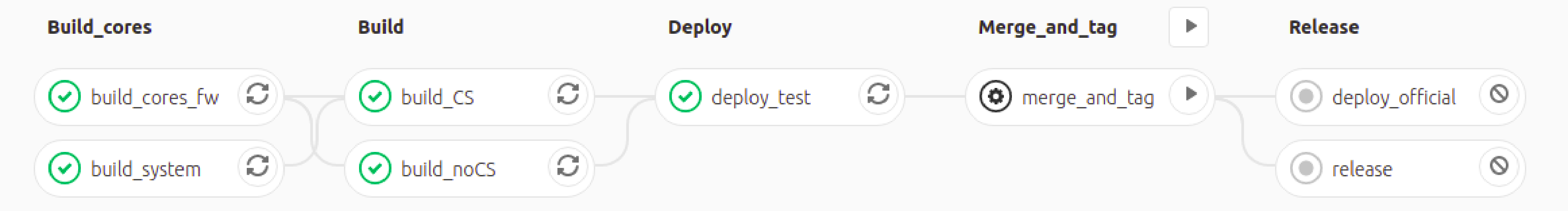
When adding/modifying something:

1) **create new branch** (from the one that needs to be modified)
2) work normally
3) **push** your branch and create **merge request**
4) **Continuous Integration** builds firmware and deploy it to **cvmfs (test)**
5) **Test** the firmware
6) If tests are successful, **resume Continuous Integration stages** (merge and tag) to automatically **tag** the new firmware, create **release** and **deploy to cvmfs (official)**



system not downloaded by do...

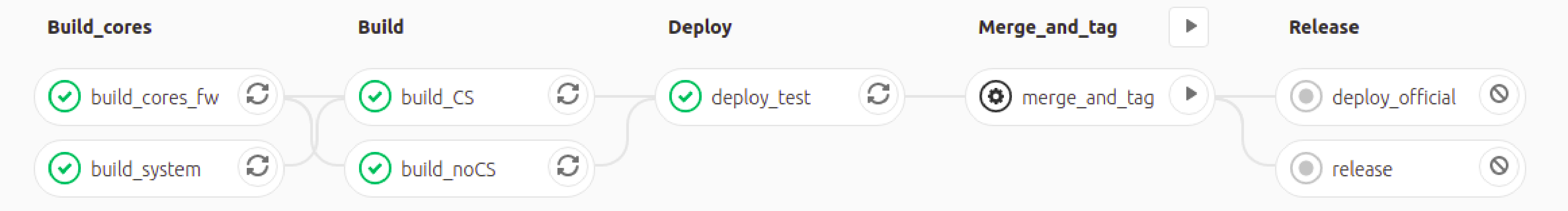
CI Stages



5 stages:

1) **build cores** → regenerates the fw cores. Precompiled cores (associated to their SHA) are stored in eos and retireved to speed up this process
2) **build** → generates the fw (with CS and without CS). Fails if timing errors. CS firmwares CAN fail
3) **deploy** → firmwares are copied to **cvmfs** in: rod/firmware/rodXXXX/test/$SHA/…
4) **Merge and tag** (to be **manually triggered** after testing fws) → automatically merges the branch (it should close the MR) and creates a new tag
5) **Release** (only after merge_and_tag) → creates **new release** with MR description as changelog and with **binaries**, copy binaries to **cvmfs** in rod/firmware/rodXXXX/official/$tag/… (the very same firmware is copied)

CI Stages



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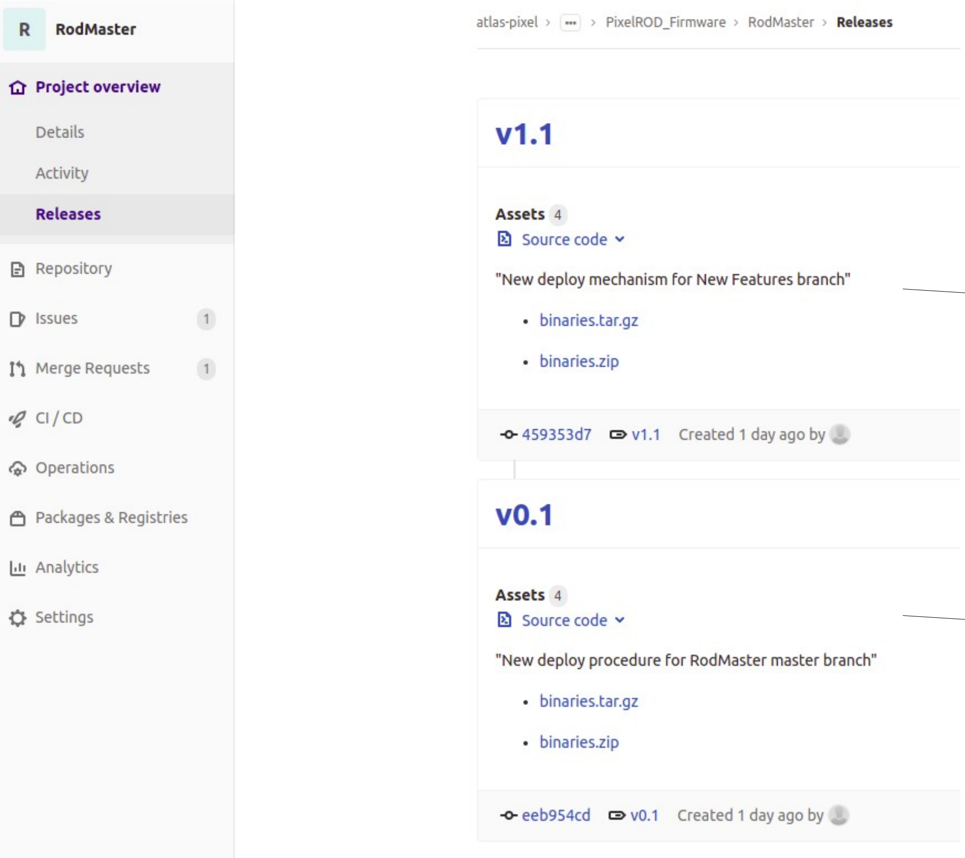
NOTE: the merged branch is not closed. Must be closed manually

RELEASES



v1.1

Assets 4
Source code

"New deploy mechanism for New Features branch"

- binaries.tar.gz
- binaries.zip

459353d7 v1.1 Created 1 day ago by

v0.1

Assets 4
Source code

"New deploy procedure for RodMaster master branch"

- binaries.tar.gz
- binaries.zip

eeb954cd v0.1 Created 1 day ago by

Example: current RodMaster releases

v1.1: first release based on **New_Features** branch (**v1.x**)

v0.1: first release based on **master** branch (**v0.x**)