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Hands-on: Test-beam Reconstruction with Corryvreckan

Wednesday, 10 February 2021 09:30 (2h 30m)

Corryvreckan is a modular test beam data reconstruction and analysis framework initially developed within the CLICdp collaboration, and used by a growing community including from many different experiments and institutes. Its modular structure allows for a separation between the framework core and the implementation of the algorithms in each module. This allows users to 'plug-in'the required modules and configure their parameters easily from one configuration file.

This 2.5h tutorial will guide you through the Corryvreckan framework and its functionality. You will learn how to configure your analysis, obtain result plots for your devices-under-test, and how to monitor you data quality online during data taking. In particular, the flexible event building mechanism will be explained and examples including the AIDA TLU and the EUDAQ2 event loader will be covered.

Preparation:

If you want to give *Corryvreckan* (or *Allpix Squared*) a quick try without installing it on your system, please follow the description provided here to download and setup a virtual machine with all required dependencies:

https://gitlab.cern.ch/jekroege/bttb9_tutorial_corryvreckan/-/blob/master/SetupVirtualMachine.md

Due to the download size of about 10 GB this may take a while, so please do so before the hands-on.

Alternatively, you can install Corryvreckan (v2.0.1 or latest) on your computer. In any case, the different installation options will be discussed in the tutorial and can be followed along.

If you decided to go for the Virtual Box, you're all set up. Otherwise continue reading.

Please clone the git repository with the example configuration file prior to the tutorial:

`git clone https://gitlab.cern.ch/jekroege/bttb9\_tutorial\_corryvreckan`

and download the example data sets:

`cd bttb9\_tutorial\_corryvreckan/data`

`./download\_example\_data\_01.sh     (only this if the connection is slow)`

`./download\_example\_data\_02.sh`

`./download\_example\_data\_03.sh`

More information can be found on the Corryvreckan website or on the Corryvreckan GitLab repository:

https://cern.ch/corryvreckan
https://gitlab.cern.ch/corryvreckan/corryvreckan

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