

Developing LBNE code with `mrB`

BV

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Fermilab pushes the use of a fairly new tool called `mrB` developed by Fermilab (by Lynn?) for developing packages built with art-flavor `CMakeList.txt` files. This includes `larsoft` and `lbncode` and is intimately entwined with UPS and all that entails.

This topic holds notes on attempts at following this paradigm.

1 Links

- Quick-start guide to using and developing LArSoft code (very long)
- LBNE DocDB 8441 "Introduction to LArSoft under git / `mrB` / ups"

2 Exercising it on RACF

2.1 First try

An initial try on RACF based on 8441.

Executive summary: `mrB` considered dangerous.

Details of problems of first attempt:

- `mrB -h` does not work. The error at least says one must set some `MRB_PROJECT` variable to the "master product" whatever that means.
- `mrB newDev` command doc says it has not required options but it does actually require `-v` and `-q`
- There is no version involved in development of a package, and certainly not a set of packages so this version is bogus at face value
- Specifying qualifiers is meaningless as they have to do with release quantities and `mrB` is supposed to be about development and anyways, qualifiers it wants only pertain to Fermilab-local installation details.

- "git flow" is required by `mrB` and it is available as a UPS packaged yet the user must know to "`setup gitflow`". Instead, "`setup mrB`" should be enough and "gitflow" should be set up implicitly as a dependency
- after manually doing "`setup gitflow`" and repeating the `mrB gitCheckout` it fails. The step is neither atomic nor idempotent. Apparently the only solution is to nuke the directory and repeat.
- repeating "`mrB newDev`" after nuking the area gives a cryptic warning message about some directory not being a directory. I guess this is due to running it in an previous set up user environment?
- sourcing the "`localProducts*/setup`" script grows the `PRODUCTS` variable each time with duplicate entries.
- `mrB` only partly hides what it does but still requires the user to know and adhere to a directory structure and it is a directory structure that it sets the conventions for. Commands are directory dependent and it's up to the user to be clairvoyant to know these details.
- finally after wading through all these problems I try to actually build `lbncode` which is all I wanted in the first place and it fails due to me apparently not guessing correctly about the "release" qualifiers to use for this development code.

This `mrB` software has absolutely no business being released. I can't believe people put up with this lack of quality and usability.

2.2 Second try

A second try was then made with an attempt to work around the problems with `mrB`. It was successful.