

LHCb Environment Scripts

Goals

- Configure and run the LHCb physics stack on as many resources as possible
- Allow development of LHCb software on common clusters of developers' machines

Constraints

- The LHCb physics stack builds on a limited set of operating systems
- Virtualization technologies are available but not consistently available

We need a set of scripts that can be installed anywhere to identify a way to work

Design principles

- Separation of concerns (environment configuration, development tools, admin tools, ...)
- It allows for independent release cycles
- Use standard tools (setuptools, pip, ...)

LHCb Nightly Builds scripts

Provides all scripts used in LHCb Nightly Builds (checkout, build, test, report, ...)

Tools for software librarians

Support packaging and deployment of releases

Tools for developers

Scripts and support files required for development (source formatting tools, CMake modules, ...)

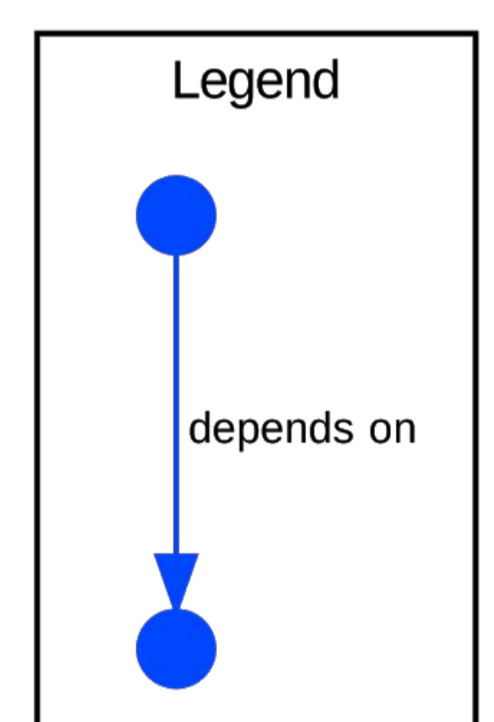
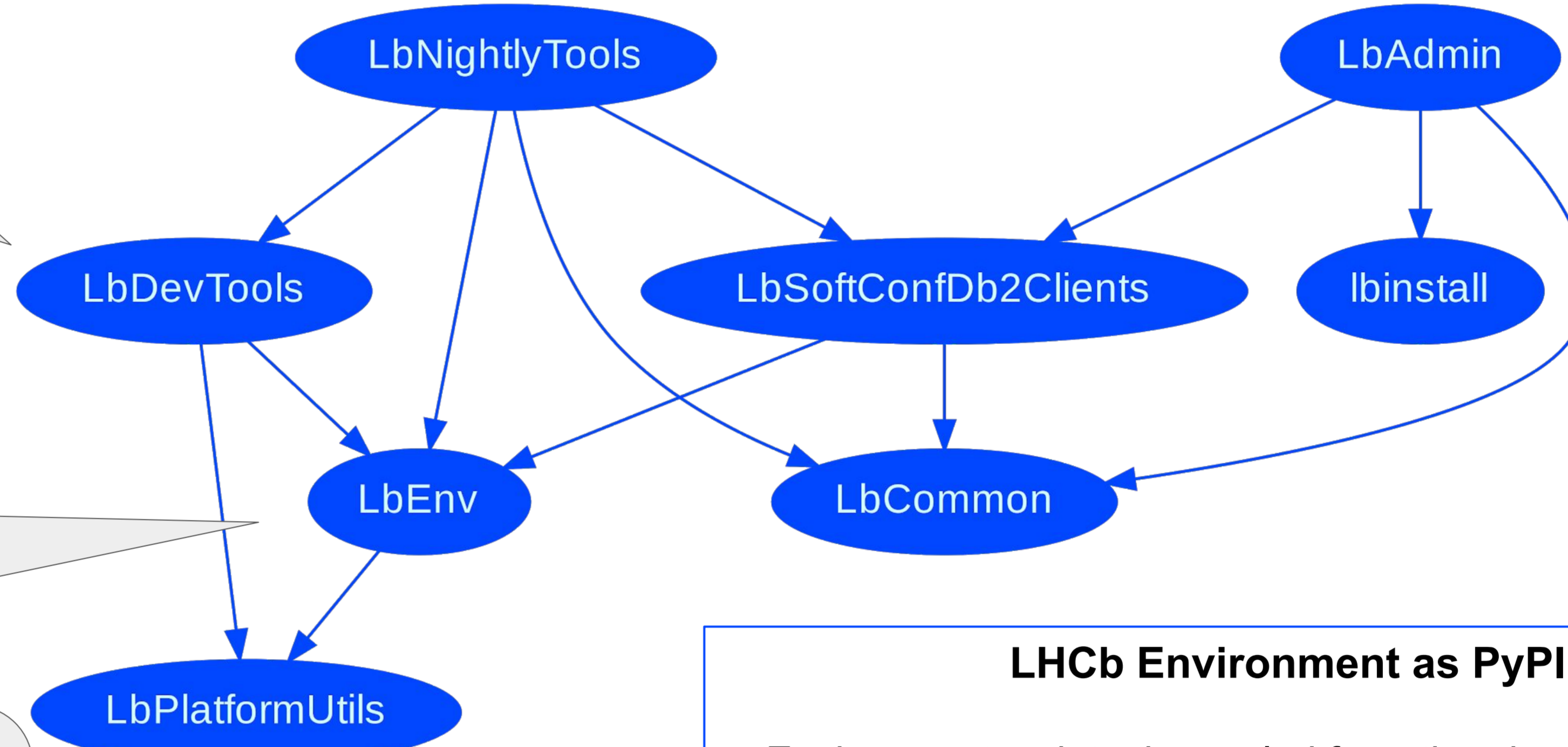
Physics software runtime

Everything that is needed to prepare the runtime environment for physics software applications. If needed can use containers to abstract from the host OS.

Platform detection

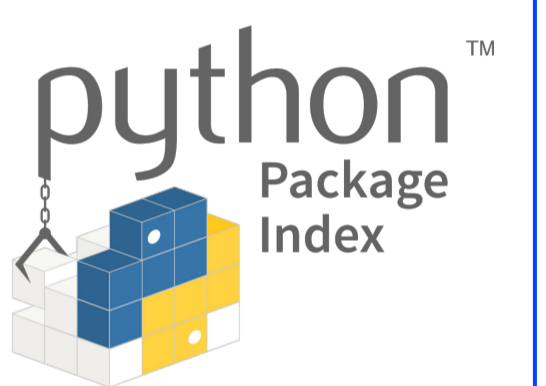
One package to identify the platform and check compatibility

- Used by the login scripts AND by the Grid middleware
- Can identify containerization technologies



LHCb Environment as PyPI packages

- Environment scripts decoupled from the physics stack
- Standard distribution and installation mechanism
- Easy to reuse standard Python tools
- Grid jobs can use their own version



Need to work on ANY Python version supported by pip



Uses cases for the installation of the LHCb Environment

