

C++ as a service — rapid software development and
dynamic interoperability with Python and beyond

Interactive C++: cling and clang-repl

Vassil Vassilev

07.10.2021

Status. Clang-Repl

- ❖ Enabled plugins for clang-repl, tested clad and it just works!

Status. Cling

- ❖ Continuing to rebase cling on top of llvm13
- ❖ Worked towards xeus-clad combining clad and xeus-cling conda packages

Status. InterOp

- ❖ The document is ready. We are looking forward to your feedback.

Plans

- ❖ Prepare a paper about the work we've completed.
- ❖ Enable error recovery for advanced C++ code (eg template instantiation)
- ❖ Accelerate upstreaming clang patches
- ❖ Automatically differentiate the CUDA kernels (including computation scheduler)

CaaS Open Projects

- ❖ Patches against clang.git
 - ❖ Implement FileManager uncaching
 - ❖ Adapt the user of invalidateCache to its new signature
 - ❖ Mark the file entry invalid, until reread
 - ❖ Propagate cache flags from LookupFile() to FileManager::getFile()
 - ❖ Pass the OpenFile flag also to DirectoryLookup
 - ❖ Do not load the source file just to get an irrelevant SourceLoc (ROOT-7111)
 - ❖ Allow interfaces to operate on in-memory buffers with no source location info [Pratyush Das]
- ❖ Open projects are tracked in our open projects page.

Next Meetings

- ❖ Monthly Meeting — 6th October, 1700 CET / 0800 PDT
- ❖ Tentative talk schedule:
 - ❖ LLDB, Raphael Iseemann, Apple, Nov

If you want to share your knowledge / experience with interactive C++ we can include presentations at an upcoming next meeting

Thank you!