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

Interactive C++: cling and clang-repl

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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
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 — 4th November, 1700 CET/0800 PDT
- Tentative talk schedule:
  - LLDB, Raphael Isemann, Apple, Nov

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