

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

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- ❖ Ioana Ifrim started with us in mid-Feb
- ❖ A direct target is to get cling, clad and CUDA work well together

# Status

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- ❖ Progress on llvm patches:
  - ❖ Working on <https://reviews.llvm.org/D91524>
- ❖ LLVM9 landed in ROOT
  - ❖ We spent a week to stabilize and perhaps one more is needed
  - ❖ Will release cling with llvm9 soon after
- ❖ Started looking into building the cling plugins by default
  - ❖ That would help us expose clad to xeus-cling

# Status

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- ❖ Proposed a very limited version of clang-repl following the design of cling: [\[D96033\]](#). Comments being addressed — looks like we are converging.
- ❖ Slowly advancing in executing C++ function using the CUDA backend in cling
- ❖ Preparing for the Google Summer of Code 2021
  - ❖ Very good early activity by students but also can be a time consuming task
- ❖ Early stage technical specification of the language interoperability layer — [here](#).
  - ❖ We have not yet made a second revision based on this discussion. Meanwhile, additional comments are welcome.

# Next Month Plans

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- ❖ Prepare a third blog post
- ❖ Second revision of the interoperability spec

# CaaS Open Projects

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- ❖ 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 out open projects page.

# Next Meetings

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- ❖ Monthly Meeting — 25th Mar, 1700 CET / 0800 PST

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

Thank you!