

*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 of Cling development

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- ❖ Currently Cling is being upgraded to LLVM9
  - ❖ Complete -- we have 0 failing tests
    - ❖ The relevant branches [cling](#), [clang](#), [llvm](#)
  - ❖ Integration in ROOT — ~5 failing tests (likely correlated)
    - ❖ ROOT pull request - [PR6385](#)
- ❖ Work on GitHub CI Actions [Pratyush Das]
  - ❖ Done. Now we are moving Clad to the more robust GitHub actions system. Travis introduced quota system which makes this urgent.

# Status

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- ❖ Our website is live — <https://compiler-research.org/>
- ❖ The llvm blog post was released — <https://blog.llvm.org/posts/2020-11-30-interactive-cpp-with-cling>
- ❖ Working on <https://reviews.llvm.org/D92248>, <https://reviews.llvm.org/D91524> and <https://reviews.llvm.org/D91061>
- ❖ Early stage technical specification of the language interoperability layer — [here](#).

# Tentative Plans Until End of The Year

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- ❖ Develop initial version of Clang-Repl
- ❖ Propose a patch against clang for libIncremental (aka clang IncrementalAction)
- ❖ Prepare a second blog post

# 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]
- ❖ Infrastructure
  - ❖ GitHub PR Code Coverage — see [this example](#).
  - ❖ Automatically upload nightlies to a special release tag — see [this example](#).
- ❖ Packaging
  - ❖ Improve cpt -- fix deb package creation; use python instead of calls to mv, wget, etc.

# Proposed Next Meetings

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- ❖ Week of 11th of Jan — please fill in the doodle poll
- ❖ Week of 3rd of Feb

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

Thank you!