./clang-talk

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CLANG
ALL THE THINGS
memegenerator.net

Clang Tooling

Clang Tooling

libClang

Clang Tooling: libClang

```
#include <stdio.h>
#include <clang-c/Index.h>

CXChildVisitResult
visit(CXCursor cursor, CXCursor, CXClientData data) {
  const CXSourceLocation location = clang_getCursorLocation(cursor);
  if (!clang_Location_isFromMainFile(location)) {
    return CXChildVisit_Continue;
  }

  const CXString spelling = clang_getCursorSpelling(cursor);
  printf("%s", clang_getCString(spelling));
  clang_disposeString(spelling);

  return CXChildVisit_Recurse;
}
```

Clang Tooling: libClang (Python)

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```
import clang.cindex as clang

def walk(cursor):
  print(cursor.spelling)
  for child in cursor.get_children():
    walk(child)
```

Clang Tooling

libTooling

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Clang Tidy

```
./clang-tidy -checks="*,my-check" file.cpp
```

Clang Tooling: libTooling

Clang Tidy

```
./clang-tidy -checks="*,my-check" file.cpp
```

Clang Plugin

```
./clang++ -Xclang load -Xclang my-check.so \
-Xclang -add-plugin -Xclang my-check file.cpp
```

Clang Tooling: libTooling

Clang Tidy

```
./clang-tidy -checks="*,my-check" file.cpp
```

Clang Plugin

```
./clang++ -Xclang load -Xclang my-check.so \
-Xclang -add-plugin -Xclang my-check file.cpp
```

Clang Tool

```
./my-check file.cpp
```

Clang Tooling: libTooling

Clang Tooling: libTooling

```
const
```

Clang Tooling: libTooling

```
const auto lambda = [] () {

};
```

Clang Tooling: libTooling

```
const auto lambda = [] (auto) {

};
```

Clang Tooling: libTooling

```
const auto lambda = [] (auto) noexcept {

};
```

Clang Tooling: libTooling

```
const auto lambda = [] (auto) noexcept {
    bool done = true;
    flip: done = !done;
    if (!done) goto flip;
};
```

Clang Tooling: libTooling

```
const auto clang_lambda = [] (auto) noexcept {
    bool done = true;
    flip: done = !done;
    if (!done) goto flip;
};
```