

CMake-Tutorial

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What is a Build System?

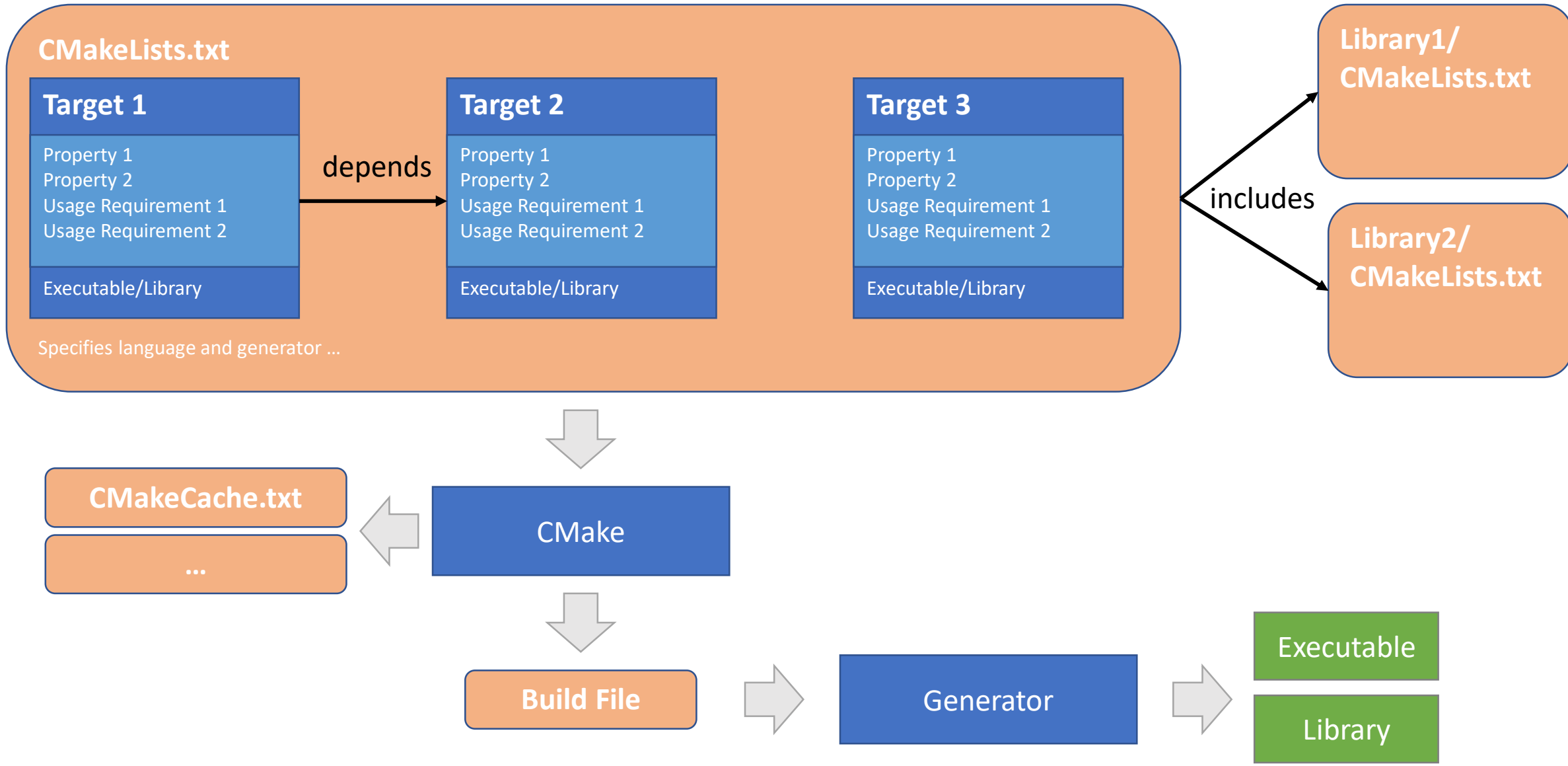
- It is a collection of tools for automating the program compilation
- At its core, there is normally a functional based language. It maps a set of source resources (files) to a target (executable/libraries).
- Build Systems: Make, Ant, Jam, ...

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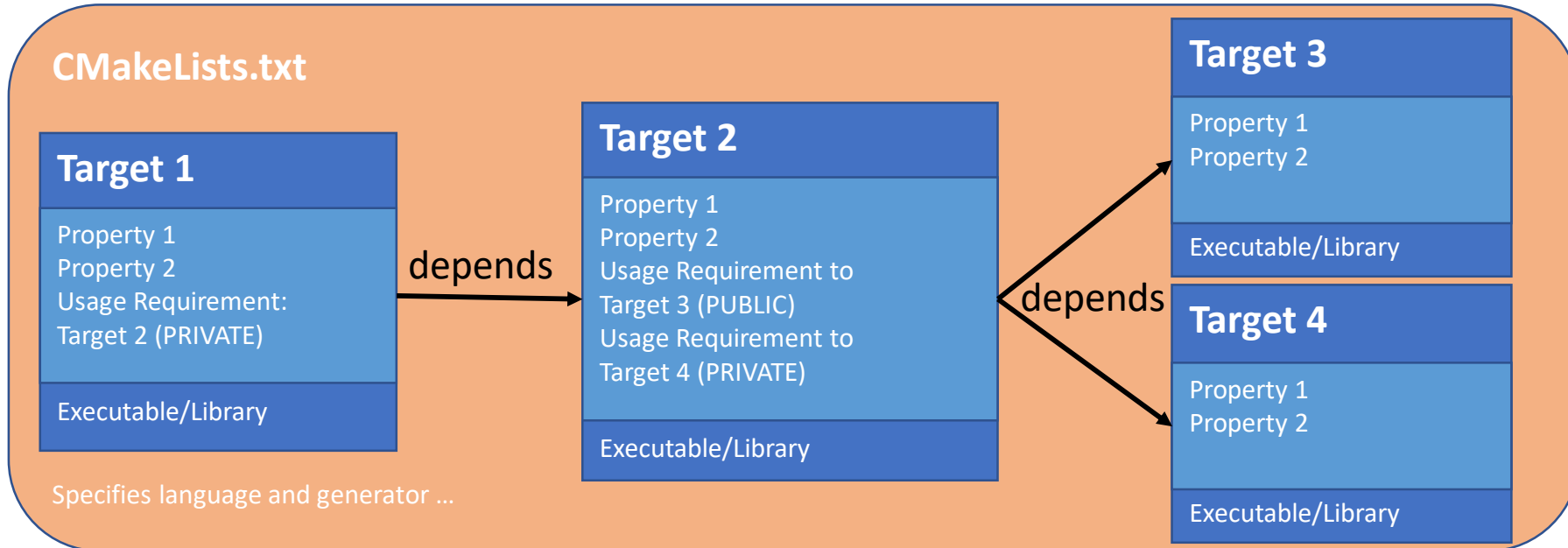
What is CMake?

- CMake builds build systems
- Can be used for multiple programming languages
- Open Source

How does CMake work?



PUBLIC, PRIVATE and INTERFACE



- PUBLIC Usage Requirements are propagated to Childs
(i.e *Target Usage Requirement to Target 3* is propagated to Target 1)
- PRIVATE Usage Requirements are NOT propagated to Childs
(i.e *Target Usage Requirement to Target 4* is NOT propagated to Target 1)
- INTERFACE If dependency only used by its header, you can use INTERFACE dependencies

Recommended Project Structure

```
└─ MY_APP_PROJECT
  └─ BUILD
  └─ doc
  └─ src
    └─ app
      └─ include
      └─ src
      └─ test
      └─ CMakeLists.txt
    └─ library1
      └─ include
      └─ src
      └─ test
      └─ CMakeLists.txt
    └─ library2
    └─ CMakeLists.txt
```

References

- <https://cmake.org/cmake/help/v3.14/index.html>