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C++ Atomics: An Overview

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std::atomic introduced since C++11 is used as a building block for lock free programming. However while the default flags provide the maximum consistency; the do come with a performance penalty and may not be what you want in all cases. We will look under the hood, at a top level on what the processor sees when an atomic is encountered, the acquire and release semantics, which are fundamentally what mutexes use; and thus understand what the various memory order flags mean and when it is safe (or unsafe) to use them.

Primary author: LEKSHMANAN, Abhishek

Presenter: LEKSHMANAN, Abhishek

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