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CppNext

C++ Next

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CppNext - Version: 1

 1 days Course

Description:

One day overview of new features of latest C++ standards. We will review the major features introduced in C++20, focus on C++23 additions to the language and standard library and give a glimpse of things to expect in C++26.

Intended audience:

This course is intended for developers, team leaders and R&D Managers with hands-on experience programming with modern C++.

Prerequisites:

Experience in programming with modern C++ is a must.
Experience with C++17 language and standard library features.

Objectives:

Become acquainted with cardinal features in latest C++ standards with major impact on the way we write code and organize software.

Topics:

C++20 Refresher on major features



- Ranges and views
- Concepts
- Operator `<=>`

C++23 features

- `td` and `std.compat` modules
- Monadic enhancements to `std::optional`
- `std::expected`
- `flat_map` and `flat_set`
- Fold expressions for ranges
- safe formatted output
- `std::generator` and coroutines
- Stacktrace
- Explicit object parameter – deducing this
- `if constexpr`
- Multidimensional subscript operator
- Static operator[] and static operator()
- Decay copy with `auto(x)`
- `[[assume(x)]]`

C++26 overview : what to expect

- Pack indexing
- Place holder variables with no name
- Variadic friends
- Structured binding as a condition
- Make math and complex functions `constexpr`
- Saturation arithmetic operations
- Debugging support

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- User friendly assert macro
- `std::execution` & sender-receiver model of execution control