
Introduction to Modern C++

Created on February 28, 2026

The logo for AKDAB is a blue speech bubble shape with the text "AKDAB" in white. The letter 'A' is stylized with a white lightning bolt or wave-like symbol to its left.

AKDAB

Trusted Software Excellence

- A whirlwind tour of C++
- What is C++?
 - Hello, world!

No part of this publication may be made available to others than the named licensee which is shown on every page by any means, electronic, mechanical, photocopying, recording or otherwise, or translated into any language, without the prior written permission of the publisher.

C++ Fundamentals

- Control flow
 - Control flow
 - Selection statements
 - Iteration statements
 - Jump statements
- Data types
 - Fundamental types
 - Derivative types
- Functions
 - Functions in C++
 - Function overloading
- Objects
 - Object Declarations
 - Object Lifetime

User-defined Types

- Classes
 - Introduction to Classes
 - Construction, destruction and assignment
 - Static members
 - Inheritance and runtime polymorphism

C++ Standard Library

- Introduction
- Containers
 - Introduction
 - `std::vector`
 - `std::map`
 - `std::unordered_map`
- Iterators
- Algorithms

Optional topics

- Exceptions
- Lambdas
- Type Inference
- Templates
 - Introduction
 - Templates
- Rvalue References
- Namespaces
- Operator Overloading
- Static Lifetime
- User declared types
 - Enumerations
 - Type aliases
- Smart Pointers
- The C++ Compilation Model