

# C++ Language – Object Oriented Programming

Course code: CPP\_OOP

The course is intended for people who are switching from C to C++ or simply want to start designing and implementing objects in C++. The demonstrated techniques are strictly platform-neutral and can be used in Windows, Unix, Linux etc.

## Who is the course for

The course is intended for programmers, testers and project leaders who want to learn about designing and implementing objects in C++.

## What we teach you

Definition of an object in C++

Object attributes and methods

Access rights to attributes and methods

Constructors, implicit constructors, copy constructors

Destructors

Inheritance

Virtual functions, destructors

New and Delete operators

Static attributes and methods

## Required skills

Skills corresponding to the C and C++ programming languages course (MSCPP1)

## Course Outline

Introduction to Object Oriented Programming

- Objects and Classes
- Encapsulation of objects
- Class Inheritance
- Using polymorphism

Object oriented programming

- Class keyword
- Defining attributes
- Naming Conventions
- Defining scope
- Defining Methods
- Defining Methods overriding
- New and Delete operators
- Constructors and destructors
- Deep and shallow copy of object

Inheritance in C++

- Introducing to Inheritance in C++
- Samples of objects hierarchies
- Protected keyword
- Using constructor for parent object
- Using methods and attributes of parent object

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# C++ Language – Object Oriented Programming

- Inheritance versus aggregation

## Polymorphism in C++

- Virtual methods
- Polymorphic containers
- Virtual destructors
- Abstract classes and methods
- Static attributes and methods
- Overriding operators
- Explicit constructors
- Errors and Events

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