

# **Object Oriented Programming OOP IEC61131-3 Youtube Course by Runtimevic**

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**Object Oriented Programming OOP IEC61131-3 PLC Youtube Course by  
Runtimevic.**

*runtimevic*

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## 1. Requeriments

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## 2. Introduction

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### 3. Types of paradigms

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## 4. Concepts Previous

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### 4.1 Type of Data

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## 4.2 Variable types and special variables

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## 4.3 Access modifiers

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## 4.4 Access Modifiers Table

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## 5. Classes and Objects

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### 5.1 Classes and Objects

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## 5.2 Function Block

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### 5.2.1 Function Block

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## 5.2.2 Function Block Access Modifiers

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### 5.2.3 Function Block Declaration variables

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## 5.2.4 Constructor and Destructor

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## 5.3 Object Method

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### 5.3.1 Method

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## 5.3.2 Method access modifiers

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### 5.3.3 Method Declaration of variables

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### 5.3.4 Method return variable types

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## 5.4 Object Property

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## 5.5 Inheritance

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### 5.5.1 Inheritance Function Block

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## 5.5.2 Inheritance Structure

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### 5.5.3 Inheritance Interface

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## 5.6 THIS pointer

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## 5.7 SUPER pointer

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## 5.8 Interface

---

## 5.9 pointer and reference

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## 5.10 Keyword Abstract

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## 5.11 Abstract FB vs Interface

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## 5.12 Fluent Interface

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## 5.13 Interface vs Inheritance

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## 5.14 Further operators

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## 6. OOP Principles

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### 6.1 4 Pillars

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## 6.2 Abstraction

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## 6.3 Encapsulation

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## 6.4 Inheritance

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## 6.5 Polymorphism

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## 7. SOLID

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### 7.1 SOLID

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## 7.2 SRP - Single Responsibility Principle

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## 7.3 OCP - Open/Closed Principle

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## 7.4 LSP - Liskov Substitution Principle

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## 7.5 ISP - Interface Segregation Principle

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## 7.6 DIP - Dependency Inversion Principle

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## 8. UML

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### 8.1 UML

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## 8.2 Class UML

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## 8.3 Relations

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## 8.4 StateChart UML

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## 9. Types of Design for PLC programming

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## 10. Design patterns

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### 10.1 Design patterns

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## 10.2 Strategy Pattern

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## 10.3 The Abstract Factory Pattern

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# 11. Libraries

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## 12. Links OOP

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## 13. TDD

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### 13.1 TDD - Test Drive Development

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## 13.2 Units Test

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