Advanced Embedded C++

Duration - 3 Days / 24 Hours

Program Description

This program offers an in-depth exploration of object-oriented programming (OOP) concepts using C++.
Participants will learn about the foundational principles of classes and objects, inheritance, and the use of templates for generic programming.
The course covers essential topics such as exception handling, memory management, smart pointers, and multithreading for concurrent programming.
Additional focus will be on real-time considerations, design patterns for embedded systems, and strategies for porting and cross-platform development.

Learning Goals

- Understand and apply object-oriented programming concepts in C++.
- Create and manipulate classes and objects, utilizing inheritance effectively.
- Implement templates and generic programming techniques to enhance code reusability.
- Handle exceptions appropriately in embedded C++ applications.
- Manage memory efficiently using smart pointers and understand memory management best practices.
- Develop multithreaded applications and address concurrency issues in C++.
- Recognize and implement real-time programming considerations for embedded systems.
- Apply design patterns effectively to solve common problems in embedded system development.
- Execute porting strategies and manage cross-platform development challenges

Course Topics

- Object-Oriented Programming Concepts
- Classes, Objects, and Inheritance in C++
- Templates and Generic Programming
- Exception Handling in Embedded C++
- Memory Management and Smart Pointers
- Multithreading and Concurrency in C++
- Real-time Considerations in C++
- Design Patterns for Embedded Systems
- Porting and Cross-Platform Development

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Modules can be customized to suit client's specific needs and duration accordingly