

Confidential

“An Advance Training on Symbian Essentials and Application Development”

Overview:

This course is targeted for those who want to achieve the Accredited Symbian Developer Certification.

This is a hands on course aimed at developers new to C++ programming for Symbian OS. It covers

- Symbian OS overview,
- development tools,
- program development,
- resource and memory management,
- descriptors,
- dynamic arrays,
- active objects,
- client-server architecture,
- File Server and stream stores.

The Symbian OS Essentials course explores the essential programming techniques required by all Symbian OS developers and acts as a foundation course to the more specialized Application Engine and System Programming Course. Details of this course are available upon request.

The Symbian OS Essentials course consists of approximately 50% lectures and 50% practical work.

Objective:

For participants to gain a wide understanding of Symbian OS and practical experience of essential Symbian OS programming issues.

Upon completing this course, participants will be able to:

- Develop simple programs for the emulated environment and target devices
- Use Symbian OS development tools competently
- Debug and test Symbian OS code
- Understand the functionality of the fundamental components of Symbian OS
- Use the Symbian OS memory management model
- Use descriptors, dynamic arrays and stream stores
- Implement an active object framework in simple applications and understand its relationship to the Symbian OS client-server architecture

Prerequisites:

The course is designed for new Symbian OS developers who have a reasonable understanding of OOA/OOP and C++ in particular. While the essentials of the Carbide.c++ integrated development environment (IDE) are covered on the course, previous familiarity is beneficial.

Duration: 32 Hours

Miracle Corporate Solutions Pvt. Ltd., C-41,GF, Behind Nirula's Hotel, Sec-2, Noida
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Course Content:

1. Introduction to Symbian OS
 - Overview
 - Key components and their organization
 - Application structure: engines and UIs
 - Platform security introduction
2. Symbian OS Development Tools
 - Overview of Symbian OS development
 - BAKs, DevKits, CustKits and SDKs
 - Kit installation, usage and documentation
 - Symbian OS build tools and the development process
 - Unique identifiers and capabilities
 - Introduction to Symbian Signed
 - Differences between target and emulated platforms
3. Developing Programs
 - The three different types of Symbian OS program: EXEs, shared library DLLs and plug-ins
 - Platform security capability rules
 - Special Symbian OS coding conventions
 - Basic Carbide.c++ commands
 - Debugging and testing techniques
4. System Structure
 - Architecture and implications
 - Processes and threads
 - Kernel mode vs. user mode
 - Types of function call (user and executive requests)
 - More on platform security
5. Resource and Memory Management
 - Overview of memory leaks
 - Use of 'Leave' and TRAP harnesses to handle exceptions
 - Two-phase construction pattern
 - Using the cleanup stack for resource management
 - Object ownership rules
 - Using the Memory Leak Detector and Allocation Failure Simulator
6. Descriptors
 - What descriptors are and why we use them
 - The descriptor class hierarchy
 - The features of the various descriptor types
 - When to use each concrete descriptor type
 - When to use the abstract descriptor types
7. Dynamic Arrays
 - Overview
 - Use of segmented vs. flat arrays
 - Arrays for fixed and variable-sized elements
 - Searching and sorting using array keys
8. Active Objects
 - Why active objects (AOs) are used within Symbian OS programming
 - Life cycle of AOs
 - CActive and CActiveScheduler classes
 - Implementing simple AOs
9. Using Servers
 - Client-server architecture overview
 - Introduction to some key system servers
 - Sessions and sub-sessions
 - Associated cleanup issues

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Embedded Systems.

- This reference material is developed by our corporate trainers and software engineers from top notch industries.
- There will regular attendance of the student. One has to show at least 75% attendance then only he will be eligible for certification.
- The grades will be assigned on the basis of regular test results.
- There will be recognitions and rewards for well performing candidates.