

# Microsoft Windows™ 32-Bit API

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## Course Overview:

This course teaches students about a number of the more important 32-bit API functions. It does *not* address GUI issues, however. The time is spent two thirds on lectures and one third on writing and debugging lab problems. To reinforce the theory, lab sessions are run immediately after the lectures to which they apply.

**Course Length:** 2-days

## Goals:

Provided students meet the prerequisites, at the end of the course they should have a good understanding of the following:

- Be knowledgeable about internationalization in general and about Microsoft's and C/C++'s support for it in particular.
- Be able to debug scientifically an access violation.
- Be starting to think about how to handle API errors in a rational fashion from within production programs.
- Be able to understand what a thread is, how one is created, and why multithreading is important.
- Understand objects and handles.
- Understand the need for and method of achieving interprocess communication.

## Who Should Attend:

Programmers and technical managers who need to implement or manage projects using the 32-bit API.

## Prerequisites:

Students are expected to be fluent in C or C++. Some knowledge of the workings of a sophisticated operating system would be beneficial.

## Materials:

- *Microsoft Windows 32-Bit APIs* – This manuscript was written specifically for teaching. It serves as a useful reference once the course has been completed.

## Detailed Topics:

The main topics covered are:

- The Memory Layout of Win95/NT
- Internationalization (introduction)

- API Error Detection and Handling
- Threads and Thread Synchronization
- Objects and Handles
- Interprocess Communication