

Course Title:	Assembly Language Training
Course Code:	COSEINC-ALT
Course Instructor:	Edgar Barbosa
Course Duration:	5 days
Course Fee:	S\$3000 per student
Class Size:	10 students (minimum)
Target Students:	Security Researchers, Security Professionals, Software Developers
Student Prerequisite:	Basic knowledge of computer architecture Basic knowledge of Windows API programming Experience with basic programming concepts
Software Requirement:	Ollydbg, Fasm disassembler, Masm32
Hardware Requirement:	Laptop computer
Course Brief:	This course will teach students how to use the most powerful language available to PCs: assembly language. Students will learn all the basics of computer architecture, the x86 and x64 instruction sets and how to create real programs with assembly language, including Windows programs and Kernel Device Drivers.
Course Outline:	<p>IA-32 architecture</p> <p>Operating modes: Real-mode, Protected-mode, Long-mode</p> <p>Memory organization</p> <p>General purpose registers</p> <p>Data types</p> <p>Instruction Set</p> <ul style="list-style-type: none"> Arithmetic instructions Data movement instructions String instructions Stack instructions Branch instructions I/O instructions FPU instructions MMX instructions SSE, SSE2, SSE3 and SSSE3 instructions VMX instructions <p>Tools</p> <ul style="list-style-type: none"> Microsoft Macro Assembler (MASM) FASM <p>Programming</p> <ul style="list-style-type: none"> Assembly 16-bits Assembly 32-bits Assembly 64-bits <p>Development</p> <ul style="list-style-type: none"> Creating Windows applications with MASM Creating Windows DLLs Creating Device Drivers with MASM

About the Instructor:	Edgar Barbosa is a security researcher in the Advanced Malware Lab (AML) of COSEINC. He was a member of the team within AML to develop "Blue Pill", a virtual machine rootkit, and has published several papers. Edgar is an expert in kernel and rootkit research.
About COSEINC:	<p>Computer Security Initiative Consultancy Pte. Ltd. (COSEINC) is a Singapore based and privately funded company dedicated to providing highly specialized information security services to our clients. We are a young and dynamic company whose constitution are computer security experts, from diverse backgrounds and geographies, with distinguished credentials and experience.</p> <p>It is our aim to provide our clients with the most professional and competent expertise and services at the most reasonable rates so that they can achieve the highest returns on their information technology investment.</p> <p>For more information, please visit www.coseinc.com.</p>