UNIX System Programming

Synopsis & Objective of Course

This training module is intended to provide a complete knowledge about UNIX programming which is the most preferred Operating System. Apart from unix internals a complete knowledge of inter process communication like Pipes, FIFO, message queues, shared memory & semaphores will be imparted. Network Programming using sockets, certain utilities & threads will also be covered in-depth.

Target Audience

Programmers and developers who wish to program UNIX/Linux or its variants & implement various concepts of system programming.

Prerequisites

Attendees should have a basic knowledge of programming and computers.
A basic understanding of C Programming is essential.

Delivery

The training will be instructor led, with each section of the material being covered by the trainer and followed by hands-on practical exercises. Training can be provided on **system V / BSD** or **POSIX** programming as per the need.
Certain implementation oriented projects will be assigned to help trainees enhance their system programming skills.

Duration : 3 days

Course Contents

Day	Topic	Sub topics
Day 1	**Linux kernel Architecture**	System Architecture System Overview Purpose of the Kernel Overview of the Kernel Structure Subsystem Structure Process Scheduler & Memory Manager Device Drivers Network Interface Introduction to Linux Characteristics of Linux Installing and configuring fedora core 5 Create partitions and file systems Linux system administration Installation and Management of Linux Packages Network Configuration & Utilities Fundamentals of tcp/ip

Day 2	**Systems Programming (Process, Signals and IPC)**	Looking at processes Creating processes Signals Process termination Pipes Fifo Shared memory Message Queues Semaphores
Day 3	**Threads and Sockets**	Introduction to threads Processes and Threads Thread creation Thread scheduling Thread specific data Thread cancellation Synchronization primitives Threads and Signals Creating a socket The connect() function IP addresses for connect() Domain Name Service The bind() function The listen() function & accept() systems call Receiving Data Sending Data The select() function Socket Options Multiple Server Session

Trainers' Profile

Corporate Trainer(s) with more than 6 years of experience in embedded development & corporate training in CMM level5 companies.

Scheduled & On-site Training

Apart from in-house training programs, comprehensive training can be also provided as per the requirement & will be optimally customized as per the client's needs.

For training calendar, availability of seats & other details please mail us at training@sigmasolutions.co.in