

Class Name: *Advanced UNIX Shell*
Level: Advanced
Duration: 5.0 days
Audience: System Programmers, and sophisticated end users very experienced using the UNIX System and shell scripting
Description: An in-depth look at the most powerful tools used in the UNIX shell to control and coordinate shell programs to a finer degree with InterProcess Communication, parallel programming, create sophisticated logic conditions in programs, and advances use of advanced commands such as **sed**. Over 50 commands are covered.

Outline:	<u>Module Description</u>	<u>Time in Hours</u>
	• Understanding Lexical Analysis in the Shell	2.25
	- Parsing & Tokens	
	- Command Grouping	
	- Advanced Command Substitution	
	- Programming Security	
	- Using: getopts and xargs	
	• Introduction to the InterProcess Communication Suite (IPC)	1.00
	• Using File Descriptors	1.50
	• Advanced Programming Control using “Here Documents”	1.00
	• Programming Using Named Pipes (IPC)	2.50
	• Process Signaling and Program Control (IPC)	2.00
	• Programming with Semaphores (IPC)	1.75
	• Multiple Background Program Control Using Co-Processes (IPC)	1.75
	• Advanced Shell Constructs Usages	5.00
	- Advanced Syntax of the case statement	
	- The select statement	
	- Advanced Syntax of the if statement	
	- Advanced Syntax of the while and until loops	
	- Advanced Syntax of the for loops	
	• Parallel Programming Techniques	1.25
	• Job Control	
	- More precise Foreground/Background Job Execution Options	
	- Off Line Execution using at , batch & crontab	2.00
	• The sed command <i>Tutorial</i> -Advanced Studies	7.00
	• Advanced editing using the vi editor	3.00
	• Math & Statistical Functions of the Shell	2.50
	- bc , factor , let , sum , units	
	• User to User Communications	
	- E-mail with mailx	
	- Message notification with write	.75
	• Advanced UNIX Command Summary Guide	2.75
	- Other commands not mentioned, including: bg , continue , crypt , exec , fg , kill , makekey , newgrp , pr , print , read , stty , trap , tty , wait bdiff , cmp , comm , cpio , csplit , dd , diff , diff3 , dircmp , egrep , fgrep , file , find , join , od , paste , sort , split , tr , uniq	
	Approximate Total Time	40.00 hrs