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## AIX Korn Shell Programming

**Duration: 5 Days**    **Course Code: AKSP**    **Delivery Method: Virtual Learning**

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### Overview:

IBM AIX Korn Shell Programming training course is designed to give delegates practical experience in developing and writing shell scripts. Most of the built-in shell commands are introduced together with the main program control structures. The course also gives practical experience using a range of IBM AIX tools to manipulate text and incorporate into AIX shell scripts.

### Virtual Learning

This interactive training can be taken from any location, your office or home and is delivered by a trainer. This training does not have any delegates in the class with the instructor, since all delegates are virtually connected. Virtual delegates do not travel to this course, Global Knowledge will send you all the information needed before the start of the course and you can test the logins.

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### Target Audience:

Programmers, developers and system administrators who need to construct shell scripts using advanced text handling facilities. The AIX Korn Shell Programming assumes knowledge of the AIX Operating System to the level covered in the AIX Basics Course. Some programming experience may also prove advantageous.

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### Objectives:

- To provide the skills needed to develop and customise shell programs and to make effective use of a wide range of standard AIX programming and development tools.
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### Follow-on-Courses:

- AIX System Administration - Part I
- Oracle SQL

**NOTE:** Course technical content is subject to change without notice.

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## Content:

### AIX Korn Shell Programming Training Course Course Contents - DAY 1

#### Course Introduction

- Administration and Course Materials
- Course Structure and Agenda
- Delegate and Trainer Introductions

#### Session 1: UNIX COMMAND REVIEW

- Basic UNIX commands
- Filename generation characters
- Redirection and pipes

#### Session 2: GETTING STARTED

- What is a shell script?
- Development guidelines
- Creating and editing shell scripts
- Naming and storing shell scripts
- Executing shell scripts
- Exercise: Create and run a simple shellscript

#### Session 3: USING VARIABLES

- Environment variables
- Local variables
- Assigning values to variables
- Accessing variable values
- Using quotes
- Delimiting variable names
- echo control sequences
- Exercises: Use variables in shellscripts

#### Session 4: INTEGER ARITHMETIC

- Using the expr command
- Using the (( )) notation
- Exercises: Use integer arithmetic in shellscripts

#### Session 5: HANDLING RUN TIME INPUT

- The read command
- Command line arguments and related variables
- Exercise: Writing an interactive shell script

#### Session 6: CONDITION TESTING

- The if-then-elif-else statement
- String tests
- Integer tests
- Filename tests
- Other test notations
- Default and substitute variables
- Exit status codes
- Counting characters
- Testing for numeric input
- Exercise: Add validation to previous scripts  
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#### Session 7: LOOP CONSTRUCTS

- The while loop
- The until loop
- The while true and until false loops
- The for loop
- Loop control commands
- Exercises: Enhance the previously written scripts with loop constructs

#### Session 8: MULTI-BRANCH DECISIONS

- The case statement
- Patterns and actions
- Menu driven applications
- Exercise: Develop and write a menu system

#### Session 9: FUNCTIONS

- What is a function?
- Function syntax
- Exercises: Create and use functions

#### Session 10: INTERRUPT HANDLING

- Interrupt signals
- The trap command
- Abnormal termination of scripts
- Exercise: Adding traps to the menu script

#### Session 11: ADDITIONAL FEATURES

- The exec command
- The includes notation
- Arrays
- Here Documents
- Exercise: Enhance scripts  
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Course Contents - DAY 3

#### Session 12: BACKUP AND RESTORE UTILITIES

- The tar command
- Compression utilities gzip,bzip2,zip and compress
- Exercise: Backing up and restoring files using tar
- Exercises: Compressing files

#### Session 13: BACKGROUND JOB SCHEDULING

- Scheduling jobs with the cron command
- Scheduling jobs with the at command
- Exercises: Running background jobs

#### Session 14: COMMANDS FOR COMPARING FILES

- Compare two files with the cmp

#### Session 15: SPLITTING FILES

- The split and csplit commands
- Exercises: Splitting files  
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Course Contents - DAY 4

#### Session 16: IDENTIFYING AND TRANSLATING CHARACTERS

- od - octal dump
- Use cat to display non-printing characters
- The expand and unexpand commands to convert between tab and space characters
- The tr command for character translation
- Exercises: Translating characters with tr

#### Session 17: REGULAR EXPRESSION NOTATION REVIEW

- Standard regular expressions
- Extended regular expressions

#### Session 18 THE STREAM EDITOR - sed

- sed command line syntax
- sed command processing
- Pattern space
- sed addresses
- sed commands
- Hold and get functions
- Advanced flow control
- Exercises: Text processing with sed

#### Session 19: INTRODUCTION TO THE PATTERN SCANNING UTILITY - awk

- Introduction and command line syntax
- The awk program structure
- Operators
- Simple patterns
- Extended patterns
- Special patterns (BEGIN and END)
- Program variables: Built-in variables, User defined variables, Arrays
- Mathematical operators
- Displaying output with print and printf
- Exercises: Create awk scripts to extract selected data from a file and generate reports  
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Course Contents - DAY 5

#### Session 20: awk PROGRAM CONTROL STRUCTURES

- Program control structures
- The if construct
- The while and do ... while constructs
- The basic for construct
- Associative array handling
- Functions: Mathematical and string functions, The system function, The getline

- command
- Compare two files with the comm command
- Compare two files with the diff and sdiff commands
- Compare large files with the bdiff command
- Exercises: Identifying file differences

- function, User defined functions
- Exercises: Create an awk script using an program control structures and arrays

Session 21: awk DEBUGGING AWK SCRIPTS

- Responding to Syntax errors
- Responding to Logical errors

Session 22: MISCELLANEOUS TOOLS

- bc (calculator)
- fuser (testing for files in use)
- getops (checking options passed to shell scripts)
- printf (formatting screen output)
- logger (script logging)
- xargs (generating arguments for a command)
- eval (re-evaluating variables)
- Exercises: Using tools within a shell script

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### Further Information:

For More information, or to book your course, please call us on Head Office 01189 123456 / Northern Office 0113 242 5931

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