

# AIX Advanced Shell Programming Tools

## Course Outline

### Course Introduction

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

### Session 1: BACKUP AND RESTORE UTILITIES

- Backing-up and restoring files
- Basic and advanced use of tar
- Compression utilities gzip, bzip2, zip and compress
- Exercise: Backing up and restoring files using tar
- Exercises: Compressing files

### Session 2: BACKGROUND JOB SCHEDULING

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

### Session 3: COMMANDS FOR COMPARING FILES

- Compare two files with the cmp 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

### Session 4: SPLITTING FILES

- The split and csplit commands
- Exercises: Splitting files

### Session 5: 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 6: REGULAR EXPRESSION NOTATION REVIEW

- Standard regular expressions
- Extended regular expressions

#### Session 7: THE STREAM EDITOR sed

- sed command line syntax
- sed script files
- sed command processing
- sed addresses and simple instructions
- sed pattern space and hold space
- Grouping sed commands
- Hold and get functions
- Advanced flow control
- Exercises: Text processing with sed

#### Session 8: FUNDAMENTALS OF AWK

- Basic AWK usage
- AWK program-files
- AWK scripts
- AWK variables
- Pattern matching with AWK
- AWK extended patterns
- AWK operators
- AWK arithmetic operations
- AWK output
- Formatting output with printf
- Exercises: Create awk scripts to extract selected data from a file and generate reports

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#### Session 9: AWK PROGRAM CONTROL STRUCTURES

- The BEGIN and END functions
- The AWK if construct

- The AWK else if construct
- The AWK while construct
- Other program control statements
- The AWK break, continue and exit statements
- User defined functions
- Exercises: Create AWK scripts and program-files utilising program control structures

#### Session 10: AWK FUNCTIONS

- AWK string functions
- AWK length, tolower, toupper, index, sub, gsub, match, substr, split, sprintf, system and getline functions
- Exercises: Generate AWK scripts and program-files to extract and format data using AWK functions