

# Writing Shell scripts in Unix/Linux certification AVIT® en option

**Hands-on course of 3 days - 21h**

**Ref.: SHL - Price 2025: 2 080 (excl. taxes)**

*The price for the 2026 session dates may be revised*

Different exercises (simple and complex) will be carried out in order to become truly autonomous in writing shell scripts.

## CERTIFICATION

If registering for the AVIT® Automating Administration With Windows PowerShell certification option, you must do so at the same time as course registration. The exam is a multiple-choice test lasting one-and-a-half to two hours. The result indicates your skill level. Merely taking the course is not sufficient to achieve a maximum score. The exam must be both scheduled and then taken online within 4 weeks following the start of your session.

## THE PROGRAMME

last updated: 05/2024

### 1) Overview of the UNIX Shell

- History of the UNIX Shell. UNIX fork/exec system calls.
- Arguments and environment of a UNIX program.
- How the Shell reads the command line.
- Differences between Bourne, Korn and Bourne Again Shells.

### 2) Interfacing UNIX with the interactive Shell

- Starting an interactive Shell. Initialization of the Shell.
- Line editing, vi and emacs Ksh modes. Line editing with Bash.
- Name completion. Shell options and the set built-in.
- Customizing the environment. The command search path.
- Shell commands and scripts.
- Sourcing Shell commands. Execution of a Shell script. UNIX execution of a Shell script, the she-bang.
- Creation and use of Shell variables. Passing arguments to a Shell script.
- Differences between exec, background and sub-shells. Using pipelines and lists.

### 3) An introduction to Shell scripting

- Basic Shell programming.
- Shell variables and compound variables. Strings operators.
- Command substitution, braces expansion, tilde substitution.
- Initialization of a script, positional parameters, shift and parameters substitution.
- Flow Control.
- If/else, for, case, select, while and until. Functions. The set and eval built-ins.

### 4) Advanced Shell programming and the Korn Shell

- Typed variables. Arrays, indexed and associative arrays. Typeset, indirect variable references.
- Input/Output. I/O redirections, the IFS. Reading from the standard input.
- Process handling. Job control signals and traps. Co-routines and co-process substitution de process.
- Optimization of the Korn Shell. Function libraries. Development of new Shell built-in

## TRAINER QUALIFICATIONS

The experts leading the training are specialists in the covered subjects. They have been approved by our instructional teams for both their professional knowledge and their teaching ability, for each course they teach. They have at least five to ten years of experience in their field and hold (or have held) decision-making positions in companies.

## ASSESSMENT TERMS

The trainer evaluates each participant's academic progress throughout the training using multiple choice, scenarios, hands-on work and more. Participants also complete a placement test before and after the course to measure the skills they've developed.

## TEACHING AIDS AND TECHNICAL RESOURCES

- The main teaching aids and instructional methods used in the training are audiovisual aids, documentation and course material, hands-on application exercises and corrected exercises for practical training courses, case studies and coverage of real cases for training seminars.
- At the end of each course or seminar, ORSYS provides participants with a course evaluation questionnaire that is analysed by our instructional teams.
- A check-in sheet for each half-day of attendance is provided at the end of the training, along with a course completion certificate if the trainee attended the entire session.

## TERMS AND DEADLINES

Registration must be completed 24 hours before the start of the training.

## ACCESSIBILITY FOR PEOPLE WITH DISABILITIES

Do you need special accessibility accommodations? Contact Mrs. Fosse, Disability Manager, at psh-accueil@ORSYS.fr to review your request and its feasibility.

- Korn Shell debugging. Special debug traps. Using setters and getters.

#### 5) Other UNIX powerful scripting tools

- Frequently used tools associated with the Shell.
- Shar, stty, lockfile, tput, grep, find, cut, sort and xargs
- AST tree walk and coshell.
- UNIX regular expressions.
- Analysing text with SED. The command line. Scripting with sed.
- Overview of the AWK interpreter. Internal variables.
- Text and database processing.

## DATES

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### REMOTE CLASS

2025 : 19 nov.

2026 : 25 mars, 17 juin, 07 sept.,  
30 nov.