

Course : Unix user, advanced

Practical course - 3d - 21h00 - Ref. UPF

Price : 2110 CHF E.T.

★★★★☆ 4,7 / 5

Focused on the secure, high-performance use of the Unix system, this course will enable you to gain a deeper understanding of the functionalities that lead to greater productivity. It will teach you how to implement the main execution techniques in a network environment. Finally, it will show you how to use dashboards to analyze operational situations.

Teaching objectives

At the end of the training, the participant will be able to:

- ✓ Automate processes using shell scripts
- ✓ Master the main file manipulation tools
- ✓ Manage runtime environment
- ✓ Use analysis, performance optimization and backup tools
- ✓ Mastering network commands
- ✓ Retrieving, compiling and using free software

Intended audience

The course is aimed at all those who wish to deepen their knowledge of Unix techniques and tools to reach the highest level in the professional use of this system.

Prerequisites

Basic knowledge of how to use a Unix/Linux system.

Practical details

Hands-on work

Networked workstations running on Unix (Solaris and Linux) will be available for participants to put the concepts presented into practice.

Course schedule

PARTICIPANTS

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PREREQUISITES

Basic knowledge of how to use a Unix/Linux system.

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.

1 Introduction

- Review of Unix fundamentals.
- Unix structure and main components.
- Reminder of basic commands.
- Use online documentation effectively.
- Graphics and windowing systems: reminders of windowing systems and X/Windows.
- Graphical and windowed system: user configuration and settings. Useful commands and variables.

2 Implementing different shells

- Common features and principles.
- Internal and external controls.
- Variables associated with shells.
- Substitution mechanisms on a command line.
- Use of Bourne shell and Korn shell.
- Using bash.
- Alias and history mechanisms.

Hands-on work

Use of different shells. Use of alias and history mechanisms.

3 Building tools with shells

- Principles of shell programming.
- K-shell syntax.
- Setting up shell scripts.
- Using options in shells.
- Signal and interrupt management.
- Help with shell-script debugging.

Hands-on work

Use shell script to display environment and user information. Debugging help.

4 Environment setup and configuration

- Study of the different startup files depending on the login shell.
- Environment variables.
- Specific options for different shells.
- More about configuration files.
- User security management: user profile.
- Files to manage and control security.
- Reminders on file and directory protection.
- Advanced file and directory access management tools.

Hands-on work

Environment setup and configuration (environment variable, prompt, etc.).

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.

5 File browsing and searching

- Regular expressions (*, ^, [,.[^).
- A family of file exploration tools (grep).
- File search (find).
- Redirections and filters (<,>, 2>, >>, <<).
- Main file manipulation tools. Which command, which file?
- File type, number of characters, words, lines.
- Miscellaneous orders.

Hands-on work

File and text search and file manipulation (wc, ..., cat, grep, regular expressions, redirection, filter). File management (creation, deletion, etc.).

6 Automatic file editing with awk

- Different editing tools and common principles.
- Publisher sed.
- The awk utility. Its various options and syntax.
- awk's special patterns and built-in variables.
- Associative tables.
- Multiline record file.

Hands-on work

File manipulation with awk. Generate lists and formatted files with awk.

7 Runtime environment management

- Launch a process.
- Process environment.
- Process management. Job control (foreground or background).
- Work control (posting, monitoring, stopping, restarting, etc.).
- Set-UID/Set-GID bits and sticky-bit.
- Task execution planning (batch, at).
- Automate task execution (crontab).

Hands-on work

Manage the execution environment, using job, signal and process commands.

8 Analysis, performance optimization and backups

- Standard analysis tools.
- Analyze disk I/O management.
- Processor utilization monitoring.
- Virtual memory usage management.
- Efficient bandwidth management.
- Analysis tools for the free world.
- Different approaches to backups. File archiving.
- File compression and decompression tools.

Hands-on work

Use of standard analysis tools.

9 TCP/IP under Unix

- Unix network support.
- Remote connections and file transfers (ftp, rcp, scp, etc.).
- Intranet and messaging.
- Classic problems with DNS, NIS and NFS.

Hands-on work

Network configuration, file transfer and classic problems with DNS, NIS and NFS.

10 Use open-source tools (e.g. Perl)

- GNU General Public License.
- The Unix specificities of Linux.
- Retrieve, compile and use free software.
- Introduction to Perl.
- A first Perl program.

Hands-on work

Retrieve, compile and use free software.

Dates and locations

REMOTE CLASS

2026 : 27 May, 7 Oct.