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Course : Linux, Red Hat introduction

Practical course - 4d - 28h00 - Ref. LII
Price : 2650 CHF E.T.

Discover Red Hat Linux progressively and efficiently. This original approach presents a rigorous yet comprehensive selection of the knowledge you need to tackle Linux with confidence. It will also show you how to install the system and provide you with the first elements for real autonomy of use.

Teaching objectives

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

- Acquire the basic knowledge needed to get to grips with a Linux system for the first time
- Understanding RedHat system mechanisms
- Master the main commands and utilities, including the package manager
- Learn about network commands and the graphics environment
- Installing a distribution

Intended audience

Systems and network technicians, administrators and engineers.

Prerequisites

No special knowledge required.

Course schedule

1 What is Linux?

- Architectures supporting Linux.
- Free software, the GPL, GNU and Linux.
- Linux distributions and Red Hat Enterprise Linux.
- Where can I find the right sources of information on Linux? On-line documentation, HowTo's, FAQ's.
- Websites, newsgroups, forums.

PARTICIPANTS

Systems and network technicians, administrators and engineers.

PREREQUISITES

No special knowledge required.

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.

2 The Red Hat operating system

- The various existing versions : Red Hat Enterprise Workstation, Red Hat Enterprise Linux for servers...
- Red Hat websites: redhat.com, Red Hat Store, Customer Portal

3 Booting a Linux system

- BIOS.
- UEFI.
- GRUB starter charger.
- Kernel boot.
- Requested files and their roles.
- /sbin/init (RHEL 5 and 6).
- The systemd daemon (RHEL 7/8): configuration, service and execution level.

Hands-on work

Step-by-step instructions for booting a Linux system.

4 The working environment

- The command line (bash).
- Decoding a command line: $,*,',",`...
- Redirections and pipes (>,|).
- Special characters (summary).
- Command launch (alias, function, internal command, PATH).
- Text environment: bashrc, .bash_profile, .bash_history files...
- Main bash variables (PS1, HOME, PATH, etc.).
- Regional settings.
- Editors: vim, Emacs and gedit.

Hands-on work

Customize your working environment (prompt, alias, PATH, .bashrc...). Set regional parameters. Handling text editors.

5 The graphic environment

- Role and configuration of X server (startx, DISPLAY...).
- Working with GNOME or KDE (relevant libraries, specific applications).
- Useful graphics applications.
- Browsers, e-mail, file managers, word processors, remote bookmarks.
- Cross-platform antivirus for Linux, multimedia, office suites...
- Do it all with a browser.

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.

6 Local user and group management

- The users.
- Groups.
- Create, manage and delete local users and groups.
- User account personalization.
- Launch files.
- Environment variables.
- Command aliases.

Hands-on work

Create and delete accounts and groups. Create an account and its environment.

7 File management

- Contents of standard directories (/bin, /home, /usr...).
- Notion of filesystem (mount, df...).
- Basic commands: mkdir, cd, pwd, ls, rm, file, cat...
- Correctly manage file access permissions (umask, chmod...).
- Symbolic links.
- Scores and filesystems.
- Removable devices: manual, automatic /etc/fstab mounting.
- File and directory rights.

Hands-on work

Create and manage a file tree representing a website. Implement relevant symbolic links.

8 Managing processes

- Multitasking under Linux.
- The different ways of launching a script or program: & (background), service, shebang, bash script.
- View processes: ps , top, gtop.
- Sending a signal with kill. service command arguments (start, stop, restart, reload).

9 Networked Linux

- Protocols, services... TCP/IP, NFS, SMTP, DNS, DHCP...
- Standard IP configuration of a Linux server. Read and modify its configuration.
- Hostname.
- IP address and mask.
- Default gateway.
- The nmcli command line tool.
- Graphic configuration: use the network manager.

Hands-on work

Workstation configuration for Internet access.

10 Install Linux and software packages

- Package updates and uninstallation.
- Supported hardware and minimum configurations.
- Information to be gathered before installation.
- Which partitioning and which file system for which need?
- Introduction to hard disks and partitions.
- Partitioning concepts.
- GPT partitioning.
- Partition naming logic under Linux Red Hat.
- Installation with the YUM package manager.
- Installation of independent packages (RPM).
- Search for and install packages.

Hands-on work

Linux installation (relevant disk partitioning). Install package, update and uninstall software.