

GWENDAL LE COGUIC

COURSES

Each training session focuses on practical demonstrations, interactive exercises, and discussions based on real-life situations to ensure the acquisition of key skills.

Each session can be taken:

- on-site or remotely
- in French or English
- individually or in groups

Quotes available upon request

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INTRODUCTION TO BASH SCRIPTING



a. Description

*This 3-day hands-on course introduces participants to Bash scripting for task automation and system administration. From writing **simple scripts** to **managing processes, securing code, and working over SSH**, you'll learn practical skills to boost productivity and control over your Linux environment. Perfect for **devs** and **sysadmins**.*

b. Educational goals

- Understand the fundamentals of the Bash shell and scripting syntax
- Write and execute basic to intermediate Bash scripts
- Automate common system tasks using loops, conditions, and variables
- Manage processes and schedule tasks
- Handle user input, signals, and logging in scripts

c. Prerequisites

- Being comfortable with CLI mode
- Familiarity with basic Linux commands

d. Targeted audience

- System administrators
- Dev(Sec)Ops engineers
- Anyone interested in automation

e. Program

Day 1 - Introduction to Bash and file manipulation

Introduction to Bash

- What is Bash?
- Why learn Bash?
- Basic commands

Writing and Running Bash scripts

- What is a Bash script?
- Create and execute a script
- The *Shebang*
- Grant permissions
- Run a script

Variables

- Understanding variables
- Declaring and using variables
- Types of variables

Conditional statements

- What are conditional statements?
- *if-else* statements
- *case* statements

Loops (*for*, *while*, *until*)

- *for* loops
- *while* loops
- *until* loops

Functions in Bash

- Why use functions?
- Defining and calling functions

Day 2 - Control structures, functions, and advanced scripting

Handling user input and arguments

- Reading user input
- Script arguments

Redirection and pipelines

- Output and error redirection
- Using pipelines

File and directory operations

- Creating and manipulating files/directories

Permissions and access rights

- Understanding Linux file permissions
- View and change permissions

Debugging and error handling

- Debugging
- Handling errors
- Handle script interruptions

Day 3 - Process management, automation, and security

Process management in Bash

- Understanding processes in Linux
- Viewing processes

Scheduling tasks

- Automating tasks
- *cron* job format

Logging and monitoring scripts

- Logging
- Checking system logs

Handling signals and traps

- What are signals?
- How to handle signals

Securing Bash scripts

- File permissions and execution restrictions
- Validating user input
- Using *sudo* securely

Working with remote servers and SSH

- Connect to a remote server
- Copying files securely
- Automating SSH tasks