

## Linux:

### 1 Getting started:

- Background and introduction Linux
- Linux distributions
- Installation

### 2 Fundamentals:

- The Shell
- File systems
- Trees and directories and the hierarchy
- The root (superuser)

### 3 Linux commands for beginners:

- Basic navigation commands (pwd, cd)
- File commands (ls, cp, mv, rm)
- Concatenate command with I/O redirection
- Directory commands (mkdir, rmdir, removing directories and sub directories recursively)
- Creating and editing files (touch command and file editors)
- Prompt basics

### 4 Users and group and permissions:

- The sudo command and running commands from the root
- Relative and absolute permissions for files (using the chmod command)
- Directory permissions
- Creating and deleting users
- Basic group management

### 5 Processes:

- Listing processes
- Killing processes

## 6 Software installation:

- Packages and repositories
- Various package management tools (apt, yum, dpkg, snap, etc)
- Installing software using a package management tool
- Installing and running Windows applications on Linux using Wine
- Working with tar.gz files

## 7 Miscellaneous commands and concepts:

- Working with pipes
- grep
- Shell aliases
- Environment variables
- Wildcards
- Miscellaneous commands (df, dh, etc)

## 8 Networking basics

- Configuring IP addresses on interfaces statically and via DHCP
- Netplan VS ifupdown configuration
- Configuring a TFTP server
- Configuring a DHCP server
- Configuring a DNS server
- Configuring Telnet and SSH servers
- Configuring Linux firewalls

## 9 Introduction to shell scripting:

- Introduction
- Writing your first shell script
- Shell built-in commands
- Variables – creating variables and syntax
- Built-in shell variables

Additions:

Linux system administration

Boot process

Disk management

User management

Advanced Linux permissions

Shell scripting

Additional command line tips and tricks

Docker