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Sign up

Python for DevOps training: automation, development and scaling

2 days (14 hours)

Presentation

Our Python for DevOps training course will give you the skills you need to automate, manage and monitor applications or network infrastructure. You'll learn all the concepts involved in using Python in a DevOps context, such as syntax, data types and structures.

Python is used in a DevOps context, as it offers many advantages in terms of versatility, comprehension and performance. It is also a language with a large community, providing users with a wealth of documentation and tools.

This course covers the use of Python to manage network and application environments. You'll learn about all the tools at your disposal, scripting and monitoring.

This course will be based on Python version 3.11, the latest release.

Objectives

- Configuring Python for DevOps
- Automate and monitor an application environment
- Using Python with DevOps tools like Docker and Kubernetes

Target audience

- **Devops engineers**
- System administrators

Prerequisites

- Basic knowledge of programming languages
- Familiarity with Linux
- Be familiar with the notion of application containers

Our Python for DevOps training program

Introduction

- Introduction to Python for DevOps
- Installing and configuring Python
- Introduction to Python syntax
- Functions and modules
- I/O files

Scripts

- Automating tasks with Python scripting
- Script planning
- Interaction with the operator system
- Third-party libraries and modules
- Code debugging and testing

Python and DevOps

- Benefits of configuration management
- Configuration management tools
- Writing configuration code
- Infrastructure management

Monitoring

- Introduction to monitoring in DevOps
- Using logging frameworks
- Create dashboards and alerts
- Data collection and analysis

Cloud Computing

- Introduction to Cloud computing in DevOps
- Introduction to Cloud platforms

- Interacting with APIs and services
- Automating a Cloud infrastructure
- Application deployment

Web development

- Web and Python development
- Using frameworks
- Building RestFul APIs
- Database management
- Introduction to Machine Learning

Containerization

- **Introduction to Application Containers**
- Containerization tools such as Docker and Kubernetes
- Container management and orchestration with Python

Serverless Computing

- Introduction to serverless computing
- Serverless computing platforms (AWS lambda and Google Cloud Functions)
- Developing and deploying serverless functions
- Best practices

Companies concerned

This training course is aimed at both individuals and companies, large or small, wishing to train their teams in a new advanced computer technology, or to acquire specific business knowledge or modern methods.

Positioning on entry to training

Positioning at the start of training complies with Qualiopi quality criteria. As soon as registration is finalized, the learner receives a self-assessment questionnaire which enables us to assess his or her estimated level of proficiency in different types of technology, as well as his or her expectations and personal objectives for the training to come, within the limits imposed by the selected format. This questionnaire also enables us to anticipate any connection or security difficulties within the company (intra-company or virtual classroom) which could be problematic for the follow-up and smooth running of the training session.

Teaching methods

Practical course: 60% Practical, 40% Theory. Training material distributed in digital format to all participants.

Organization

The course alternates theoretical input from the trainer, supported by examples, with brainstorming sessions and group work.

Validation

At the end of the session, a multiple-choice questionnaire verifies the correct acquisition of skills.

Sanction

A certificate will be issued to each trainee who completes the course.