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DevOps training: approach and tools

2 days (14 hours)

Presentation

DevOps is the link between development and operations. By integrating DevOps into your business, you can reduce the time it takes to create your products and respond rapidly to market demands.

Since its conception, DevOps has become an essential part of the digital world. There are countless tools available: Git, Jira, Docker, Kubernetes, to name but a few.

In this training course, you'll learn how to share and exchange effectively as a team in a DevOps environment. You'll learn how to choose and apply the DevOps tools that best match your company's objectives.

Our DevOps training course will teach you the essential tools of DevOps and its challenges within your organization. You'll also discover the use of containers and virtual machines.

Objectives

- The benefits of DevOps
- Understand DevOps and its challenges within an organization
- Identify DevOps software factory elements
- Know and define the main configuration management tools
- Identify the steps involved in implementing a DevOps approach and anticipating risks
- Understanding the use of containers and their application

Target audience

- Developers
- Architects

- Project Manager
- IT Department manager and player

Prerequisites

- Knowledge of IT services
- Experience on an IT project is desirable (development, integration, operation, etc.).

DevOps training program: approach and tools

DevOps fundamentals

- History of the DevOps movement
- The 5 CALMS pillars (Culture, Automation, Lean, Measurement, Sharing)
- Changes brought about by digital (r)evolution and the associated new challenges
- Solutions: Agile and DevOps methods
- Genealogy of DevOps: Agile Methods and Lean Manufacturing

Introduction to containers

- The history of containers
- Why use them?
- Introduction to container anatomy
- Docker architecture and the container runtime
- Basic tagging and image versioning
- Best practices in image creation and container issues
- Respecting the Docker context and the .dockerignore file
- Specify package versions and track updates
- Beware of external resources

Switch to containers

- The benefits of containers
- Virtual machines
- Breaking down your applications
- Networking containers
- Modern DevOps & traditional DevOps
- Containers and modern DevOps practices
- Migrating virtual machines to containers
- Application needs assessment
- Container infrastructure design
- Which applications should be placed in containers?

The DevOps tool chain

- The foundations of DevOps culture
- Source code management
- Software test automation
- Automation and configuration management : Ansible, Chef, Puppet, SaltStack...
- Cloud hosting providers: Azure, AWS, GCP, OpenStack
- Automate template creation with Packer
- Updating database schemas with Liquidbase

Enterprise DevOps implementation

- The pillars of successful implementation
- Anticipating the limits and obstacles to implementing DevOps
- Building a mixed, cross-disciplinary team
- Setting goals
- Defining tasks and functions
- Working in agile mode
- Continuous Improvement through Learning

Companies concerned

This 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.