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Sign up

WireGuard VPN Training

2 days (14 hours)

Overview

Our WireGuard VPN training course will enable you to understand how a modern VPN protocol works, identify its key use cases and configure the security, resilience and automation mechanisms adapted to your DevOps environments.

You'll learn how to deploy WireGuard to create secure tunnels between multiple environments, efficiently manage peers and cryptographic keys, integrate the solution into multi-cloud or Kubernetes infrastructures, and ensure complete supervision thanks to monitoring and optimization tools. Emphasis will be placed on practical configuration and the adoption of best practices to guarantee performance, confidentiality and high availability.

At the end of our training, you'll be able to implement WireGuard VPN as a reference solution for securing your communications, integrate it into your DevOps workflows and Kubernetes clusters, and leverage its modern cryptography, observability and automation features to strengthen your production environments.

Objectives

- Understand the fundamentals and cryptography of WireGuard VPN
- Install and configure secure tunnels
- Deploy WireGuard in cloud and Kubernetes environments
- Supervise and automate VPN management
- Put a robust, scalable VPN network into production

Target audience

- DevOps engineers
- System and network administrators
- Cloud and security architects

Prerequisites

- Networking skills (TCP/IP, routing, firewall)
- Basic knowledge of Linux and system administration
- Notions of DevOps tools (Ansible, Terraform, Kubernetes desirable)

Envoy Edge Proxy training program

Discovery and foundations of Envoy Edge Proxy

- Understanding Envoy and its role in cloud-native architectures
- Explore the architecture: sidecar and edge instances, ingress/egress listeners
- Discover key features: load balancing, observability, HTTP/2, gRPC
- Learn about best edge proxy configuration practices
- Hands-on workshop: deploying an Envoy instance in edge proxy and configuring an HTTP listener

Security, observability and resilience

- Apply security practices with RBAC, normalization and buffers
- Implement observability with metrics and distributed tracing
- Configure resilience: circuit breaking, retries, time-outs and rate limiting
- Discover xDS dynamic APIs and their role in configuration
- Practical workshop: implementing circuit breaking, observability and dynamic configuration

Envoy as an API Gateway

- Position Envoy as an API gateway and front proxy
- Studying use cases with service meshes (Istio, Gloo Mesh)
- Explore dynamic discovery and integration with Kubernetes
- Configure Envoy to route to multiple application services
- Hands-on workshop: deploying Envoy as an API Gateway in a cluster

Advanced use cases and best practices

- Compare Envoy with NGINX and HAProxy
- Study real-life examples of enterprise adoption
- Apply best practices for going live
- Optimize performance, security and observability
- Practical workshop: deploying a complete solution with Envoy as gateway and sidecar

Companies concerned

This course is aimed at both individuals and companies, large or small,

wishing to train their teams in a new advanced IT 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 forthcoming training course, 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 training: 60% hands-on, 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.

Certification

A certificate will be awarded to each trainee who has completed the entire course.