

Updated on 08/26/2026

Sign Up

Valkey Training

2 days (14 hours)

Overview

Valkey is a modern key-value database designed for performance, low latency, and scalability. With its RESP protocol, application compatibility, and persistence, replication, and clustering mechanisms, Valkey enables the creation of robust, production-ready real-time architectures.

Our Valkey training will help you go beyond basic usage to master the essential concepts for reliable operation in a professional environment. You'll learn how to work with data structures, administer the service, and understand key behaviors related to storage, availability, and scalability.

You'll learn how to design a coherent Valkey architecture, choose the right persistence settings, secure data transfers, monitor server health, and anticipate the impacts of increased load. The training emphasizes practical use cases encountered in operations and application integration.

By the end of the training, you will be able to configure a Valkey instance, optimize data access performance, make informed decisions about replication and high availability, and adopt best practices for administration. This training also covers diagnostic tools, client compatibility, and the essential practices needed to ensure the reliability of a platform in real-world conditions.

Like all our training courses, this one will introduce you to **the latest stable version** of the technology and its new features.

Objectives

- Understand Valkey's positioning and its main use cases.
- Master data structures and essential day-to-day commands.

- Configure persistence, replication, and the fundamentals of high availability.
- Administer a Valkey instance and troubleshoot common issues.
- Optimize performance and prepare for production-ready operation.
- Apply best practices for compatibility, monitoring, and maintenance.

Target Audience

- Backend developer
- System administrator
- DevOps Engineer
- Software architect
- Platform Engineer

Requirements

- Basic knowledge of databases and key-value storage.
- Experience working in a Linux or Windows server environment.
- Basic understanding of network administration, TCP/IP, and application services.
- Previous experience in developing or operating distributed applications.
- Understanding of the principles of caching, persistence, and availability.

Technical Requirements

- A recent laptop with at least 8 GB of RAM and a multi-core processor.
- A stable Wi-Fi or Ethernet network connection for exercises and demonstrations.
- A development environment with Valkey installed locally or via a container.
- A compatible command-line client, such as valkey-cli.
- An up-to-date code editor or IDE, as well as a working terminal.

Valkey Training Program

[Day 1 - Morning]

Fundamentals and Getting Started

- Understand Valkey's role in a modern data architecture.
- Identify typical use cases: application cache, sessions, lightweight queues, and real-time data.
- Explore the key-value model and the available families of data structures.
- Get started with the command-line interface and basic exploration commands.
- Understand how the RESP protocol works and the client-server logic.
- Hands-on workshop: Start a Valkey instance, connect using valkey-cli, and execute your first read and write commands.

[Day 1 - Afternoon]

Data Structures and Common Operations

- Manipulate strings, lists, sets, hashes, and sorted sets.
- Choose the right data structure based on business requirements and access profiles.
- Use commands for searching, incrementing, and atomic operations.
- Understand the concepts of keys, expiration, and data lifetime.
- Introduce transaction mechanisms and conditional operations.
- Hands-on workshop: Model several simple use cases using different data structures and compare their advantages.

[Day 2 - Morning]

Persistence, Replication, and Availability

- Analyze persistence options using RDB, AOF, and combinations thereof.
- Understand the impact of backups on recovery, durability, and performance.
- Study the principle of primary-secondary replication and resynchronization mechanisms.
- Discover the basics of high availability with Valkey Sentinel and Valkey Cluster.
- Learn best practices for minimizing data loss and ensuring secure failovers.
- Hands-on workshop: Configure a simple replication setup, simulate a failure, and observe the recovery behavior.

[Day 2 - Afternoon]

Administration, Performance, and Operations

- Explore server administration and monitoring commands.
- Read metrics useful for diagnostics, memory, load, and client activity.
- Identify optimization strategies related to caching, memory, and concurrent access.
- Understand compatibility with existing clients and key considerations for migration.
- Establish basic operational, monitoring, and maintenance procedures.
- Hands-on workshop: Analyze an instance under load, interpret metrics, and propose optimization actions.

Target Companies

This training program is designed for both individuals and businesses—large and small—that wish to train their teams in new, advanced IT technologies or to acquire specific industry knowledge or modern methods.

Placement Assessment at the Start of Training

The pre-training assessment complies with Qualiopi quality standards. Upon final registration, the learner receives a self-assessment questionnaire that allows us to evaluate their estimated proficiency in various types of technologies, as well as their personal expectations and objectives

regarding the upcoming training, within the limits imposed by the selected format. This questionnaire also allows us to anticipate certain connection or internal security issues within the company (intra-company or virtual classroom) that could pose challenges for monitoring and ensuring the smooth running of the training session.

Teaching Methods

Hands-On Course: 60% Practical, 40% Theoretical. Training materials distributed in digital format to all participants.

Organization

The course alternates between theoretical instruction from the trainer—supported by examples and reflection sessions—and group work.

Assessment

At the end of the session, a multiple-choice quiz is administered to verify that participants have successfully acquired the skills.

Certification

A certificate will be issued to each trainee who has completed the entire training program.