Redis Crash Course

Prerequisites: Basic knowledge of Linux

Duration: 2 Days (8 Hrs/Day)

Course Objective: Welcome to the Redis Crash Course, a comprehensive training program designed to provide you with a solid understanding of Redis, the popular open-source, in-memory data structure store. This course is structured to cover both the theoretical and practical aspects of Redis, ensuring you have the knowledge and hands-on experience to effectively work with this powerful tool.

Lab Requirement: Koenig DC/linux (CentOS).

Day 1: Introduction to Redis

Module 1 - Understanding Redis

What is Redis?

Key features and use cases of Redis

Data structures in Redis (strings, lists, sets, hashes, etc.)

Module 2 - Redis Installation and Configuration

Installing Redis

Configuring Redis server settings

Connecting to Redis using the command-line interface (CLI)

Module 3 - Redis Data Structures and Operations

Working with strings

Manipulating lists, sets, and hashes

Exploring advanced data structures (sorted sets, bitmaps, HyperLogLog)

Module 4 - Redis Persistence and Replication

Redis persistence options (RDB and AOF)

Configuring Redis for data persistence

Implementing Redis replication for high availability

Lab Session 1: Hands-on with Redis Data Structures

Practicing various data structure operations

Exploring the Redis CLI and executing commands

Implementing simple use cases with Redis

Day 2: Advanced Redis Concepts

Module 5: Redis Pub/Sub and Messaging

Understanding the Redis Pub/Sub model

Implementing publish-subscribe patterns

Using Redis Streams for message queuing

Module 6: Redis Transactions and Python Scripting

Implementing atomic transactions in Redis

Leveraging Python to handle Redis transactions

Module 7: Redis Clustering and Sharding

Exploring Redis Cluster architecture

Configuring and managing Redis Cluster

Implementing data sharding strategies

Module 8: Redis Use Cases and Best Practices

Caching and session management

Real-time analytics and leaderboards

Implementing Redis in microservices architecture

Redis security and monitoring

Lab Session 2: Hands-on with Advanced Redis Concepts

Practicing Pub/Sub and messaging patterns

Implementing Redis transactions and python scripts

Exploring Redis Cluster setup and management