Redis Training

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Duration: **4 Day**

In this Redis training course, students learn about Redis data structures and web applications and how to manage a Redis database.

What You Will Learn

- Understand why you should use Redis.
- Learn how to work with Redis data structures.
- Learn about Redis Web applications support and components.
- Learn how to use search-based applications.
- Learn how to reduce memory use.

Training Outline

- Introduction to Redis
  - Redis Compared to Other Databases and Software
  - Features
  - Why Redis?
- What Redis Data Structures Look Like
  - Strings in Redis
  - Lists in Redis
  - Sets in Redis
  - Hashes in Redis
  - Sorted sets in Redis
- Redis Web Applications
  - Login and Cookie Caching
  - Shopping Carts in Redis
  - Web Page Caching
  - Database Row Caching
  - Web Page Analytics
- Commands in Redis
  - Strings
  - Lists Sets
  - Hashes
  - Sorted Sets
  - Publish/Subscribe
  - Sorting
  - Transactions
  - Expiring Keys
- Data Management
  - Persistence Options
  - Snapshots
  - Append-only File Persistence
  - Rewriting/Compacting Append-only Files
  - Replication
  - Configuring for Replication
  - Master/Slave Chains

    - Verifying Disk Writes
    - System Failures
- Application Support
    - Logging to Redis
    - Counters and Statistics
    - Service Discovery and Configuration
    - Using Redis to Store Configuration Information
- Application Components
    - Distributed Locking
    - Fine-grained Locking
    - Locks with Timeouts
    - Counting Semaphores
    - Fair Semaphores
    - Refreshing Semaphores
    - Preventing Race Conditions
    - Task Queues
    - Distributing Files with Redis
- Search-based Applications
    - Searching in Redis
    - Basic Search Theory
    - Sorting Search Results
    - Sorted Indexes
    - Sorting Search Results with ZSETs
- Reducing Memory Use
    - Short Structures
    - The ziplist Representation
    - The intset Encoding for SETs
    - Performance Issues for Long ziplists and intsets
    - Sharded Structures
    - HASHes
    - SETs
- Scaling Redis
    - Scaling Reads
    - Scaling Writes and Memory Capacity
    - Handling Shard Configuration
    - Creating a Server-sharded Connection Decorator
    - Scaling Complex Queries
    - Scaling Search Query Volume
    - Scaling Search Index Size
    - Scaling a Social Network