

**Redis for Developers**

**Course Number:** NSQL-104  
**Duration:** 2 days

**Overview**

This Redis for Developers training teaches attendees how to build high-performance applications with Redis as the data store. Participants learn how to apply best practices and design patterns in Redis, extend Redis using modules and scripts, and more.

**Prerequisites**

Students must have basic programming knowledge, preferably Python, Java, or Scala, and a basic understanding of Databases.

**Materials**

All Redis training students receive comprehensive courseware.

**Software Needed on Each Student PC**

* Computer with Internet connectivity
* Ability to install software on the computer
* Modern Windows, macOS, or Linux operating system

**Objectives**

* Add, update, and query data in Redis
* Apply best practices and design patterns while using Redis
* Extend Redis by using modules and scripts
* Identify and solve concurrency issues
* Use Redis in streaming applications

**Outline**

* Introduction
  + SQL vs. NoSQL
  + Overview of NoSQL databases
  + Redis overview
  + Redis use cases
* Installing Redis
  + Local installation
  + Using Docker
  + Redis client setup
* Data Manipulation Commands
  + Basic commands
  + Command documentation
  + Variations of SET
  + Expiration options
  + Handling multiple keys
  + GET and MGET
  + String ranges
  + Handling numbers
* Hash Data Structures
  + Hashes in Redis
  + Storing and retrieving hashes
  + Deleting hash data
  + Numbers in hashes
* Pipelining Commands
  + Batching commands with pipelines
  + Executing a pipeline
* Using Sets
  + Introduction to sets
  + Enforcing uniqueness using sets
  + Union, intersection, and difference
  + Scanning a set
  + Sorted sets
* Sorting Data
  + Using SORT command
  + Joining data with SORT
  + Parsing sort output
* Lists
  + Collections using lists
  + List manipulation
  + Ranges and searches
  + Trimming lists
  + Removing elements
* Concurrency in Redis
  + Overview of a Lock
  + Using WithLock
  + Lock expiration
* Querying Data (RediSearch)
  + Redis modules
  + Creating and using an index
  + Index field types
  + Numeric, tag, and text queries
* Streams
  + Communication with streams
  + Adding messages
  + Consuming streams
  + Using XRANGE
  + Consumer groups
* Conclusion