

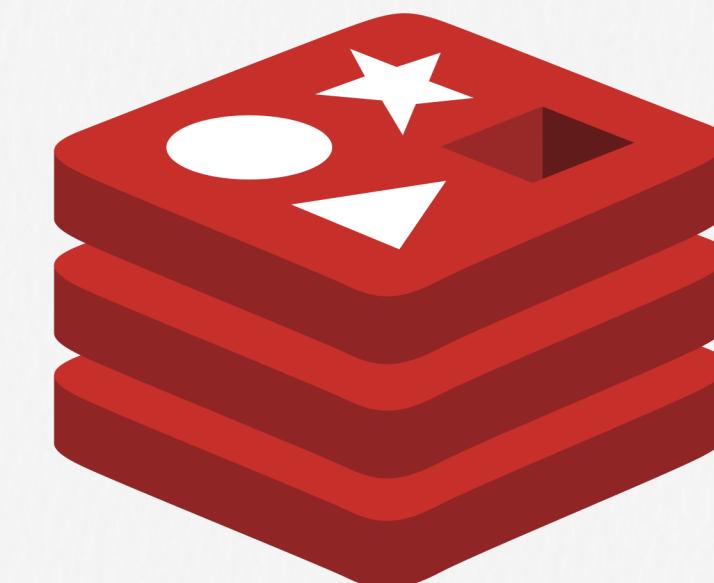
- Lua is a powerful, efficient, lightweight, embeddable scripting language. It supports procedural programming, object-oriented programming, functional programming, data-driven programming, and data description.
- Lua is designed, implemented, and maintained by a team at PUC-Rio, the Pontifical Catholic University of Rio de Janeiro in Brazil
- Lua scripting in Redis allows users to **execute Lua scripts within the Redis server**
  - perform complex operations and transactions **atomically** on the server-side



# Overview

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- **Execution:** **EVAL** or **EVALSHA** command
- **Atomicity:** script **performs multiple operations**, they are **executed as a single atomic transaction**
- **Reusability:** Lua scripts can be stored on the server using the **SCRIPT LOAD** command, which generates a SHA1 hash of the script. This hash can then be used to execute the script using **EVALSHA**, providing a way to execute frequently used scripts more efficiently
- **Performance:** Lua scripts are executed in a **single-threaded context** within the Redis server



# Use cases

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- Atomic Operations
- Reduced Network Round-Trips
- Complex Logic
- Server-Side Processing: no client processing
- Performance Optimization: Minimize data transfer
- Cache Invalidation and Eviction

CASE  
STUDY



# How to run Lua

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- SCRIPT LOAD & EVALSHA
- EVAL
- redis-py

