

Definition of data structures used in Redis

1. Artwork Details Caching

Data Structure: Hash

Each artwork's details will be stored in a Redis hash.

The key for each artwork's details will follow the pattern 'artworkDetails: artworkID'

The hash will store fields such as 'title', 'medium', 'dimension', and 'price'. Each field in the hash represents an attribute of the artwork.

'HSET' to create or update the hash with artwork details;

'HGETALL' to retrieve all fields of an artwork details;

'EXPIRE' to optionally set a Time-To-Live for each key.

2. Exhibition Artworks Tracking

Data Structure: Sorted Set

If ranking exhibitions based on the number of artworks is required, use a single sorted set, e.g. 'exhibitionArtworkRanking'.

Exhibition IDs as members, and the number of artworks as scores.

'ZINCRBY' to increment the score for an exhibition;

'ZREVRANGE' with 'WITHSCORES' to get a ranking of exhibitions.