* Caching improves scalability,performance and responsiveness of application.
* Distributing cache across multiple machines deployed over regions

Redis

* Fast in-memory data store that is used to cache data and server services.

Rules of caching

* Profiling the application(how long each function takes and how many times it is called)
* Output does not change often and frequently called
* Memory foot print is low as possible
* Should not store result of cache in list collection if aiming to perform key lookup

Example

* Wikipedia – distribute cache across servers

Distributed caching :

* Cache Expiration algorithm
* Removed after stale for a period

Redis ?

* REDIS (Remote Dictionary Service) – distributed cache engine
* Dictionary can be hosted on service remotely and can be distributed across servers.
* Supports atomic operations with data structures (string ,list caches ,set ,bitmap a, streams to sorted sets.)
* Key-value pair caching with low latency with automatic failover
* Client application connects redis using TCP connection. Multiple clients connects Redis Server.
* Redis provides replication ,transaction and on-disk persistence pub/sub,cache expiration, LRU key eviction