**CACHES DISTRIBUITE:**

**Introduzione**

* **Storages noSql**
  + KeyValue (Riak, Redis)
  + Wide Coulumn (Cassandra,HBAse)
  + Document (mongo, couchbase)
  + Graphs (Neo4J, HyperGraph)
* **Terminologia**
  + Cache vs Maps
  + Invalidation (Update)
  + Automatic load for cache miss
  + Statistics
  + Cache Miss
  + Cache Hit
  + Cache Hit ratio
  + Storage Cost (spazio entry in cache)
  + Load Cost (tempo per caricarla)
  + Replacement policy (quale entry viene rimossa per far posto alla nuova)
  + Optimal Replacement Policy
* **Benefici**
  + Performance
  + Scalabilita
  + Failover
* **Algoritmi Invalidation (full cache)**
  + LSU
  + LRU (piu vecchia)
  + LFU (piu inutile) meno richiesta
  + FIFO (last access time, object size)
* Reference data vs transactional Data
* **Topologie**
  + Mirrored (active/passive)
  + Replica (same copy ALL)
  + Partioned (hash e modulo, no replica)
  + Partioned-Replica (hash e modulo, con replica)
* **Features:**
  + Grouping
  + Nested removal
  + Data Expiration
  + Runtime parameters
  + Remote store recovery
  + Scheduled expiration
  + Security
    - Authentication
    - Encryption trasmissioni
* **Cache as middleware:**
  + Cache Features
  + Persistence
  + MOM
* **Prodotti:**
  + MemCache
  + Hazelcast
  + Redis
  + Zookeeper