

AWS Certified Solutions Architect: Associate - 10.0 Amazon ElastiCache

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10.1 Amazon ElastiCache

- Basics
 - In-Memory Caching (Diagram)
 - 100ms = 1% decrease in sales
 - Two popular solutions
 - Memcached
 - In-memory key/value data store
 - Typically stores the results from a DB query
 - Stores data in blobs so it can store anything
 - Redis
 - Provides all the features of Memcached
 - Adds support for rich data types
 - Strings
 - Lists
 - Sets
 - Data persists on disk
 - Allows surviving a failed master
 - Any replica can be promoted
 - Challenging to configure for distributed systems
 - Both technologies use clusters for scalability
 - ElastiCache simplifies that
 - Mostly automated
 - Compliant with Memcached and Redis
 - Clusters controlling the cache are fully managed
- Design
 - More small nodes will provide better availability
 - Memcached supports auto discovery, but requires client software
 - Client supports .NET, Java and PHP
 - Scaling is built around EC2 instances (Horizontal/Vertical)
 - Use Multi-AZ Replication (Diagram)
 - Replication is asynchronous so some delay is introduced
 - Backups
 - Memcached is entirely in-memory so you cannot use snapshots
 - Redis persists on disk so you can use snapshots
 - Control access with IAM