






Data Management patterns

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Data management is the key element of cloud applications, and influences most of the quality attributes. Data is typically hosted in different locations and across multiple servers for reasons such as performance, scalability or availability, and this can present a range of challenges. For example, data consistency must be maintained, and data will typically need to be synchronized across different locations.

Pattern	Summary
Cache-Aside	Load data on demand into a cache from a data store
CQRS	Segregate operations that read data from operations that update data by using separate interfaces.
Event Sourcing	Use an append-only store to record the full series of events that describe actions taken on data in a domain.
Index Table	Create indexes over the fields in data stores that are frequently referenced by queries.
Materialized View	Generate prepopulated views over the data in one or more data stores when the data isn't ideally formatted for required query operations.
Sharding	Divide a data store into a set of horizontal partitions or shards.
Static Content Hosting	Deploy static content to a cloud-based storage service that can deliver them directly to the client.
Valet Key	Use a token or key that provides clients with restricted direct access to a specific resource or service.