Microsoft

AZ-300T03 Module 01: Selecting Compute and Storage Solutions

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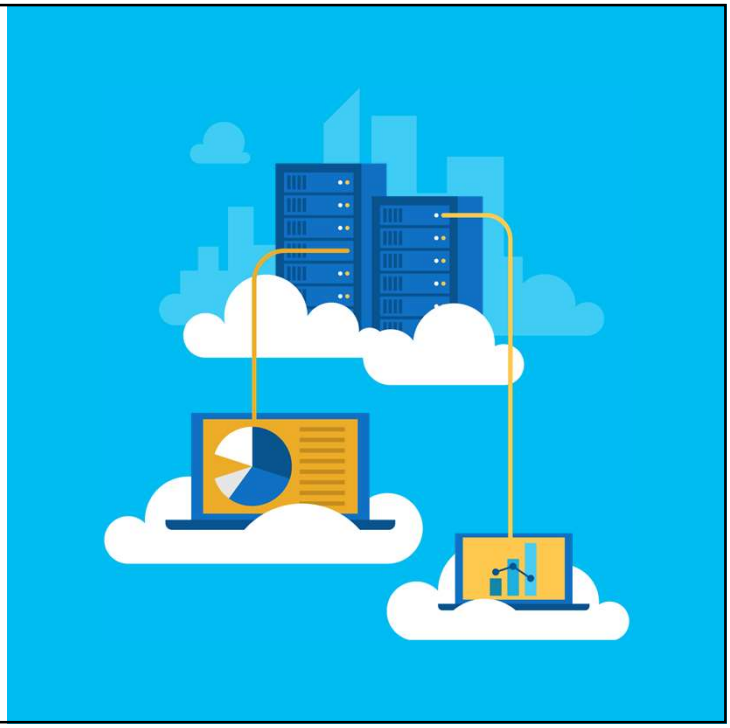

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Module 01: Selecting Compute and Storage Solutions

Lesson 01: Design and Connectivity Patterns

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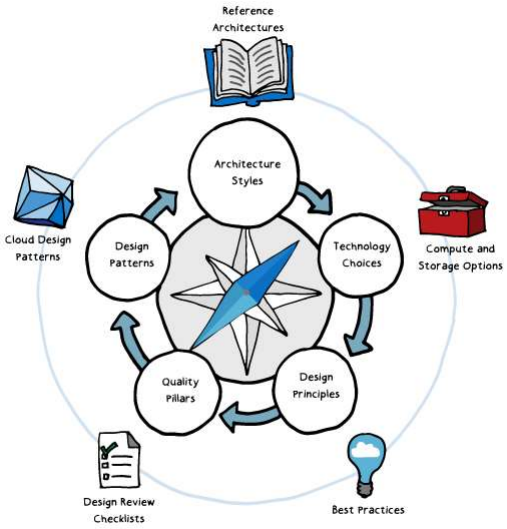
Azure Architecture Center

Guides, design patterns, best practices:

- Azure Application Architecture Guide
- Azure Data Architecture Guide
- Azure Virtual Datacenter
- Reference Architectures
- Azure Building Blocks
- Cloud Best Practices
- Design Review Checklists
- Azure for AWS Professionals
- Build Microservices on Azure
- and many others…



Available at https://docs.microsoft.com/en-us/azure/architecture/

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Cloud Design Patterns

Rely on application design concepts:

- Partitioning workloads
- Load balancing
- Transient fault handling
- Queues

Include:

- Retry pattern
- Competing consumers pattern
- Cache-aside pattern
- Sharding pattern

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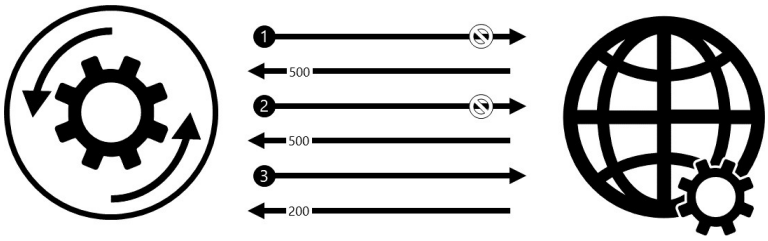
Retry Pattern

Problem:

- Intermittent errors with cloud services

Solution:

- Application logic to retry requests that have temporarily failed



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Competing Consumers Pattern

Problem:

- Handling variable quantities of requests

Solution:

- Asynchronous messaging with variable quantities of message producers and consumers

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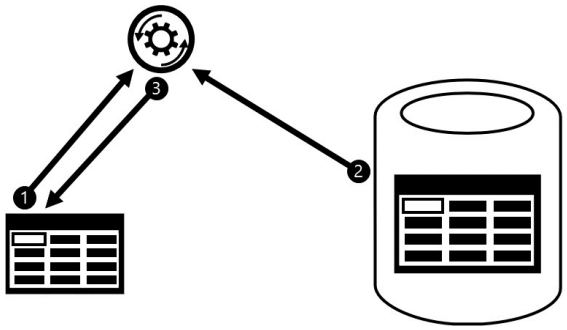
Cache-aside Pattern

Problem:

- Cached data consistency

Solution:

- Read-through and write-through caching



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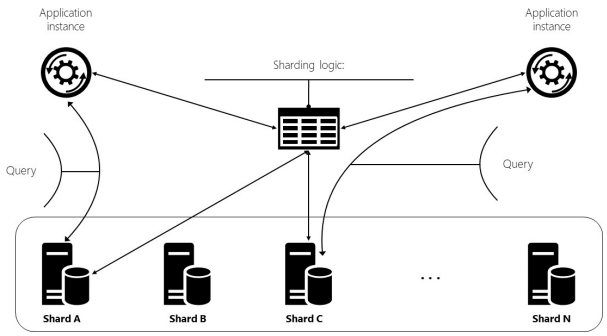
Sharding Pattern

- Problem:
  - **Hosting large volumes of data in a traditional single-instance store**
- Solution:
  - **Partitioning data horizontally across many nodes**



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