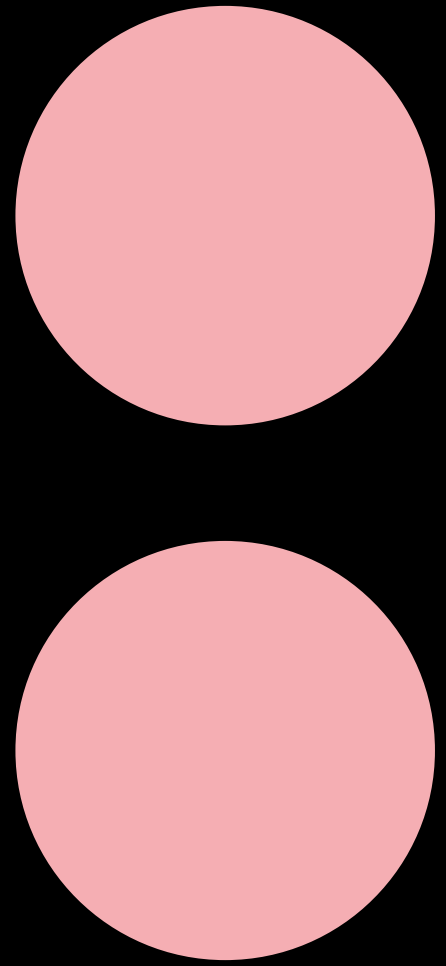
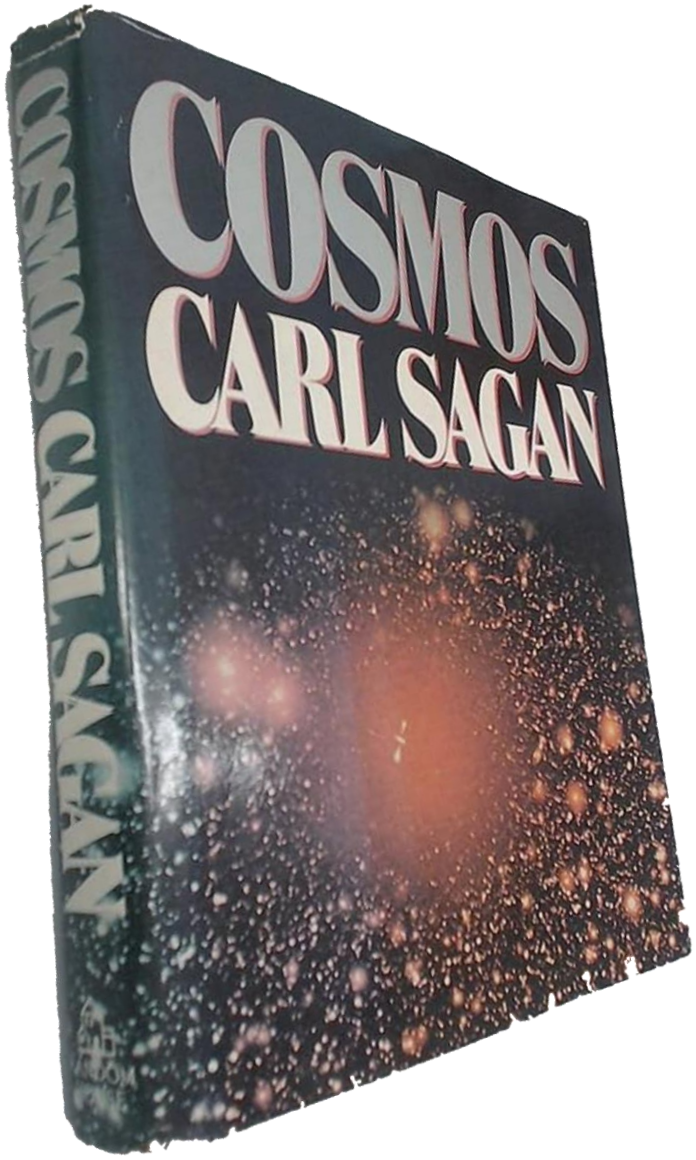
CosmosDb for Beginners



CosmosDb

- Azure NoSQL (ish) database
- Global scale
  - 54 Azure data centres
  - Ring Zero service

- Use cases
  - Distributed NoSQL
  - Distributed relational
  - Vector database



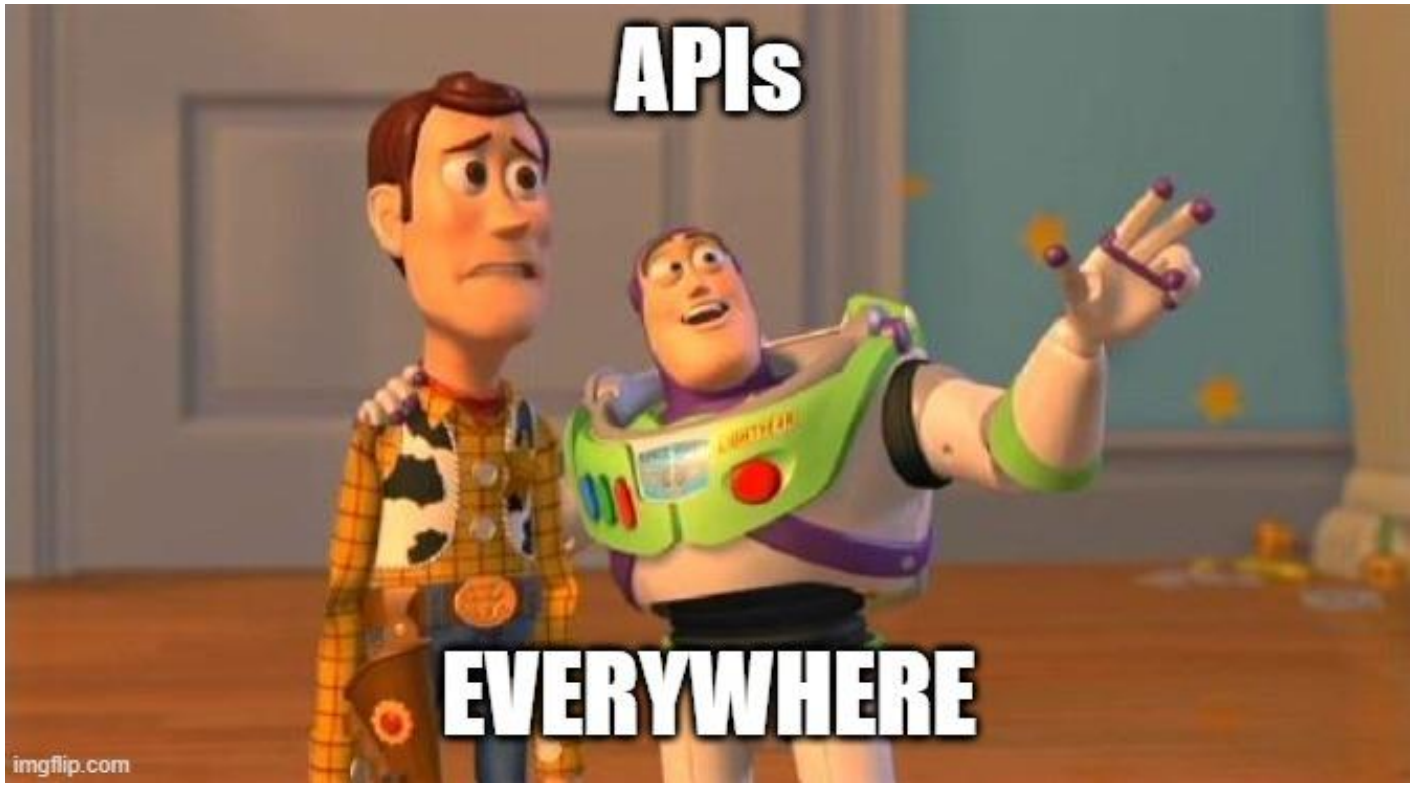
APIs & SDKs

- APIs
  - NoSQL (preferred)

  - MongoDb
  - Gremlin
  - Cassandra
  - Table Storage

  - PostgreSql

- SDKs
  - .NET
  - Java
  - Python
  - Javascript
  - Go (beta)

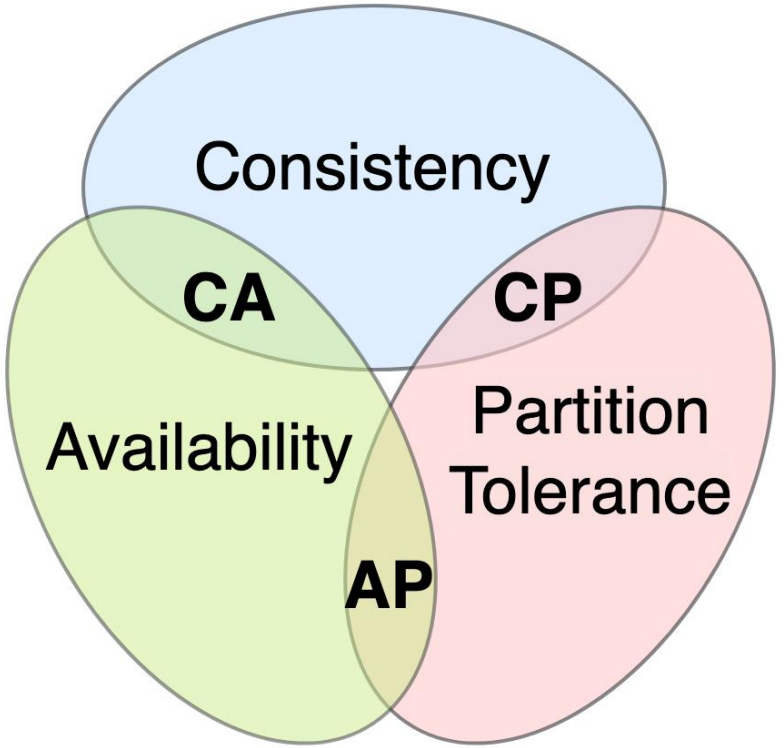


CAP Theory

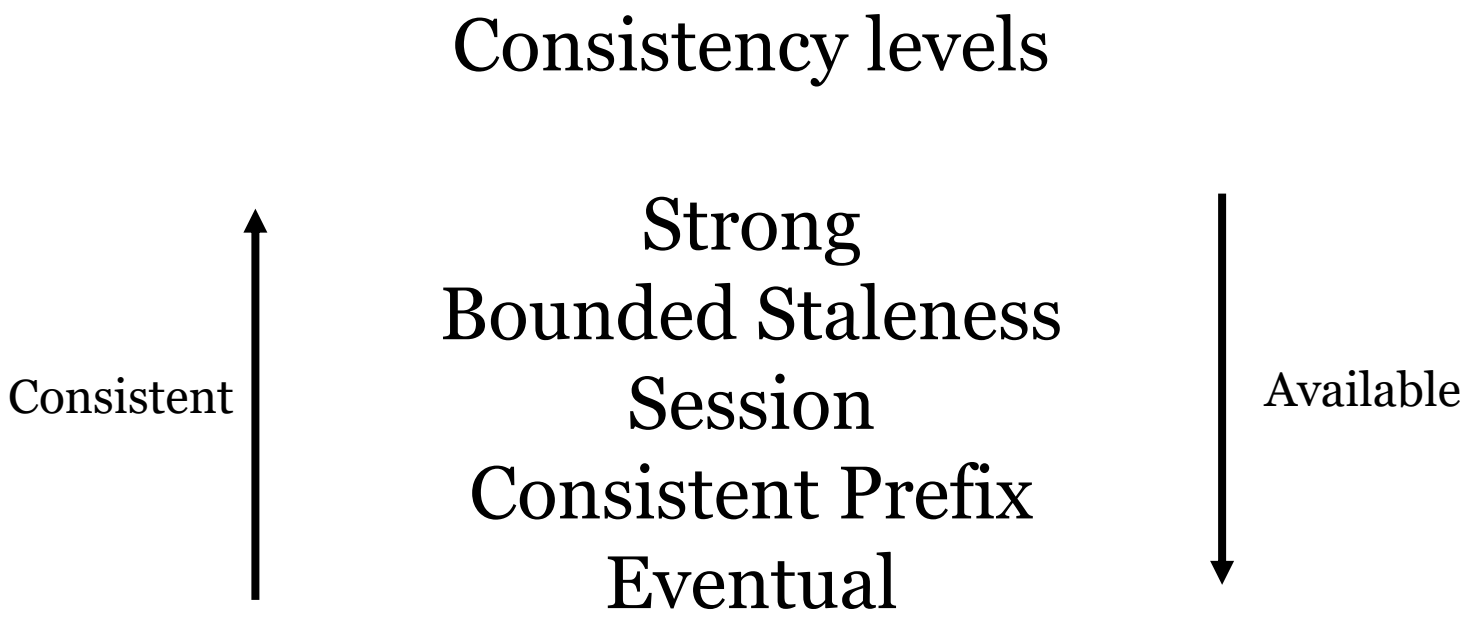
- ~~ACID~~

- Three competing tensions
  - Consistency
  - Availability
  - Partition Tolerance

  - Pick two of these



Consistency and Availability



(Default consistency levels can be overridden per-operation.)

Costs

- Request Units
  - Abstraction of CPU, memory, I/O
  - Reading a 1Kb item by its Id is 1 RU
- Storage
  - £0.199 per Gb per month per region
- Bandwidth

- Free tier
  - 1 000RU/s
  - 25Gb storage
  - But… you can only have one free db per subscription ☹
- Serverless
  - £0.24 per 1M RUs
- Provisioned
  - £0.0064 per 100RU/s per hour

Partitions

- Choosing the right partition keys is important
- Your RU capacity will be split *evenly* across your partitions
- Hot partitions are bad

Demo!

- Creating a CosmosDb instance
- Using it

Questions?

- And I didn't even tell you about writing stored procedures in Javascript!