Basic Concepts

Memi Lavi
www.memilavi.com

SLA

- Service Level Agreement
- The uptime % of a cloud service

SLA (%)	Yearly Downtime Allowed
95	18d 6h 17m 27s
99	3d 15h 39m 29s
99.9	8h 45m 56s
99.99	52m 35s

SLA

- ALWAYS check the SLA of the service used

App Engine Service Level Agreement (SLA)

During the Term of the agreement under which Google has agreed to provide Google Cloud Platform to Customer (as applicable, the "Agreement"), the Covered Service will provide a Monthly Uptime Percentage to Customer of at least 99.95% (the "Service Level Objective" or "SLO"). If Google does not meet the SLO, and if Customer meets its obligations under this SLA, Customer will be eligible to

SLA

- ALWAYS check the SLA of the service used

Covered Service	Monthly Uptime Percentage
Cloud Spanner - Multi-Regional Instance	>= 99.999%
Cloud Spanner - Regional Instance	>= 99.99%

SLA Calculation

- To get the actual system SLA, multiply the SLAs of the participating services

  App Engine SLA = 99.95%

  Regional Spanner SLA = 99.99%

  Actual SLA = 99.95 X 99.99 = 99.94% = 5h 15m 34s annual downtime

SLA Calculators

- Quite a few SLA calculators online
- Help in understanding the actual downtime of a given SLA
- Example: https://uptime.is/

Cost

- Almost everything in the cloud costs money
- Few pricing models:
  - Per resource (ie. VM Instance)
  - Per consumption (ie. Cloud Functions)
  - Reservations

Cost

- ALWAYS check resource's cost before provisioning
- Check for more cost-effective alternatives
- Look for reservations when available and relevant

Google Cloud Pricing Calculator

https://cloud.google.com/products/calculator

Budgets

- Budgets help you to avoid surprises with cloud costs
- Monitor the on-going costs and send alerts
- DO NOT cap the actual cost, just monitors and alert

Architects and the Cloud

- Software Architects designing regular system need to know:
  - Non-Functional Requirements
  - Technology Stack
  - Component's Architecture
  - Communication Patterns

Architects and the Cloud

- Cloud-based systems require, in addition:
  - Infrastructure knowledge
  - Security
  - Hands-on
- We'll learn all that in this course ☺