

A view from a car window looking out onto a desert landscape at sunset. In the background, a large cable-stayed bridge spans a valley. The sky is a mix of orange and blue. The car's side mirror is visible in the foreground on the right.

Dobro došli

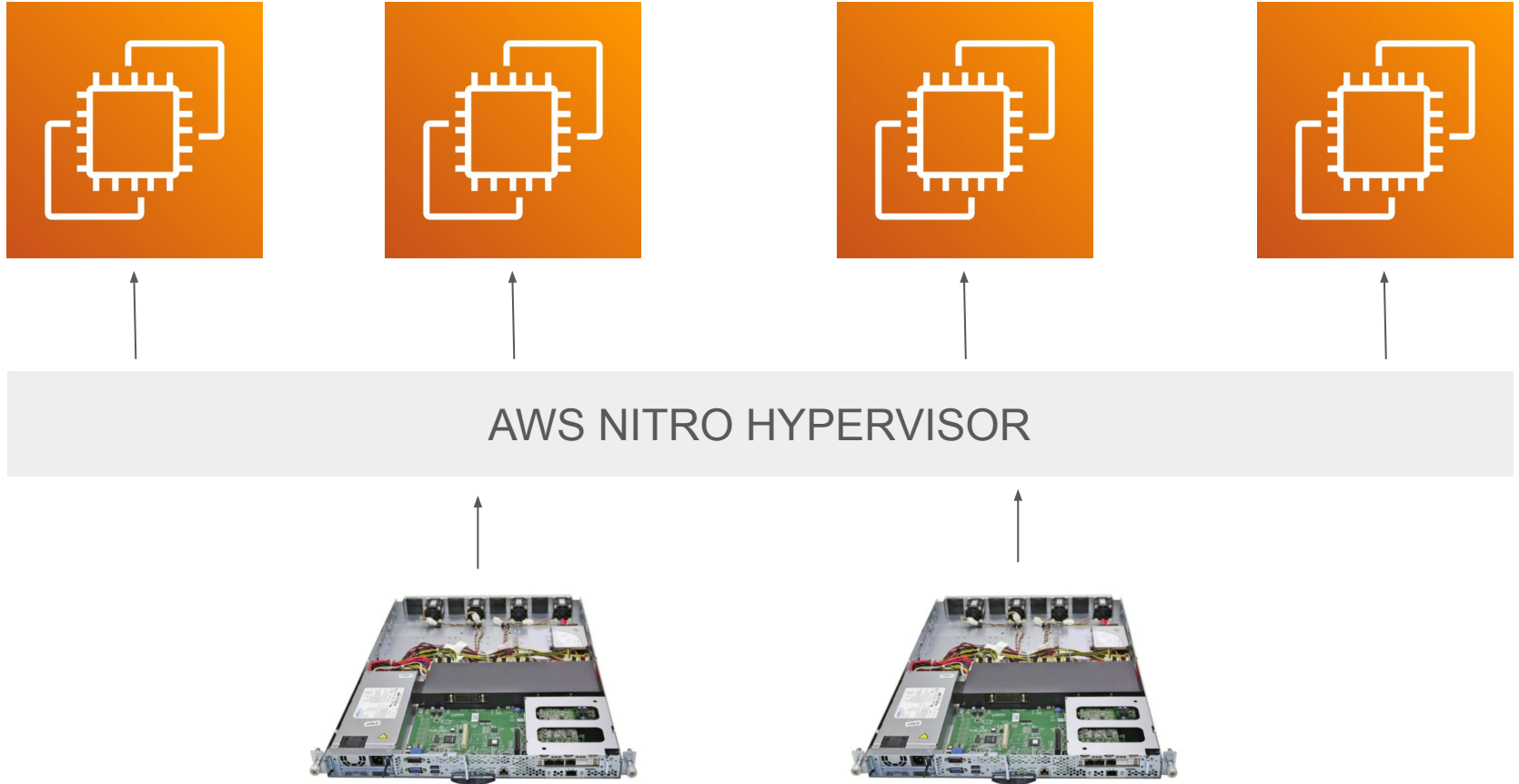
Agenda

1. EC2
2. Lambda

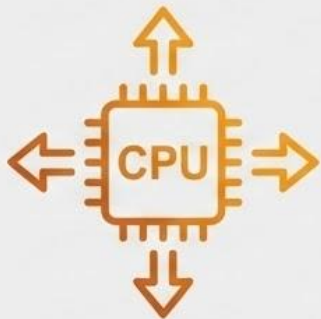
Amazon EC2 - ???



Amazon EC2 - Elastic Compute Cloud



Kako da izaberemo EC2 instancu?



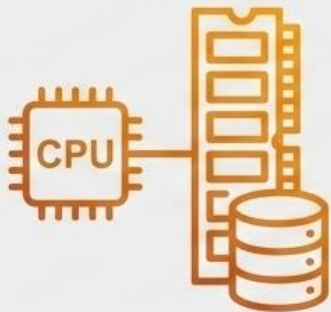
General purpose:
M, T

web servers, self
hosted git repository



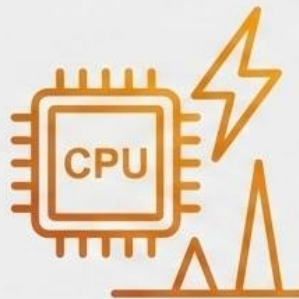
**Compute
Optimised: C**

batch processing,
video encoding



**Memory
Optimised: R**

reddis

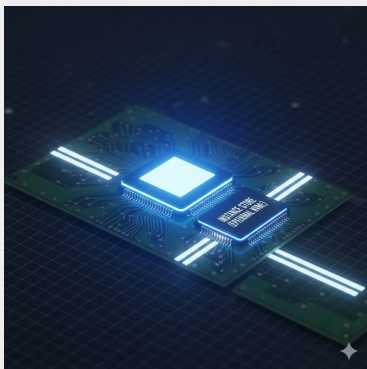


Burst: T

Gde zive podaci?

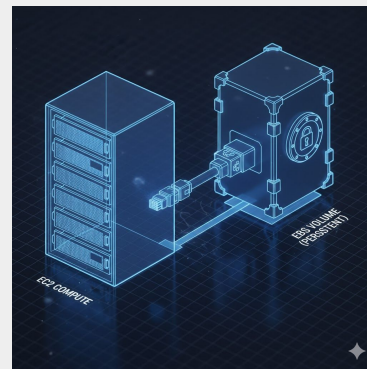
Instance Store

- Veoma brza memorija
- Brise se kad se instanca ugasi



EBS (Elastic Block Store)

- Nezavistan od EC2 instance
- Skalabilnost
- Podaci putuju kroz mrežu (latencija)



Koliko EC2 kosta?

1. On-Demand: Deterministički Model

- Nema "upfront" plaćanja (0 ulaganja)
- Nema obavezivanja (možete ugasiti za 10 sekundi).
- Najskuplja opcija (Premium cena za fleksibilnost).

Koliko EC2 kosta?

2. Reserved Instances / Savings Plans: Model Obavezivanja

- Obećavate AWS-u: *"Trošiću X dolara na sat narednih 1 ili 3 godine."*
- AWS vam daje popust do 72% u odnosu na On-Demand.
- Database serveri, produkcija koja radi 24/7. Ako znate da će server raditi bar 60% vremena, ovaj model je isplativiji

Koliko EC2 kosta?

3. Spot Instances: Stohastički Model

- Određuje je tržište (Supply & Demand). Često je **90% jeftinija** od On-Demand.
- Vi kažete: *"Plaćam maksimum \$0.05 po satu."*
- Ako je tržišna cena \$0.03 = **Server radi.**
- Ako potražnja skoči i tržišna cena ode na \$0.06 = **AWS vam gasi server.**
- Dobijate signal (upozorenje) **2 minuta** pre gašenja.

AWS Lambda - EC2 vs Lambda

Sta su mane EC2 instanci?

- Morate da je održavate
- Kako se placa?
 - Po vremenu, ne po radu
- Skaliranje nije trivijalno

Rešenje

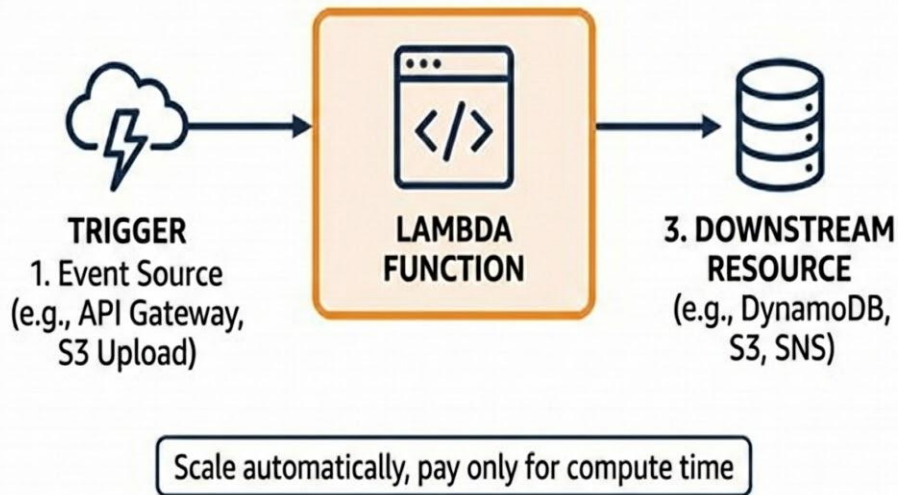


AWS Lambda - Šta je?



- **FaaS** - Function as a Service
- Event Driven
 - Pokrece se na **Trigger**
 - Ne radi dok se ne desi trigger
 - Gasi se nakon triggera
- Ključni koncepti
 - Stateless je
 - Ima lifecycle

AWS Lambda: Event-Driven, Serverless Compute



AWS Lambda - Za radoznale

- Sta se nalazi ispod haube?
 - **Firecracker**
- Alat za kreiranje MicroVM
 - Jako mali memory overhead ~ 5MB
 - Jako brz boot time ~ 125ms
- Spoj VM i Docker container-a



AWS Lambda - Konfiguracija, cena, skaliranje



- Kolicina resursa se definise samo kroz memoriju
 - Sto vise memorije vise procesora
- Kako se racuna cena?
 - Broj request-ova
 - GB-second
 - Memory x duration
- <https://aws.amazon.com/lambda/pricing/>
- Koliko ce nas kostati million requestova mesecno ako se lambda izvrsava 10 sec i ima 1GB rama?

| Provisioned Memory (MB) | Allocated Cores (from Table 1) | Quota of a vCPU (Provisioned Memory / 1769) |
|-------------------------|-----------------------------------|--|
| 1024 | 1 | 0.58 |
| 2048 | 2 | 1.15 |
| 3072 | 2 | 1.73 |
| 4096 | 3 | 2.31 |
| 5120 | 3 | 2.88 |
| 6144 | 4 | 3.46 |
| 7168 | 5 | 4.04 |
| 8192 | 5 | 4.61 |
| 9216 | 6 | 5.19 |
| 10240 | 6 | 5.77 |

AWS Lambda - Konfiguracija, cena, skaliranje

- Skaliranje

- Najmoćniji i ujedno najopasniji deo
- Auto scaling
- Jednostavna konfiguracija
- Sjajno za neočekavan saobraćaj

Edit concurrency

Concurrency

Unreserved account concurrency: **998**

- ☐ Use unreserved account concurrency
- ☒ Reserve concurrency

Cancel

Save

PITANJA

