

"CAP".substring(1)

## Street-fighting tricks for software engineers

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# TOC

- The Environment & Background
- Your (Typical?) Mission
- Embrace Eventual Consistency
- Trrrrrade-Offs: Benefits, Risks & Downsides

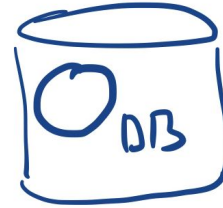
# Enterprise Software Engineering

## Customer

↳ Requests:

"Display Data in  
a nice way!"

("Quickly!")



Slow during  
business hours



Random  
Maintenance  
Takedown



Not Indexed





## You're given:

- Some CPUs
- Couple GB of RAM
- A JVM & Scala Compiler

Your Mission

*Deliver Value!*

***Not** your mission:*

*Fix the Overall Architecture*

Get the most out your landscape.  
Quickly.

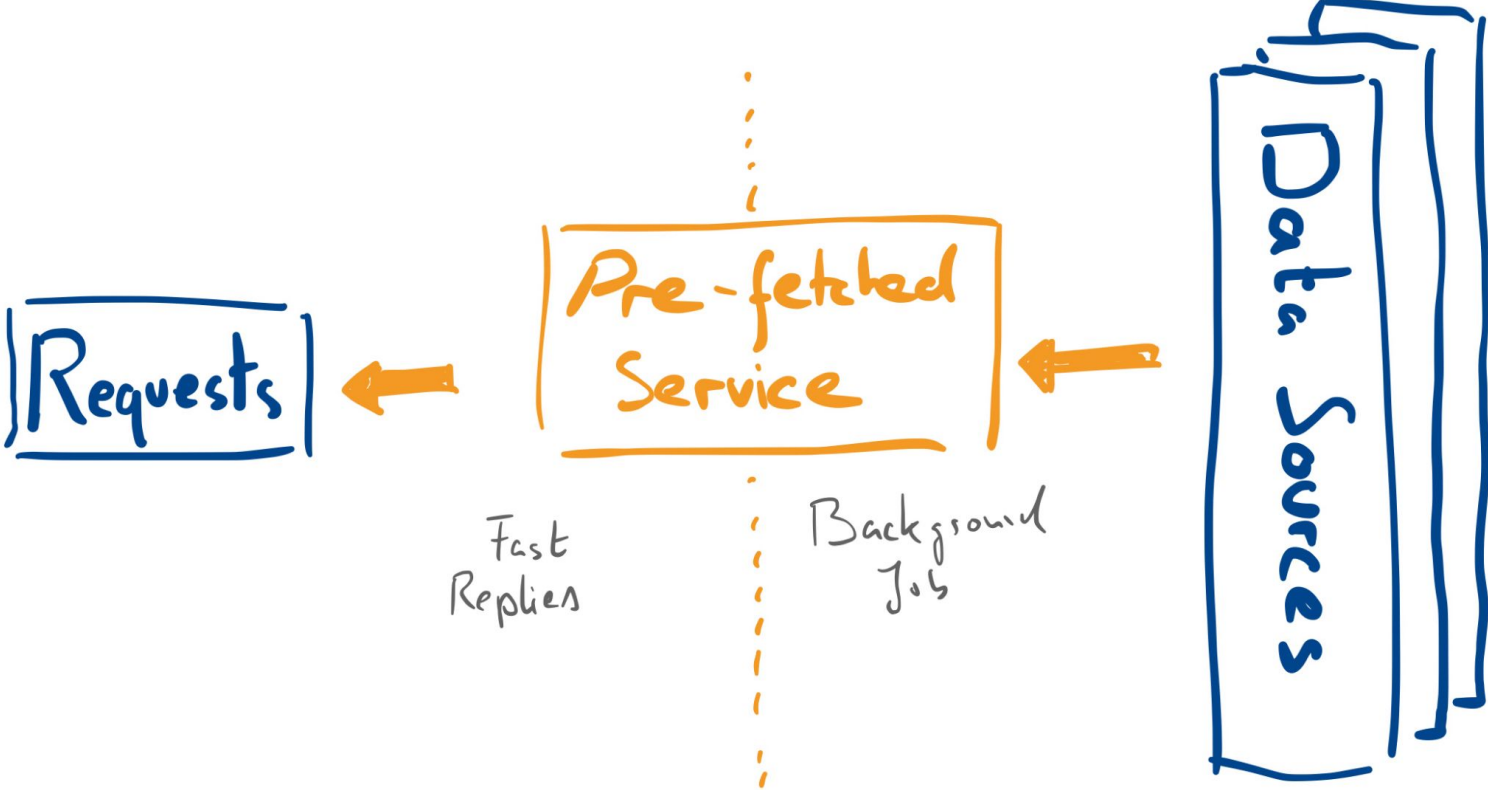
# Enter Pre-Fetching

- Pre-compute everything you need
- Store it in RAM

*Either things are in RAM or they don't exist.*



# Back To Our Landscape



*Why would you do that!?*

RAM is seriously undervalued as a place of temporary storage.

# What's Easier To Request?

*Can you setup and maintain a (distributed) cache for me?*

vs.

*Can you allocate me an additional GB of RAM?*

# Benefits

- (Predictable) Performance: fast if it's there, fast if it's not
- Availability: data source can happily bail out for a while!
- Internal consistency: done right, no weird cache related bugs
- Easy to *Wipe The Pre-Computed Stuff*<sup>™</sup> – just restart your service

For your PM/PO:

- Speed Premium: Limited amount of time to try things out? Get the POC out the doors faster, increase the chances of success.
- Unlock use cases by experimenting more.

# Limitations & Downsides

- Applies for read-only stuff
- Eventual Consistency
- RAM & pre-compute speed limits
- Easy to over-do

# Final Words

Services usually not written once and forgotten:

- Starts with an experiment
  - Sometimes fails
  - Keep if valuable
- Refactor & Iterate for *moar value*

Pre-fetching lets you get to value faster: clumsy but fast!

# Try it Out, Q&A

Library\* - <https://github.com/Shastick/zio-prefetcher/>

Complaints - <https://twitter.com/@0xtelegraph>

Other writings - <https://j3t.ch/>

*\* Yes! You too can try out this amazing foot-gun in no time!*