Notes on Polyglot Persistence

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Global Open Frontier

- **Project : MySQL Redis Plug-in**
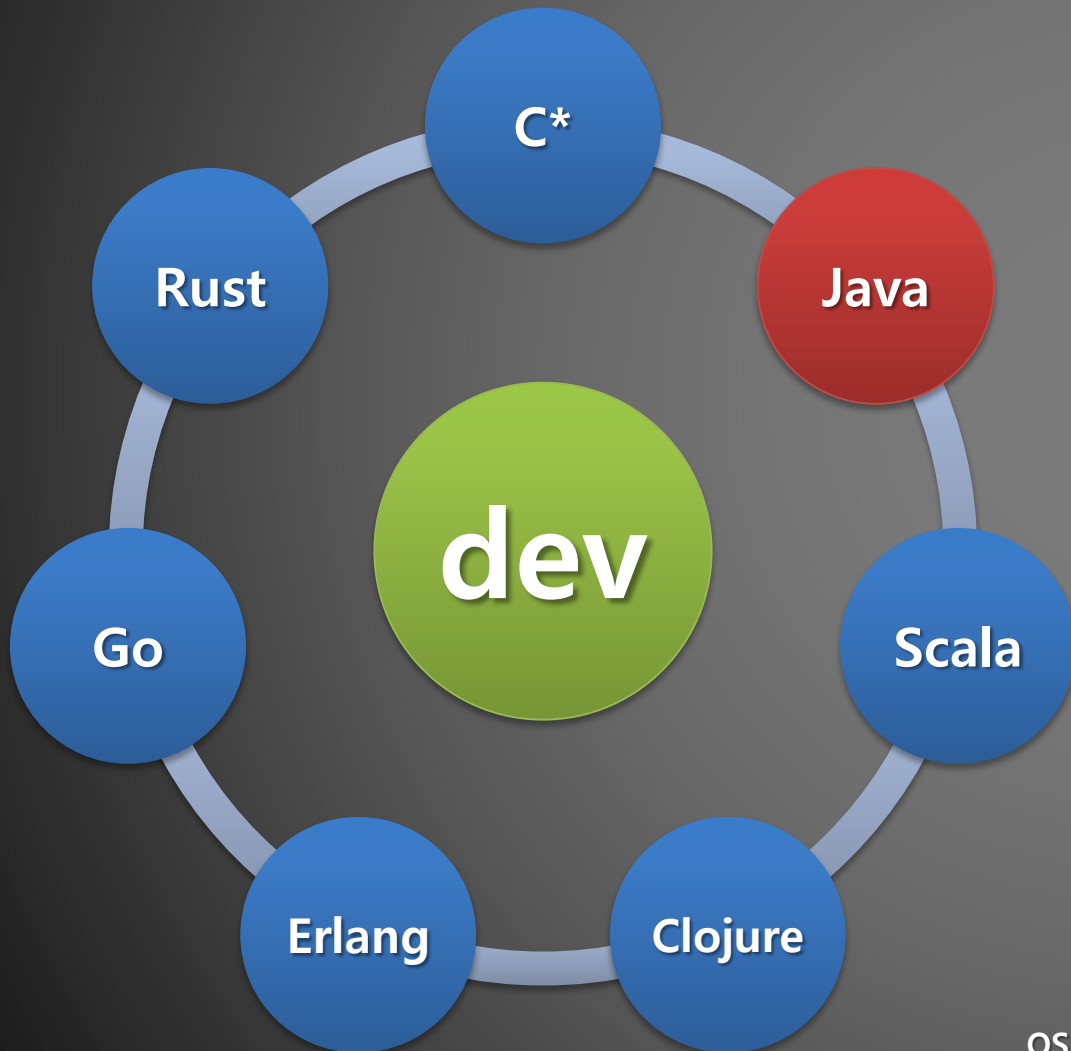
Agenda

- **What is Polyglot Persistence ?!**
- **Notes on Polyglot Persistence**
  - **Many Money Many Memory**
  - **Default Configuration**
  - **Open Source Subscription**
  - **Data Developer & Engineer**
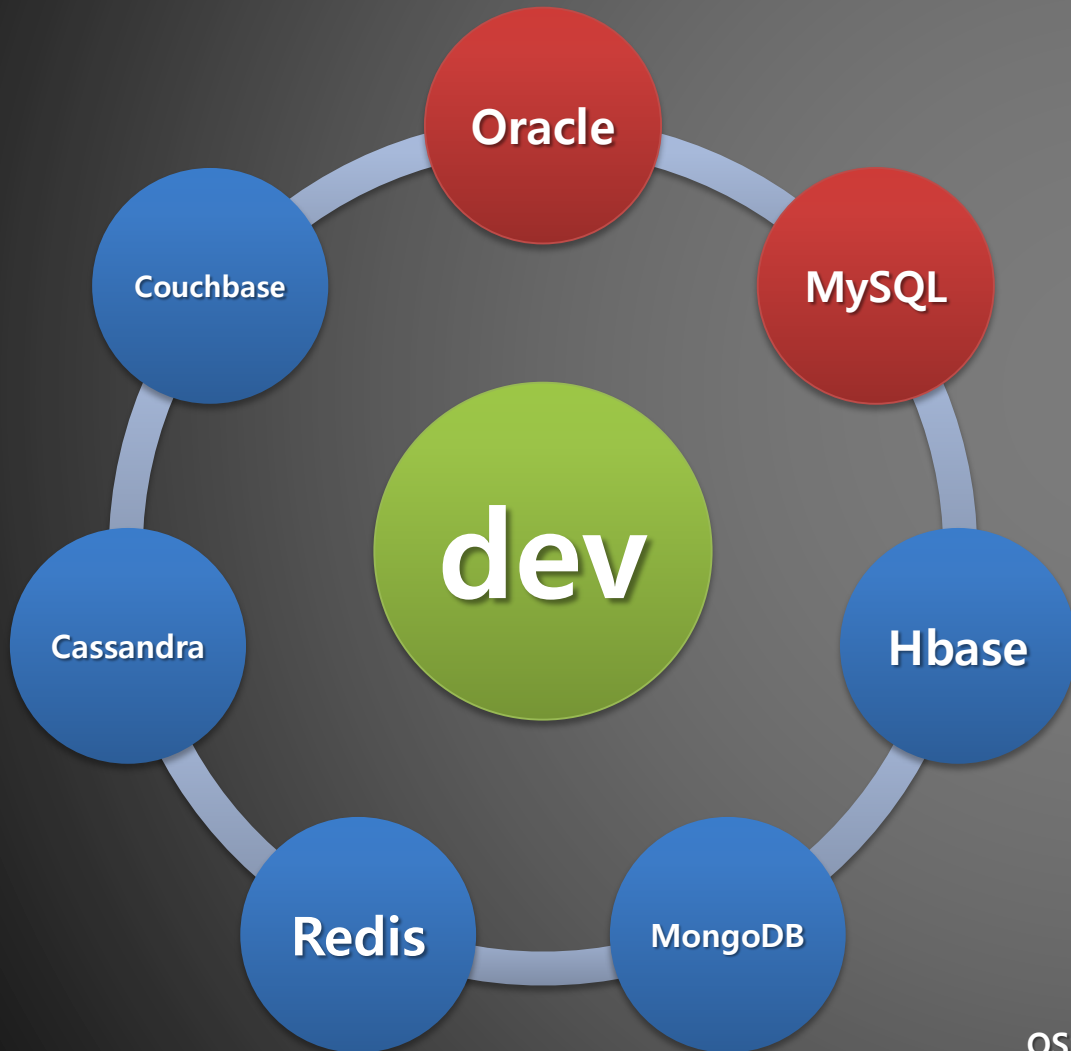 - **Data Pipeline**
  - **Security**

WHAT IS POLYGLOT PERSISTENCE ?!

What is polyglot paradigm ?!

dev

C*

Java

Rust

Go

Scala

Erlang

Clojure

- **Concurrent Programming**
- **Functional Programming**
- **Meta Programming**

JS

Scala

Go

Polyglot Database

Oracle

MySQL
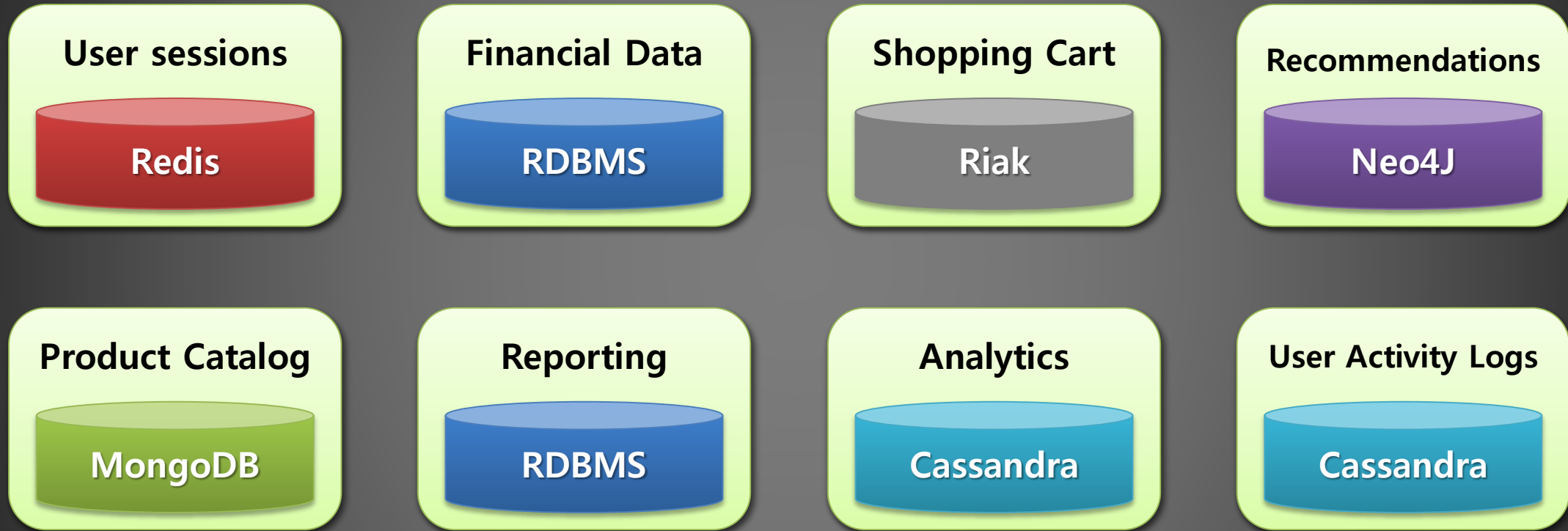
Couchbase

dev

Hbase

Cassandra

Redis

MongoDB

- **Transaction Programming**
- **Eventual Consistency Programming**

~~**"One Size Fits All"**~~

~~NoSQL Databases~~ Polyglot Persistence

User sessions	Financial Data	Shopping Cart	Recommendations
Redis	**RDBMS**	**Riak**	**Neo4J**

Product Catalog	Reporting	Analytics	User Activity Logs
MongoDB	**RDBMS**	**Cassandra**	**Cassandra**

- Source: Martin Fowler, http://martinfowler.com/articles/nosql-intro.pdf

DevOps is 100per1 ?!

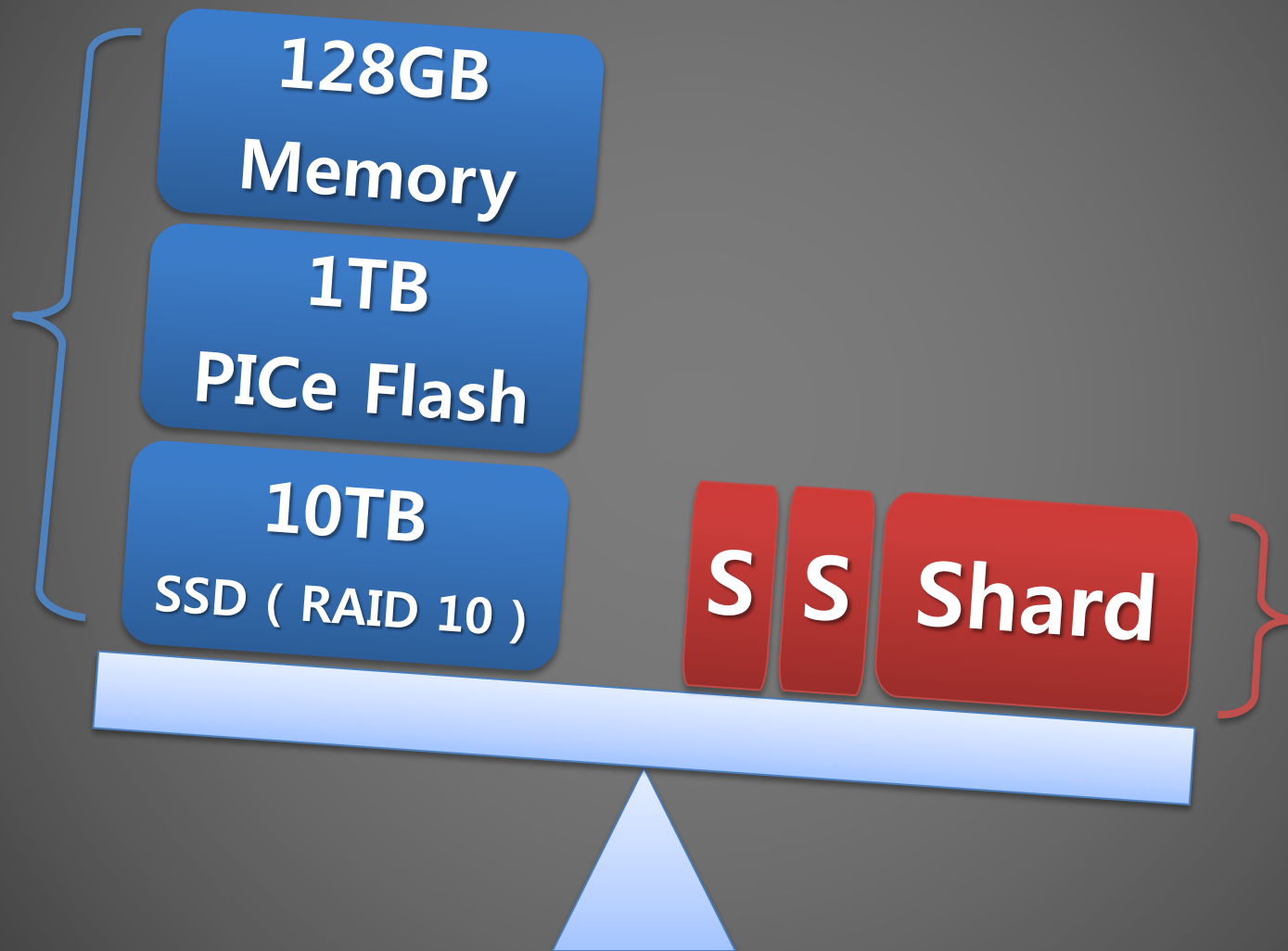# NOTES ON POLYGLOT PERSISTENCE

Many Money Money Memory

RAM > PCIe Flash > SSD

Many Money Money Memory

- RAM
  - NUMA
  - glibc malloc, jemalloc
  - THP, HugeTLBPage, HugeTLBfs
    - $ cat /sys/kernel/mm/transparent_hugepage/enabled

- PCIe Flash
  - swap
  - NVMe
    - http://pmem.io/nvml
  - Infiniband

- SSD
  - ext4, xfs, zfs, brfs, F2FS
  - RAID 0, 1+0

Simpe is best !!

MySQL Single

128GB Memory

1TB PICe Flash

10TB SSD (RAID 10)

S S Shard

Redis ? + MySQL ?

Default Configuration

- **Default is default ?!**

- **Dev ➜ Ops**

- **googling & slideshare**

Default Configuration

- my.cnf
  - innodb_flush_method = O_DIRECT
  - innodb_per_table = TRUE
- redis.conf
  - maxmemory 2mb
  - maxmemory-policy allkeys-lru

    $ echo 1 > /proc/sys/vm/overcommit_memory

    $ never > /sys/kernel/mm/transparent_hugepage/enabled
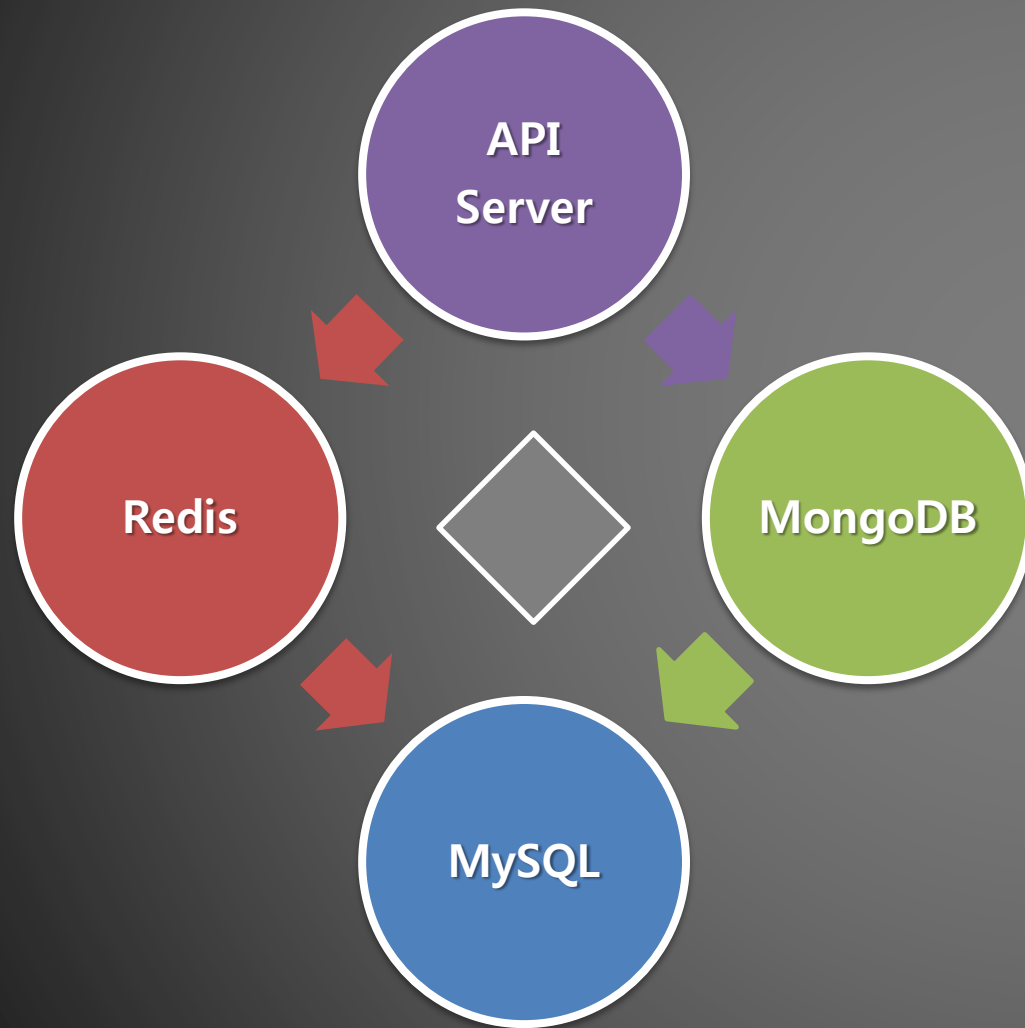
Open Source Subscription

- **Freelance (X)**
- **Mentor (Δ)**
- **Googling (Δ)**
- **Subscription (O)**

Data Developer & Engineer

AWS is LOVE !!

Data Pipeline

- **JSON**
- **Message queue**
- **PUB/SUB**
- **Bulk insert**

Security

MySQL & NoSQL injection attack

Q?!A