



PERCONA
Performance Consulting Experts

Read-Write Splitting

About Me

- Director of Consulting at Percona
- Lead author of High Performance MySQL, 2nd Edition
- Creator of innotop, Maatkit, and Better Cacti Templates

Tell Me Your Problems

- What brought you to this session?
- Where is your app in its life?
- What are you trying to figure out?

Why Split?

- Have more than one server
- Abstract them
 - To what degree?
- Stop thinking about *which server*
 - Start thinking about which *role*

Why More Than One Server?

- Performance
- Scaling
- High Availability
- Load Balancing

Two Great Web-App Myths

- Size is a distinguishing characteristic of web application databases
- My web application is likely to grow very large

Architectures That Work

- Single-server
- Master & slave
- Master-master
- Functional partitioning

All Readers Identical?

- Any stickiness?
- Load balancing?

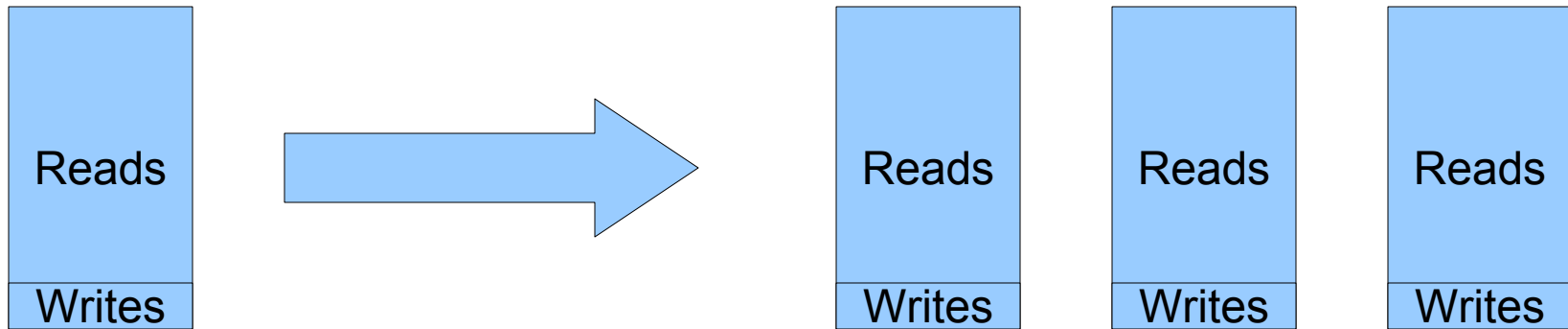
Query Routing

- Proxies
- Load Balancers
- Virtual IP Addresses
- Application Knowledge of Routing

Common Patterns

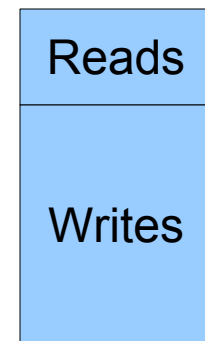
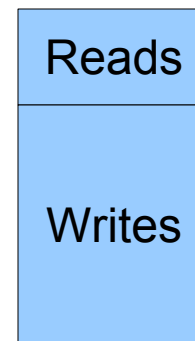
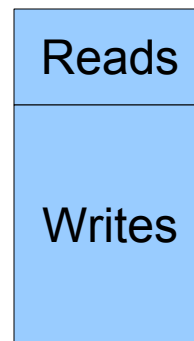
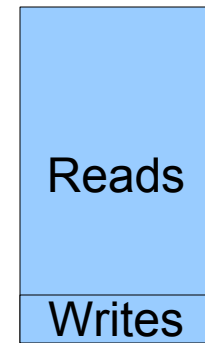
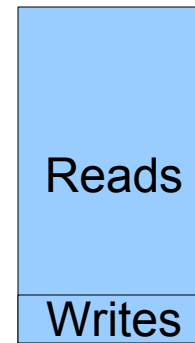
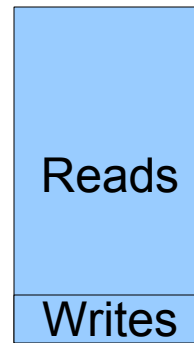
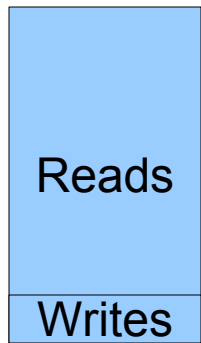
- Text-based split
- Staleness split
- Session-based
- Version-based
- Don't over-engineer

Capacity Increase



Why am I showing writes on slaves?

Capacity Increase



Common Mistakes

- Two writers
- No session barrier
- Writing to a reader accidentally
- Using DNS, /etc/hosts, or app configuration

Avoiding Replication Delay

- Break complex updates into simpler ones
- Try row-based replication in 5.1, carefully
- Don't trust Seconds_behind_master