

MongoDB Advanced Operations Training

Agenda

Introduction

Advanced Ops Training is designed for operations staff responsible for maintaining MongoDB applications. The instructor leads teams through a series of scenarios that represent potential issues encountered during the normal operation of MongoDB. Teams are hands-on throughout the course, actively working together to identify and implement solutions. The instructor evaluates teams based on the speed, elegance, and effectiveness of their solutions and provides feedback on strategy and best practices.

Each scenario exercises and develops skills in critical areas such as diagnostics, troubleshooting, maintenance, performance tuning, and disaster recovery. Each team will be provided with their own Amazon EC2 machines to work with. The instructor will supply IP addresses. The scenarios for this training fall into four subject areas as follows.

Backups and Recovery

If you use a backup service like MMS Backup, then most of the time you don't have to worry about backup. But when something breaks your production data, it can require some manual care to repair it. In this section, students work through an extended exercise restoring a single collection to a previous point in time.

Replication

Most production deployments of MongoDB should use replica sets, which provide automatic failover. In this section you'll learn to do the following with minimal downtime:

- Roll out upgrades (with a single failover)
- Roll out performance fixes (with a single failover)
- Diagnose and fix a downed node (with no downtime)

Diagnostics

The scenarios in this section will develop familiarity with:

- The MongoDB profiler
- Using profiling data to find slow operations
- Writing aggregation queries for reporting and diagnostics

Sharding and Performance Troubleshooting

In this section students learn to diagnose and fix a wide variety of issues that may arise in a sharded cluster:

- rogue queries (a single query that monopolizes the system)
- poorly optimized queries (application queries that can be improved)
- missing indexes
- bad default OS settings