

Percona Operator for XtraDB Cluster

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Who Is Percona?

- **Champions of Unbiased Open Source Database Solutions**
- **Provide trusted expertise in open source database technology through Consulting, Support, and Managed Services**
- **Engineer open source server and tool software to enhance community usage of open source databases**
 - Percona Monitoring and Management (PMM)
 - Percona Toolkit (PT)
 - Percona XtraBackup (PXB)
 - Percona Server for MySQL (PS)
 - Percona XtraDB Cluster (PXC)
 - Percona Server for MongoDB (PSMDB)
 - Percona Backup for MongoDB (PBM)
 - MySQL Storage Engines
 - Percona MyRocks
 - TokuDB

Why Percona XtraDB Cluster?

- **Bringing databases into Kubernetes introduces reliability concerns not adequately addressed by MySQL async/semi-sync replication**
- **Snapshot State Transfer (SST) makes self-healing and scaling simplistic**
- **PXC is mature and extremely robust**
- **ProxySQL 2.0 contains integrations specifically for PXC we can use in container environments**

Features of the PXC Operator (at GA)

- **Tested, proven, robust self-healing with no single points of failure**
- **Integration with Percona Monitoring & Management (PMM)**
- **Simplified deployments follow Percona best practices (PXC cluster in ~6 minutes)**
- **Automated Backup and Restore with support for object storage through Percona XtraBackup**
- **Automatic TLS management using Cert-Manager supporting cluster traffic encryption and client traffic encryption**

Features of the PXC Operator (at GA)

- **Full support for advanced Kubernetes features like Pod Disruption Budgets, Tolerations, Multi-AZ/Affinity, complex Constraints, and Priority Classes**
- **Supports using either PersistentVolumeClaims or Local Storage (emptyDir and hostPath)**
- **Full support for custom MySQL configuration via ConfigMap**
- **Supports private or custom container registries**

What's Coming Soon?

- **OpenShift certification + automated operator upgrades via OLM**
- **Automated zero-downtime PXC upgrades via UpgradeController**
- **Full support for Percona's advanced data-at-rest encryption features**
- **Service Brokers for OpenShift and other platforms**

Demo Video



Final Thoughts

- I'll be presenting a deep dive called "Building a Kubernetes Operator for Percona XtraDB Cluster" on May 29th during Percona Live Austin in our Kubernetes track
- Percona also has an operator for *Percona Server for MongoDB* in early access
- All of Percona's software is 100% Free and Open Source, find our operators and more at <https://github.com/percona/>



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Open Source Database Solutions**