massdriver

Case Study

How a Startup Migrated to Kubernetes in 8 Hours Using Massdriver

Customer

A Scaling Startup

GameStake Technologies is a technology startup that recently closed their Seed funding round.

Their intent is to use these funds to expand their product offering beyond a B2C mobile app to include a B2B customer engagement platform (GameStake For Business). This expansion requires a technology transformation in order to reach the anticipated scale while being managed by a small 3-person engineering team.

The Challenge

Overhaul Technology Stack

GameStake Technologies' primary challenge was to create a future-proof, reliable, and maintainable technology stack capable of scaling from their current 50,000 users to potentially millions of users while keeping their engineering team small. Their previous environment consisted of AWS EC2 virtual machines, managed via the AWS console. This posed multiple challenges:

- Software updates were manual, error-prone and required at least an hour of time from Ivan Ivanov, the Head of Engineering.
- Data stores ran locally via containers, lacking scalability and replication which posed data integrity issues.
- Infrastructure management was performed via the AWS console, lacking reproducibility and auditability.

Their specific objectives included:

- Adopting Kubernetes as their container runtime for zero-downtime software updates, load balancing, container recovery, and fine-grained autoscaling.
- Adopting Infrastructure as Code for environment reproducibility and auditability.
- Migrating data stores to more scalable and reliable managed services.
- Achieving these improvements without expanding their budget to hire additional DevOps expertise.

Results

Production-Ready Infrastructure

To tackle these challenges, GameStake Technologies turned to Massdriver. After quickly building a proof of concept in their staging environment, they made the decision to migrate their production workloads to Massdriver as well. The results were nothing short of transformative:

- **Adopting Kubernetes:** GameStake Technologies was able to migrate their container runtime from docker-compose on VMs to a fully managed EKS Kubernetes cluster.
- **Automated Deployments:** Fully automated, low-effort, zero-downtime software deployments via GitHub Actions, saving invaluable engineering time.
- **Improved Data Integrity:** By adopting AWS managed databases for Redis and Postgres, GameStake Technologies significantly enhanced data integrity and scalability.
- **Expanded Technology Stack:** Massdriver empowered GameStake to adopt new technologies like Unleash for feature flagging and A/B testing, as well as MongoDB Atlas, which were previously unknown or considered too challenging to deploy and manage.
- **Infrastructure as Code (IaC):** Through Massdriver, GameStake Technologies introduced IaC for all infrastructure and applications. This shift provided reproducibility, auditability, and the ability to enforce parity between staging and production environments.
- **Enhanced Validation:** Enforced parity between staging and production environments provides a higher level of validation for testing, reducing the risk of issues in production.

Conclusion

Scalability and Expansion

GameStake Technologies' adoption of Massdriver has allowed them to revolutionize their technology stack, preparing them for massive scale and allowing them to expand their product offering far beyond a single mobile app.

> *"Massdriver has removed a lot of the headaches around software deployments and running new cloud services."*

> *With Massdriver we're able to consider more complex solutions when they are appropriate, because we know Massdriver will make the management simple.*

> *Previously, our technology stack was always on my mind. How should we manage environment variables? Is this software deployment going to break? Are we going to lose data? Now I take for granted that everything is going to work.*