



Migration to **AWS** on Containers for world's leading **educational company**





Challenges

- *Specific applications needed to be moved to Cloud in containerized manner*

Solution

- *AWS Cloud Migration*

Results

- *Cost reduction by 50 60% for running/ managing/ maintaining (support)*
- *100's of jobs automated by implementing CI/CD pipeline which reduces release time*
- *Full fledged micro services architecture*
- *Containers enabled with auto scaling and self healing*
- *Easy upgrades, centralized logging*

About the Customer

The client is a world's leading education publishing and assessment service provider. They combine world-class educational content and assessment, powered by services and technology, to enable more effective teaching and personalized learning.

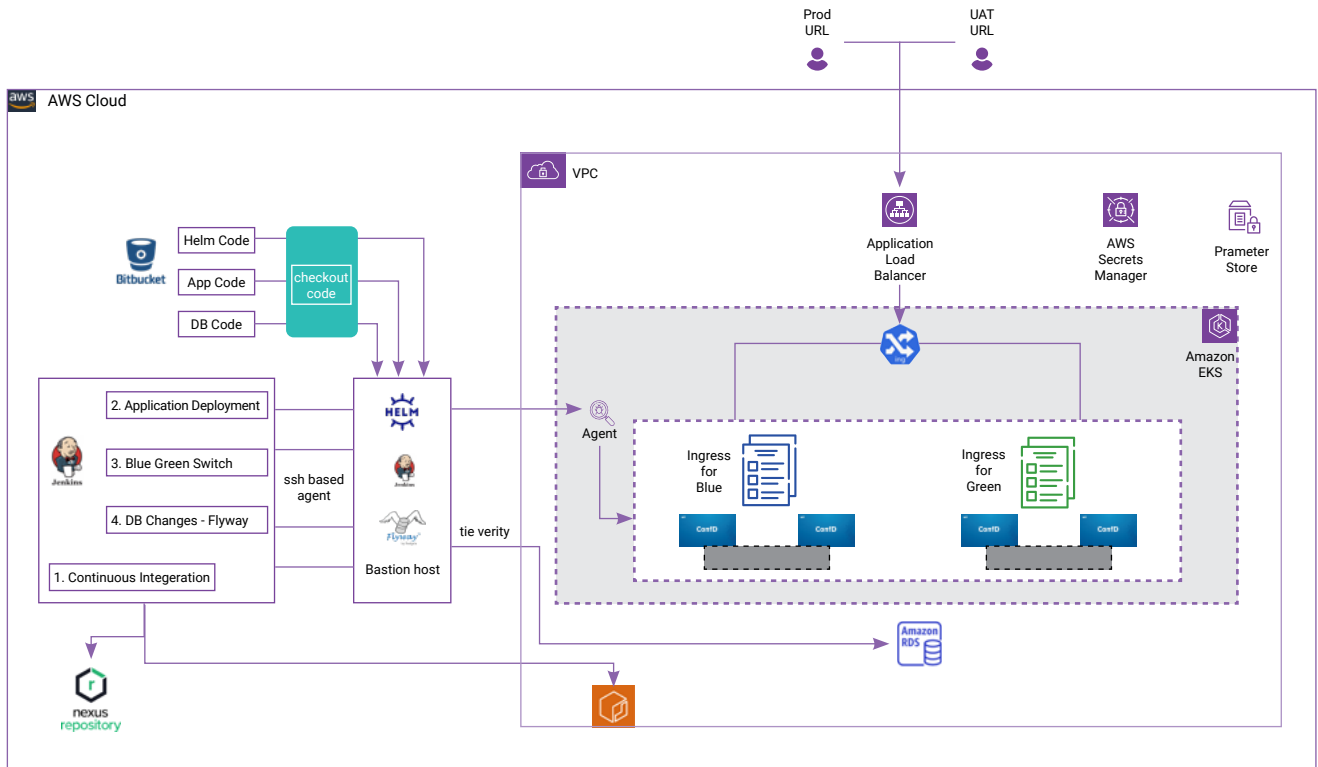
The Need

The client recently sold-off their US courseware division to a private equity firm. This strategic move, required that some of their applications had to be moved to AWS cloud in a containerized manner. Aspire systems came up with a program called 'Trio Migration' involving administrative migration, data center migration and database migration.

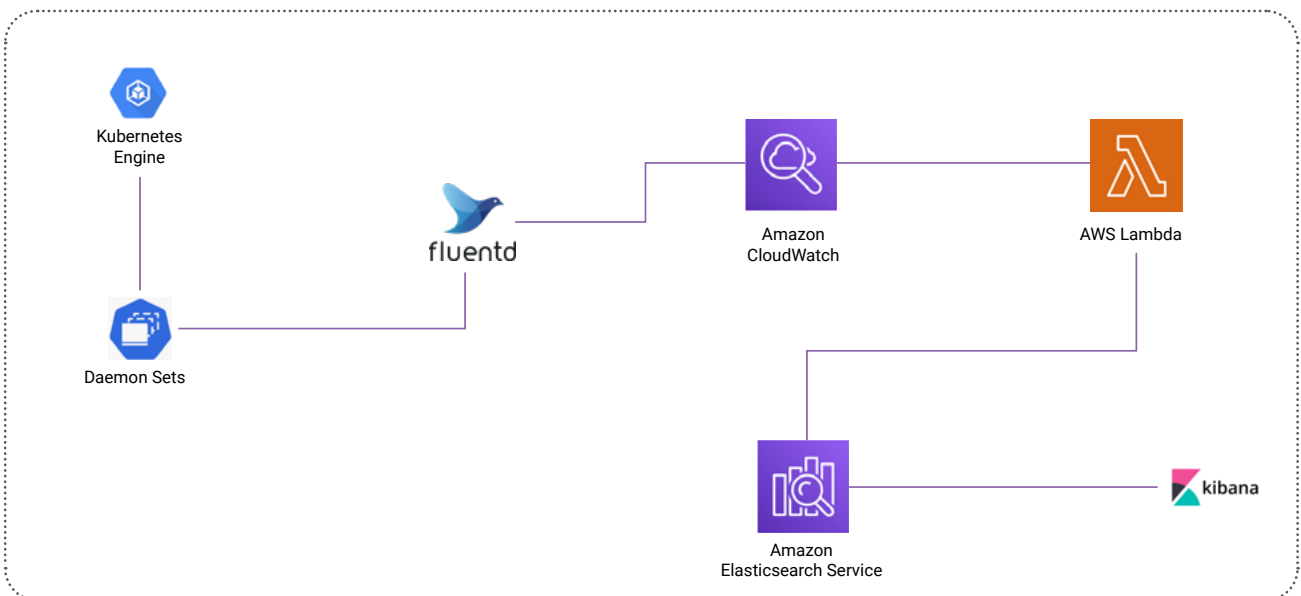




Deployment Architecture



Log Aggregation





Aspire's Solution

Container based micro-services architecture

The applications that were migrated were refactored and rebuilt as Docker containers that were then pushed to ECR. The containers are part of a larger micro-services architecture that provides for resilience of the application.

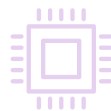
Centralized Log Management

Application logs are streamed from containers to Cloudwatch using Fluentd. Once logs reach Cloudwatch, Lambda functions are used to stream the logs from Cloudwatch to Elastic search. Here we used AWS native service (combination of Elastic search & Kibana).

Kubernetes managed deployments

All container deployments and clusters are managed by Kubernetes (Amazon EKS) where machines are monitored, auto-scaled and auto-healed.

Technology Snapshot



- » **Container & Orchestration:** Docker, Kubernetes, Helm
- » **Platform:** Amazon AWS
- » **Continuous Integration:** Jenkins
- » **SCM:** Bitbucket
- » **Configuration Management Tools:** Confd
- » **Artifacts Repository:** Nexus
- » **Languages:** Java
- » **Database release:** Amazon RDS, Flyway
- » **Monitoring Tools:** CloudWatch, Kibana, Amazon Elastic Search, Fluentd



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