

COLLECTIBLE MARKETPLACE PLATFORM

Cloud-Native Marketplace Platform for Collectible Inventory Operations

A proof-of-concept marketplace platform designed to support collectible inventory workflows, marketplace operations, image management, and fulfillment coordination using modern cloud-native architecture.

The platform integrated with existing internal systems and introduced scalable AWS infrastructure, Python-based API services, and CI/CD deployment workflows that expanded the organization's internal cloud engineering capabilities.

The system centralized marketplace operations while supporting both legacy XML/SOAP integrations and modern REST APIs behind a unified FastAPI service layer.

KEY CHALLENGES



Legacy & Modern API Integration

Integrated with both eBay Trading APIs (XML/SOAP) and BigCommerce REST APIs while exposing a consistent internal API model.



Inventory Identification Workflow

The existing inventory workflow did not assign unique identifiers until cards returned from grading services with slab serial numbers. The platform used those grading identifiers as the primary inventory reference point.



Image Management

Retrieved graded card images from external grading services and stored them securely in Amazon S3 for marketplace and operational use.



Operational Workflow Coordination

Supported listing management, order processing, inventory synchronization, and fulfillment notifications for internal marketplace operations.



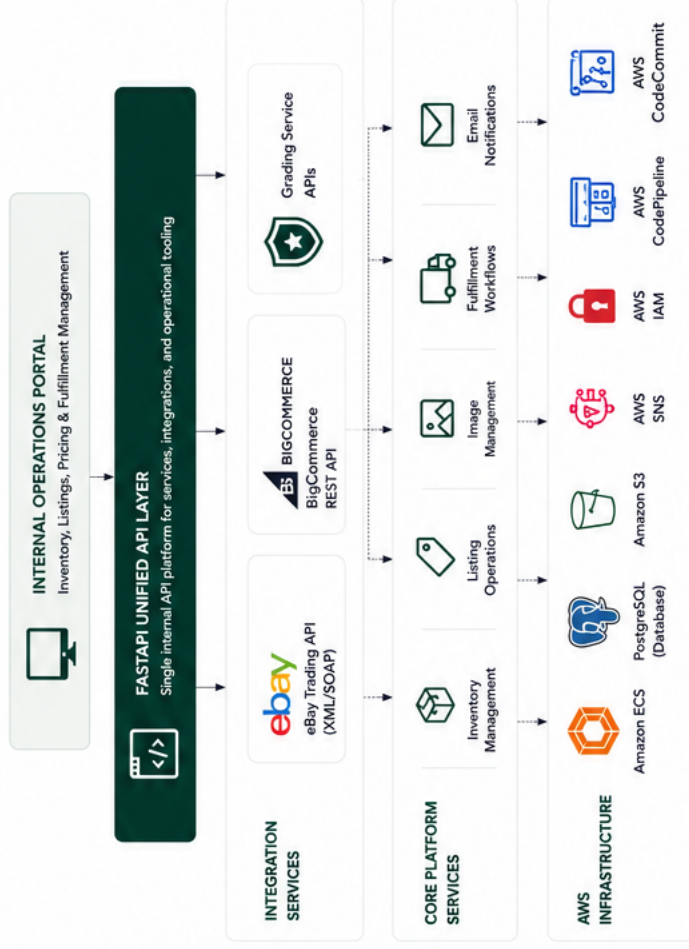
PROJECT OUTCOME

The project successfully demonstrated a scalable cloud-native marketplace architecture capable of integrating legacy and modern systems through a unified API platform.

The platform remains in use internally today supporting daily marketplace operations and workflows.



ARCHITECTURE OVERVIEW



TECHNOLOGY STACK



Python



FastAPI



AWS Services



PostgreSQL



Amazon S3



CI/CD
(CodePipeline & CodeCommit)



NOTE

Future roadmap items included automated market pricing workflows and expanded marketplace automation capabilities before the project paused in 2023 following broader R&D budget reductions.

