

From Monolith to Microservices: Modernizing Architecture for a High-Performance Investment Platform

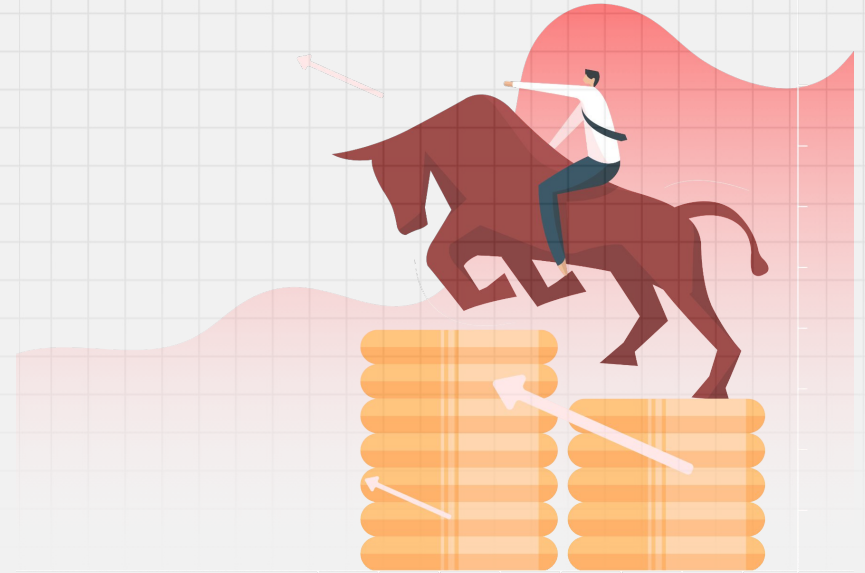


About the Client

Our client, a prominent **online investment platform in South Asia**, faced limitations with their existing technology infrastructure.

This impacted their ability to

- handle increasing user traffic
- offer a seamless user experience
- adapt to the evolving financial landscape



Existing Challenges

- **PERFORMANCE BOTTLENECKS**

Sluggish platform performance led to frustrated users and impacted transaction volumes.

- **SCALABILITY LIMITATIONS**

The monolithic architecture couldn't handle anticipated user growth, restricting company's expansion plans.

- **MAINTENANCE COMPLEXITIES**

Outdated technologies & complex architecture made maintenance cumbersome and resource-intensive.

- **SECURITY VULNERABILITIES**

Potential security gaps posed risks to user data and financial transactions. (data breach)

- **LACK OF AGILITY**

Slow development cycles impeded client's ability to introduce new features and innovations quickly.

Technical Upgrades

➤ **Moving To Microservices Architecture**

We decomposed the monolithic architecture into agile, scalable microservices unlocking

Scalability: Individual microservices could be scaled independently based on real-time demand. This optimized resource allocation and reduced infrastructure costs.

Deployment Flexibility: Enabled frictionless deployments of new features and updates with a continuous delivery pipeline for rapid iteration and market responsiveness.

Maintainability: Slashed development overhead and empowered developers to make updates and fixes with lightning speed, boosting overall productivity.

➤ Containerization And Orchestration

DOCKER: Containerization provided

- **RESOURCE UTILIZATION:** Optimized resource utilization by isolating applications and their dependencies.
- **PORTABILITY:** Unlocked seamless portability to deploy applications across different environments.

KUBERNETES: Management of

containerized applications to ensure

- **HIGH AVAILABILITY:** Automated scaling, and failover to ensure exceptional application uptime.
- **EFFICIENCY:** Streamlined application lifecycle management for improving efficiency.

➤ Swagger Based-Documentation

Simplified API development, consumption, and maintenance.

➤ **Modernization FROM VB.NET TO .NET CORE**

This upgrade unleashed next-gen performance, modernized libraries and frameworks, and dramatically boosted maintainability for a future-proof application.

SOLID PRINCIPLES

Adopting SOLID principles ensured a well -structured, modular, and reusable codebase, for scalability and future growth.

➤ **SP Optimization**

Stored Procedure Optimization and movement to middle tier wherever there are significant performance gains.

➤ **Cache implementation**

To improve performance and reduce latency.

➤ **Setting up Message Queuing**

To improve application scalability and decoupling.

➤ **CI/CD Pipeline Set Up**

To deliver software faster with higher quality.

➤ **Code Quality Check Automation**

To streamline code quality checks for faster release cycles.

➤ **SonarQube Code Quality Setup**

For a more robust and maintainable codebase.

➤ **Moving to RHEL OS**

For stability and security.

➤ **Setting up Unit Test Framework**

For early issue detection and code maintainability.

➤ **Moving to a New Web Server**

To unlock performance improvements and enhanced scalability.

➤ Cloud Migration to AZURE

Scalability on demand

Cloud resources could be scaled up or down dynamically to meet fluctuating user needs.

Cost optimization

Pay-as-you-go model eliminated the need for upfront hardware investments.

Advanced security features

Azure's built-in security services offered robust protection against cyber threats.

Enhanced disaster recovery

Redundant data storage across geographically dispersed regions ensured business continuity.

The Outcome

PERFORMANCE BOOSTS

Significant improvement in page load times and transaction processing speed.

18% 
in User Abandonment

21% 
in Transaction Volume

IMPROVED SCALABILITY

The upgraded platform is now able to handle a **50% increase in user base** and a **40% growth in transactions** without compromising performance.

MAINTENANCE SIMPLIFIED

Reduced **maintenance time and effort** by **40%**, freeing up resources for innovation.

SECURITY

Security measures minimized vulnerabilities and ensured data protection.

Building Intelligent Experiences That Matter.

Key Domains

BFSI, Health Care,
Consumer Internet

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Thank You



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