

Josh Talks transforms systems with microservices and Kubernetes



Client profile

Josh Talks is an India-based media and edtech platform catering to a diverse audience with content in multiple languages. Specializing in spoken English education, the app boasts over 100,000 students and focuses on enhancing English communication skills.

Josh Talks wanted to migrate their mobile application from their existing cloud provider to Google Cloud Platform (GCP) to enhance the user experience and reduce cloud costs. The goal was to boost scalability, flexibility and capacity while configuring the application and databases for seamless performance on GCP.

NTT DATA assisted them in transforming their systems with a microservices-based containerized architecture managed by Kubernetes. We worked closely with the Josh Talks engineering team to achieve their objectives.



The NTT DATA team has helped us in database migration (PostgreSQL and Redis), CI-CD pipelines, application migration for staging and production, infrastructure setup for monitoring/logging and security landing zone setup, along with production and staging environments. They maintain a highly customer-centric approach and transparency — with deployments done effortlessly.”

Gopal Agrawal, SDE-III, Josh Talks

Business need

Secure systems without compromising performance

To ensure a smooth and secure transformation, Josh Talks had to:

- **Minimize downtime**
Migrating critical production databases like PostgreSQL and Redis without disrupting services required meticulous planning and execution
- **Integrate legacy systems**
Adapting the microservices-based architecture to coexist with existing legacy systems demanded customized solutions and careful orchestration
- **Enhance security**
Implementing robust security measures while maintaining seamless connectivity and performance posed a complex challenge

Solution

Managing microservices with Kubernetes to improve efficiency

NTT DATA collaborated with Josh Talks to modernize their systems through a microservices-based, containerized architecture managed by Kubernetes — enhancing scalability and operational efficiency. A landing zone was designed and deployed on GCP, incorporating enterprise-grade security, scalability and best practices.

Key production databases, including PostgreSQL and Redis, were migrated with minimal downtime to ensure uninterrupted services. Continuous integration/continuous delivery (CI/CD) pipelines were implemented for application and operating system (OS) image management, enabling one-click upgrades and rollbacks for greater agility. Google Cloud CDN was configured to optimize static content delivery from Cloud Storage, while Firebase enabled real-time database functionality for dynamic data synchronization.

A data aggregator was set up to facilitate streamlined analysis and reporting through scheduled integrations with Data Studio.

The solution also improved Josh Talks' security posture by implementing features like OS Login for controlled access, SQLProxy for secure database connectivity, and service level agreement (SLA) monitoring to ensure reliable performance.

Outcomes

Supporting business growth with cloud transformation

NTT DATA played a pivotal role in driving the transformation through its expertise in cloud architecture, automation and system optimization. We brought advanced knowledge of GCP to ensure seamless migration and scalability, leveraging best practices in cloud security and cost management. Our deep experience in microservices architecture and Kubernetes orchestration enabled the creation of a flexible, containerized environment, ensuring high availability and performance.

We worked closely with Josh Talks' engineering team to align the technical solution with their business goals, providing end-to-end support for CI/CD automation, database migration and security enhancements. NTT DATA also facilitated the development of new, localized language learning features, helping the client stay ahead in a competitive market. Our collaborative approach and technical acumen were key in delivering a solution that empowered the client to scale efficiently and innovate continuously.

Highlights:

- **30% cost reduction**
Lowered operational expenses, enabling greater investment in product innovation
- **90% speech-to-text accuracy**
Enhanced spoken English learning with precise transcription capabilities
- **Real-time conversations**
Enabled dynamic language practice using Firebase for seamless interactions
- **Localized features**
Developed interactive language tools tailored to regional user preferences

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