

Nuuly Completes Flawless Launch of its New Clothing Rental Subscription Service with Confluent Cloud

nuuly URBAN OUTFITTERS

Headquarters

Philadelphia

Industry

Tech

Challenge

Build an entire new clothing rental subscription service from the ground up, in a matter of months

Solution

Use Confluent Cloud and Apache Kafka with the help of Confluent Customer Success expertise to build a reliable, real-time event-driven architecture that serves as the core operating platform for the entire service

Results

- Flawless launch
- Stable production operations
- Crucial target launch date met
- Administrative overhead reduced by 10

For almost 40 years, Urban Outfitters has been creating unique shopping experiences through well-respected brands that include Anthropologie, Free People and Urban Outfitters. The company recently launched Nuuly, a clothing rental subscription service that is fully aligned with its long-standing mission of enabling customers to express themselves through their wardrobes and the spaces they keep. Subscribers to Nuuly can choose six items per month from the service's large and growing collection of up-and-coming designers, iconic labels, and unique vintage finds. Nuuly handles the laundering, dry cleaning and any needed repairs once items are returned, while subscribers have the option to purchase items they want to keep.

To support this new business model, Nuuly needed an entirely new IT infrastructure. The legacy IT systems in place at Urban Outfitters were designed and built for traditional retail sales and delivery. These existing systems could not handle the significantly more complex logistics that are required to handle tracking garments throughout multiple rental, return and cleaning cycles on top of tracking user interaction data to improve the customer experience. "We quickly came to a realization our new business model was very different from a typical e-commerce model and that we would need a real-time event driven architecture to support it," says Chirag Dadia, Director of Engineering at Nuuly. The challenge of building such an architecture from the ground up was compounded by time pressures imposed by the industry. Not only did Nuuly want to beat potential competitors to market, but if the development team missed the target launch deadline, the fashions the company had planned to offer in summer would no longer be appropriate for the fall season.

A team of engineers and developers at Nuuly designed, built and deployed a real-time event streaming architecture based on Confluent Cloud and Apache Kafka on schedule in just six months. This architecture serves as the IT foundation for all of the company's operations. "In

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Chirag Dadia, Director of Engineering at Nuuly*

January we had an empty plot of land, and in July we launched with not only a new distribution center, but with fully operational production event-driven applications," says Dadia. "We truly think of Confluent Cloud and Kafka as the central nervous system of our business, spanning everything from the customer-facing applications to distribution center operations from a technology perspective. We've trusted our entire business on Confluent expertise in ensuring that our Kafka cluster is going to keep running smoothly and operating as it is supposed to."

Business Results

Flawless launch. "From a system perspective and from an engineering perspective the launch was perfect. Everything just worked, and it's been working since then," says Dadia. "The Confluent professional services team played a critical role in that. Prior to the launch, they performed an audit of our system and of our configuration. They helped us tune the system to a point where we knew exactly what to expect when we launched and we were confident that if we saw traffic spikes it would be perfectly fine -- and it has been."

Stable production operations. "As we've had more and more subscribers sign up for our service, we have not seen the system behave erratically. We've seen no spikes and we have had not any concerns along those lines," Dadia says. "We've tuned things here and there to address minor issues, which is normal for a system as big as ours, but from an overall perspective Confluent Cloud has been humming along perfectly."

Crucial target launch date met. "There are a lot of players in our space, so we wanted to make sure we got to market ahead of potential competitors and captured as much market share as possible. Also, the turnaround time for many of our vendors is months and our orders can be quite large, so it was essential to meet our launch date from a financial perspective," says Dadia. "We meet this goal in part by leveraging as much of the Confluent Cloud and Kafka platform as possible rather than bringing in different stacks for different aspects of the business."

Administrative overhead reduced by 10. "We are in the business of selling and renting clothes. We are not in the business of managing an event streaming platform. We are not Zookeeper experts, and we don't want to be," Dadia says. "That's why we use Confluent Cloud and leverage the expertise of Confluent engineers. If we had to manage everything ourselves, I would've had to hire at least 10 more people to keep the systems up and running."

Technical Solution

When Dadia and his team of developers began working on the technology platform that would underpin all Nuuly operations, they recognized the need to develop an entirely new architecture based on event streaming. They also knew they would need to apply the lessons learned and expertise they had accumulated from years of experience building e-commerce systems for URBN over many years.

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Part of that experience led the team to use a number of Google Cloud Platform services, including Google Cloud Storage, BigQuery, and Google Kubernetes Engine (GKE). Because the team needed the order of events to be preserved, they opted for Kafka. From there, they quickly chose to use Confluent Cloud rather than manage their own Kafka cluster on-prem or in the cloud. "We're a big fan of managed services. That's behind our decision to work with Google Cloud, and a big reason why Confluent Cloud became an obvious choice for us," says Dadia. "We also needed to get up and running as fast as possible, so we needed something that could be provisioned quickly, almost instantaneously. That's another reason we chose Confluent Cloud."

The team used Kafka Connect to write services that link Kafka with BigQuery. "Being able to take data from our Kafka topics and ship it off to BigQuery with Kafka Connect has been particularly beneficial to us because we did not need to introduce any new technology stacks into our environment."

To build on its success and robust technology backbone, the team is looking at additional ways to grow the Nuuly business such as incorporate its retail footprint into the offerings.

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