

# Akbank launches digital banking app with Red Hat OpenShift



## Software and services

- Red Hat® Cloud Suite
- Red Hat OpenShift® Container Platform
- Red Hat Virtualization
- Red Hat Satellite
- Red Hat CloudForms®
- Red Hat Consulting

Akbank, one of Turkey's largest banks, decided to create a subsidiary, AkÖde, to focus on engaging with younger generations of banking customers. To build its social banking app, Tosla, AkÖde sought to support a microservices- and DevOps-based approach with an on-premise, Kubernetes-based container platform. Using Red Hat OpenShift Container Platform, part of Red Hat Cloud Suite, the bank quickly tested and launched Tosla. This cost-efficient, centralized environment helps the app's development teams work together more effectively to launch new features to market faster.



## Financial services

13,000 employees

## Benefits

- Accelerated time to market for new social banking app features
- Created foundation for DevOps continuous delivery approaches
- Reduced container adoption time by 2 months and associated costs by 30%

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Muharrem Gün  
DevOps Manager, Akbank



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DevOps Manager, Akbank

## Engaging a digital-focused generation with innovative mobile banking

Founded in 1948, Akbank is one of Turkey's largest banks, with close to 800 branches and more than 17 million customers. It offers a wide range of banking services to corporate, investment, commercial, consumer, private, and international customers.

The bank's vision is to become the leading bank that drives Turkey into the future, aligned with strategic goals that include innovative initiatives. For example, Akbank's new subsidiary AkÖde focused on developing a mobile application, Tosla, for anyone 12 years of age or older. This app would let users add and follow friends, as well as request or transfer money or split expenses such as movie tickets.

"We want to engage with young people, so we decided to open a bank that would help this digital-focused generation to manage their finances their way and connect socially," said Muharrem Gün, DevOps Manager at Akbank.

Before AkÖde could apply for licensing, it needed to build the Tosla application quickly. Working with a third-party developer over six months, the bank created and deployed 30 microservices using Java™-based images and began testing them in Google Cloud Platform.

"The concept of a social app and our need for rapid development aligned with taking a cloud-native development approach supported by containers," said Gün.

However, with financial services regulations in Turkey restricting the use of cloud computing, AkÖde needed an on-premise Kubernetes distribution for the Tosla app. When its third-party developer struggled to deliver, AkÖde began looking for a robust Kubernetes solution to support Tosla.

## Supporting new app with innovative container platform and cloud solutions

Akbank began exploring Red Hat OpenShift technology within a test environment as an option for the Tosla app's Kubernetes distribution. After a short proof of concept, the bank was confident in the platform's capabilities and the level of support Red Hat could provide and decided to use Red Hat OpenShift Container Platform, part of Red Hat Cloud Suite.

"Red Hat consultants in Turkey gave us tremendous support during the proof of concept," said Gün. "That was one of the biggest advantages. Online training and knowledge transfer through Red Hat Consulting during this initial work also provided a hands-on introduction to OpenShift for our teams."

After implementing OpenShift Container Platform, AkÖde then migrated the Tosla microservices from Google Cloud Platform. These microservices now connect to a Microsoft SQL Server database—a platform widely deployed across Akbank—and a customer-facing interface that uses native libraries to provide a mobile-optimized experience. Developers continued crafting more than 20 new microservices and adding new features to Tosla to prepare for the app's initial and full launches.

AkÖde also extended Akbank's use of Red Hat Cloud Suite to take advantage of cloud infrastructure capabilities and OpenShift Container Platform under a single management framework. With Cloud Suite, AkÖde can easily add networking, storage, and other key enterprise IT functions as needed. Part of Cloud Suite, Red Hat Virtualization helps organizations virtualize traditional applications to build a foundation for cloud-native and container-based workloads. Red Hat CloudForms provides a unified and consistent set of management tools across virtualized, private cloud, and public cloud platforms.

To manage its Red Hat software environment, AkÖde uses Red Hat Satellite. This management solution provides updates to address threats and issues, support optimal performance, and remediate systems to maintain compliance. The bank also uses the community version of Ansible® to automate Red Hat OpenShift cluster installation.

### Building the future of banking

#### Accelerated time to market for new features

AkÖde uses Red Hat OpenShift's self-service and automation capabilities to ensure the Tosla social banking app keeps up with the expectations of a young, digital generation. "Thanks to OpenShift, we can develop and deploy microservices in a very short time, with much less effort" said Gün.

Additionally, the bank's development teams rely heavily on Source-to-Image (S2I), not only for accelerating development but also for providing essential security features, including requiring the use of Red Hat-signed base images. "Using the Red Hat base image makes us feel confident about security," said Gün.

#### Gained native support for DevOps approach

As one of the first Turkish banks to adopt a DevOps approach, AkÖde is focused on achieving continuous delivery (CD) to meet the demands of a rapidly evolving, digital-focused market.

"As an automated, self-service platform, OpenShift ensures operations and development can work together effectively," said Gün. "Our development team can see monitoring and logging information, while the operations team can see data on the app's behavior and performance. We have gained the flexibility, efficiency, and insight we need to succeed in the digital banking industry."

#### Reduced container adoption time and costs

OpenShift Container Platform also helped AkÖde reduce the time, cost, and complexity of moving to a container-based application environment. The migration to OpenShift took two months less than a comparable move to a traditional application server—and at two-thirds of the cost.

"OpenShift is a complete solution, making it quick to provision and cost-efficient to operate," said Gün. "Everything you need for an automated pipeline is provided: automation, logging, monitoring, and security features, as well as some Jenkins and other open source production integrations, are all there. And its zero-downtime deployment capabilities give us the freedom to develop, test, and deploy without worrying about outages."

Migrating to Red Hat's enterprise open source solutions also helped the bank streamline its production datacenter's physical footprint to just three servers, providing a significant cost advantage compared to a larger traditional footprint.

### Continuing success with more enterprise open source

The Tosla app has had more than 60,000 users sign up in two months—and its user base is growing daily.

After AkÖde's success, Akbank plans to migrate to Red Hat OpenShift Container Platform 4 in the near future, as well as expand adoption of Red Hat OpenShift and microservices across the organization. The bank has already begun migrating more of its back-end IT environment to OpenShift Container Platform. The bank also plans to migrate from the community version of Ansible to Red Hat Ansible Automation Platform as it increases its use of automation.

"Cloud-native development is our future," said Gün. "With Red Hat OpenShift, we can develop and deliver new features much more efficiently and release them much faster. We can truly say we are building the future of banking."

### About Akbank

Akbank was established on January 30, 1948 in Adana, as a privately-owned commercial bank. Akbank's core business activities include corporate and investment banking, commercial banking, SME banking, retail banking, payment systems, treasury transactions, and private banking and international banking services. In addition to its standard banking activities, the Bank operates as a subsidiary of Aksigorta A.Ş. and AvivaSA Emeklilik ve Hayat A.Ş. on behalf of the insurance agency. Akbank is the parent company of AkÖde, an electronic money and payment services company.

### About Red Hat



Red Hat is the world's leading provider of enterprise open source software solutions, using a community-powered approach to deliver reliable and high-performing Linux, hybrid cloud, container, and Kubernetes technologies. Red Hat helps customers integrate new and existing IT applications, develop cloud-native applications, standardize on our industry-leading operating system, and automate, secure, and manage complex environments. Award-winning support, training, and consulting services make Red Hat a trusted adviser to the Fortune 500. As a strategic partner to cloud providers, system integrators, application vendors, customers, and open source communities, Red Hat can help organizations prepare for the digital future.



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