A CloudThat Success Story

Case Study - A FinTech Solution Provider Adopts DevOps Practices to Release New Features with Zero-downtime by Utilizing CloudThat's DevOps Competency

What to expect from this Case Study?

BeyondSquare had a critical requirement to deploy scalable, secure, cost-optimized, and monitorable infrastructure in place.

CloudThat's DevOps team worked closely with the client's development team to adhere to DevOps Best practices and deploy the new application on AWS infrastructure helping them to release new features with zero downtime by implementing best-in-industry DevOps practices.

About BeyondSquare

BeyondSquare Solutions an IT products and services organization incepted to serve the FinTech industry with innovative products and solutions addressing finance & accounting needs.

Their flagship product, FinAlyzer offers one stop solution for CFO reporting in multi-entity organizations, covering integrated group reporting, legal & management consolidation & segment wise profitability reporting.
They also offer XBRL (eXtensible Business Reporting Language) conversion software & services.

About CloudThat

CloudThat is a renowned name in the cloud arena with its consulting & training services since 2012. We have a global presence serving clients from 28+ countries. As an AWS Advanced Consulting Partner and AWS Partner for DevOps Services Competency we have helped small, medium, and big organizations to migrate to the cloud and reap the benefits of cloud adoption and embrace best-in the industry DevOps practices.

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The Voice of Our Happy Client

CloudThat has the right set of people and expertise to get the job on various Cloud Platform like AWS, GCP or OCI. They have always been very supportive and ensure that the projects are done in time and in cost effective manner.

- BeyondSquare Team

The BeyondSquare Challenge

BeyondSquare had to redefine its IT development and operations process. They had a single Kubernetes deployment for six different applications in a single instance. The challenge was to segregate operational services on a single multiport. Notably, the database applications had no persistent storage. The existing system lacked continuous integration and deployment procedure, and thus, tracking code and deployment changes were not simple. Moreover, monitoring and logging solutions required centralized management with a better retention strategy.

Our BeyondSquare Assessment

The CloudThat Team conducted a thorough analysis of the client's requirements and came up with the following observations:

- The client had critical requirements to put a scalable, secure, cost-optimized, and monitorable infrastructure in place.

- Immediately needed Continuous Integration and Continuous Delivery (CI/CD) methods by having the best DevOps practices on AWS.

The CloudThat Business Objective

- Applications had to be deployed across multiple environments.
- Accomplish Network level separation of Infrastructure for each environment.
- Designing scalable microservices infrastructure on AWS.
- Implementing logging and monitoring.
- Implementing CICD with hot fixes support.
- Automating application deployment.

The CloudThat Solution

CloudThat solution had the focal point of delivering a highly available, scalable, secure, cost-optimized, and monitorable infrastructure with continuous integration and deployment through DevOps best practices on AWS.
All this were envisaged by

- Reducing the downtime.
- Efficient delivery.
- Cost optimization.
- By embracing automation

We divided the roles and responsibilities among the team members based on their expertise to complete the tasks efficiently and within the deadline. The tasks were divided into different domains:

- Infrastructure
- Monitoring and observability
- Security
- Networking
- and CI/CD Pipelines

With the groundwork laid out the following solution was deployed:

To ensure network-level isolation across environments dev, stage and production, centralized services termed as management were placed under different VPC. Further, the security groups were configured as virtual firewall for EC2 instances to control incoming and outgoing traffic accordingly.

Continuous Integration & Continuous Delivery (CICD) implementation was put into place with AWS CodePipeline ensuring faster deployments with approvals helping to test features before moving to prod environment. Pipelines were configured for each application in all the three environments.

Highly available, scalable, fault tolerant microservices were deployed using the deploy stage of the pipelines on to the Kubernetes cluster (created using kubeadm on EC2 instance).

Infrastructure and application monitoring were put into action with AWS CloudWatch and EFK stack.

Kubernetes cluster state backups were ensured and stored in S3 using Velero. The same tool was used at the end client's cluster to restore the cluster state.

Third Party Technologies Used

The following third-party tools were leveraged in this project for ensuring best-in-industry DevOps practices.

① EFK Stack

EFK Stack is a modified version of the ELK stack and comprises of:

Elasticsearch: An object store where all logs are stored.

Fluentd: Gathers logs from nodes and feeds them to Elasticsearch.

Kibana: A web User Interface (UI) for Elasticsearch.

Once deployed in a cluster, the stack aggregates logs from the nodes and projects into ElasticSearch and provides a Kibana UI to view any logs.

② Velero

Velero is an open-source tool employed for safer backup and restore functions, it also performs disaster recovery, and helps to migrate Kubernetes cluster resources and persistent volumes.
Its backups of the cluster state are configured to be stored in S3 bucket periodically. The end client will be provided access to the same using IAM (Identity and Access Management) policies during an automated Velero restore.

③ Terraform

Terraform is an open-source Infrastructure as Code (IaC) software tool that enables us to create, change, and improve infrastructure safely and predictably. It is set up to create clusters and restore application at the client's end.

How AWS Services were Used as a Part of the Project

The following AWS services were leveraged in the project:

Amazon EC2: It helps develop and deploy applications faster through the scalable computing capacity.

Amazon VPC: It ensures that the network is secured for each environment, and resources are centralized under VPC.

Amazon CloudWatch: A monitoring and management service useful for procuring data and actionable insights for AWS, hybrid, on-premises applications and infrastructure resources.

Amazon S3: S3 buckets are used for object store and lambda events triggering. VPC endpoints are configured for S3 buckets to allow object access only from the resources under VPC. Fine-grained resource policies were created to access S3 buckets and objects.

AWS CodePipeline: A fully managed continuous deliver service aimed at automating release pipelines for faster and reliable updates of applications and infrastructure.

The Success Saga: Outcomes

- Client's business growth is fostered by setting up multi-environment for application deployment by satisfying the organizational SLAs and internal process framework.

- Implemented best DevOps practices that support new feature releases with zero downtime and deployments spanning within minutes.

- Successfully incorporated microservices with best DevOps practices in coordination with developer teams.

Our Journey

CloudThat pioneers cloud consultancy services with more than a decade of experience. We are an AWS Advanced Services Partner and an AWS Partner in DevOps Services Competency. With our prowess we are helping our clients with automation, continuous integration & continuous delivery (CI/CD), providing the best security measures, implementing containerization services, all blended with AI and ML DevOps culture.

Led by **Bhavesh Goswami, Founder & CEO,** with rich experience of implementing challenging projects for Amazon and Microsoft prior to his entrepreneurial journey. We are driven by a 150+ cloud-agnostic and tech-heavy dedicated team facilitating organizations to accelerate cloud adoption.

Why You Should Choose CloudThat Consulting Services

We are an AWS Advanced Consulting Partner and a House of All-Encompassing IT Services on the Cloud. With our decade of experience in consulting services we have helped organizations to define cloud strategy, build solutions, and manage their infrastructure.

We offer vivid consulting services like: Multi-Cloud Security & Compliance, Cloud Enablement Services, Cloud-Native Application Development, OTT-Video Tech Delivery Services, and System Integration Services to 100+ happy clients across the globe.

Cloud
Consultancy and
Migration

Cloud
DevOps and
DevSecOps

Cloud
Data Platform
Analytics

Cloud
Media Services
Consultation

Cloud
Managed
Services

Cloud
Contract
Engineering

Our Industry Partnerships

Thank you for exploring this Case Study with us.
Stay tuned for cloud solutions offered by CloudThat.

Are you eager to be recognized as DevOps practices driven organization?
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