Alluvium Cloud-Optimized IoT Data Pipeline- Digital Payments Ecosystem Case Study

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Introduction

Founded in 2012 and an ISO 9001:2015 certified player in the SME digital lending space, Alluvium- IoT is a Mumbai-based platform with PAN India presence. Registered with the RBI, the organization's approach includes innovative technology and digital payment ecosystem along with flexible payment options. Alluvium-IoT's mission is to have a positive social impact on the financial lives of SMEs by leveraging the digital payments ecosystem.

With over 1,000 employees, across 29 branches along with 2000+ channel partners and over 17,000 customers, Alluvium-IoT serves industries such as F&B, hospitality, healthcare and pharma, automobile, apparels, and many others.

Business Needs

As customers were increasing, efficiency, scalability and continuous delivery became priority driving Alluvium-IoT to shift to microservices architecture along with container orchestration. This would support its developers to bring their applications from development to production stage at record speed in addition to providing scalability and flexibility of their applications.

As an existing customer of Rapyder Cloud Solutions for managing its applications on the cloud AWS cloud platform, Alluvium-IoT, however, was still running an old school, standalone monolithic application for various tasks, where-in each task demanded varying amounts of memory and CPU leading to performance inefficiencies. In the absence of accurate resource allocation, the limitation in the memory would negatively impact the entire application, leading to service delays.

To address this challenge, Alluvium-IoT consulted Rapyder's team of engineers to move to microservices-based architecture along with container orchestration with AWS ECS.

Rapyder Cloud Solutions, an Advanced AWS Consulting partner with expertise and experience in successful cloud migration and managed services, successfully completed the transition and deployment of container orchestration.

Solution Approach

Covid-19 has undoubtedly accelerated the cloud adoption by several years. AWS data services will be deployed to complete the data pipeline. Rapyder's expert team of Cloud Architects conceptualized and stitched a powerful and a customized solution around Amazon Web Services for the task. Rapyder's team supported in the smooth transition of data from IOT devices into AWS database.

- Data from IOT device has been sent to AWS IoT core through network server IOT core also having IOT rules to filter the logs/files which is coming into AWS
- Data streaming service like AWS kinesis data stream has been used to get data from IoT core and will send it to AWS Lambda for data
- Kinesis data stream has been used to data processing with low latency rate
- Lambda function will be used to process and convert the input data all the data will be stored in RDS, on the other side, web application using EC2 has been
- For high availability of Web-application auto scaling group has been considered, our web- app is stateless Dot Database master/slave concept has been considered for RDS.