

About Modestano Ltd

Modestano is a software company that create software's / apps for customers marketplace. One of their solutions, is an app that makes it quite easy to sell used clothing and accessories online. This opportunity gives Modestano developing an application that is like eBay for clothing market for locals to selling and buy. Modestano bring a unique experience to their customers that emphasizes social media and being mobile-friendly our hands. With over million's local sellers and millions of buyers Modestano connects a vibrant community every day to express themselves and share their passion for fashion.

Problem Statement

Modestano has all their Development Technology/Ecommerce Infrastructure hosted at colo data centre - a total of over a hundred of Servers. They host a variety of Applications, Clusters, (subject to the customers) – in their on-prem east London.

Having their product launched very recently, the Modestano Business team needed their Applications and Infrastructure to be agile enough to allow for experimentation and deployment of multiple iterations of their product and for their customers.

However, Modestano's development team had many scenarios of multiple failures of its Applications running in their Data centres.

Modestano's customers development use cases was growing aggressively, and Business wanted to ensure that not only it is tech stack, and the underlying Infrastructure was flexible enough to sustain constant changes and team's demand.

In addition, developers needed to ensure the way of working require to be improved but also the website / apps also do not experience any disruptions.

With these issues in mind the developers and management team worked together to define the most set out to discuss on the viable solutions for the long term

Proposed Solution

The CloudiQS team and Modestano's teams had extensive discussions to understand Modestano's current Infrastructure and Applications, and the relevant pain points. This helped both teams agree on the improvements required to meet the technical objectives.

An assessment of existing Infrastructure on prem was planned to move to the AWS eu-west-1 Region, which hosted a variety of Applications, including, Apache Webservers, MongoDB Clusters, Active Directory Servers, and DNS Servers.

As per the AWS Well Architected Framework, an assessment of the current Applications and Infra setup was conducted against a set of best practices for architecting systems in the Cloud.

Modestano wanted to make full use of the features of the AWS Cloud for its Applications, by hosting its Application not only on more Servers, but also across more DCs, thus achieving higher resiliency.

Further, on analysing Modestano’s website statistics, it was found that most of Modestano's User Base was located closer to the eu-west-2 Region.

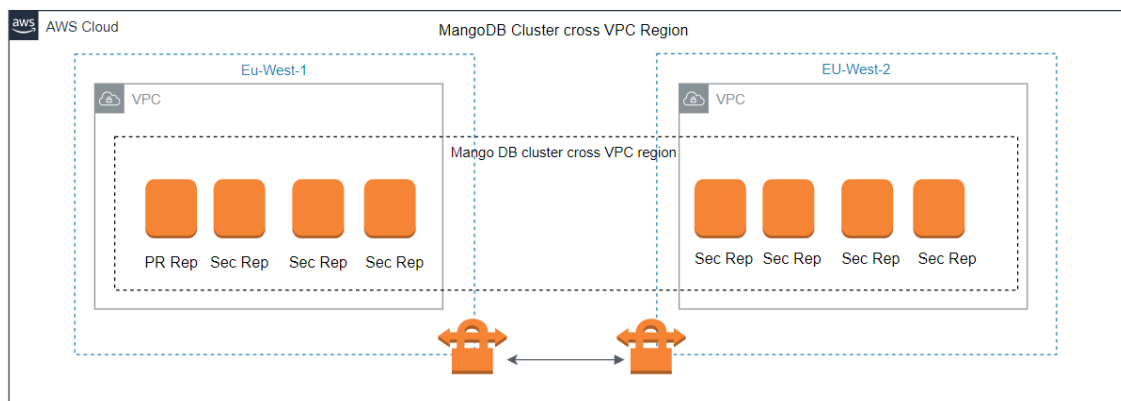
It was, thus, mutually decided that the planning covers the moving the Infrastructure to the new Region close to London was the best possible option available. Apart from moving to the new Region, it was also decided that upgrading the current MongoDB cluster to accommodate a higher number of replicas would also be part of the Resolution.

With the idea of moving the Infra to the new Region, planning for the re-designed the Network and Landing Zone for the new setup in the eu-west-2 Region.

A wide-ranging plan was laid out on how each of the Applications, Database Clusters and other components of the Infrastructure would be migrated to the other Region.

To expedite data movement from the current Region to the new Region, network connectivity between the two Regions was planned to be established with checkpoint Routers/AWS VPC Peering across different VPCs in the different Regions.

The Data MongoDB Replicas between two Regions eu-west-1 to eu-west-2



We also found out that during the planning deploying multiple Network Components without an automated solution would prove to be very time consuming for the team, i.e. For deployment of the Landing Zone and AWS Network Components in the new London Region, and selections of purposed tools such as Terraform, and CloudFormation Templates are planned to use.

For migration of Application Servers, AMI Backups were created and shared across Regions.

Hosted on AWS MongoDB Clusters were extended to the new London Region by adding Secondaries from the new Region to the same MongoDB Clusters.

Priorities of every node was set in such a way to make sure that the new Primary Replica would come up in the new Region.

With minimal/zero downtime cutover, R53 provided the best solution by using weighted DNS routing.

Purposed Third party applications or solutions used.

Purposed – CloudEndure for VM Live migrations

Start Date – 15 March 2021

End Date – 30 April 2020

Outcomes & results

This purposed project helped Modestano to plan for migrating key applications from eu-west-1 to eu-west2 AWS London region without downtime.

On the new Region, Modestano was able to make full use of the AWS Cloud by deploying their Applications in multiple AZs, thus being confident of a Highly Available Ecommerce Website.

By using Automation Tools like Terraform Scripts, and as Landing Zone and leveraging the Well Architected Framework, Modestano was able to plan and build their Infrastructure. In addition, they could serve their customers better with their website observing much lower response times.

Lessons Learned

It's to make sure customer understand the important resiliency and to continue to invest into a DevOps pipeline to automate code deployments, ensuring infrastructure version upgrades are made in the timely manner. If an organization maintains healthy DevOps culture, security, scalability availability and uptime become extremely important.

About CloudiQS

CloudiQS quickly solves core business problems and drives disruptive change by applying the latest automation technologies in Data Analytics, AWS architecture, and DevOps.

We design, deploy, integrate, and manage rapid migration and transformation solutions to accelerate enterprise data platform migrations using automation.