

CASE STUDY

Nomo



Advanced
Consulting
Partner

DevOps

Healthcare

Security

Managed Service

Well Architected
Program

Key Facts

Nomo's unique application allows sales representatives and sales companies to centralize and streamline their sales processes. By empowering reps with the ability to sell multiple products, process performance data, and manage leads, Nomo provides the tools for sales personnel to expand their work while remaining efficient and effective.

Challenge

Prior to reaching out to Ibexlabs, Nomo had been developing and maintaining a very complex and custom SaaS ecosystem for various sales industries. They had reached a point where their accelerating volume of users had outpaced the hosting infrastructure necessary to handle the associated data.

Ibexlabs needed to implement a solution that could operate at every level of scale. Built with DevOps in mind, Nomo's infrastructure needed resources to respond proactively to new challenges, and deploy new updates and features without service disruption.

DevOps engineers at Ibexlabs reviewed and analyzed Nomo's requirements: An infrastructure that could be orchestrated within a few minutes with resources that could operate freely between an on-premises and cloud-based setup.

Using Cloudformation, Ibexlabs engineers provisioned infrastructure onto the cloud and enabled automated processes for further provisioning. This automation helped eliminate the risk of human error as they continued to scale.

Ibexlabs made sure to institute automated database backups, in order to eliminate the risk of data loss in the case of catastrophic failure.

By integrating Jenkins, a CI/CD solution, Ibexlabs made it easy for Nomo to improve software development and accelerate software delivery through an optimized DevOps workflow.

With this solution in place, Nomo is now able to test new updates and patches in a controlled environment and deploy them quickly without service disruption. In all, Nomo's time-to-market has been significantly reduced.



Project Dates

June 2020 - →
August 2020



Working with Ibexlabs, we were always kept apprised of every aspect of our cloud migration process. Our applications run smoother than ever, even as we continue to grow.

Rick Veltri

Map Click Marketing

AWS Services used as part of the solution

Core Platform



Amazon Virtual Private Cloud (VPC)

Ibexlabs instituted a VPC to launch instances on a private, isolated network with multiple subnets, route tables, Internet and Nat gateways, including NACLs. This came with the additional benefits of infrastructural scalability and automatic failover from the provisioned virtual private gateway. This also provided network packet logging with VPC flow logs.



Elastic Beanstalk

The Nomo Stack is made up primarily of a backend API and applications written in Nodejs and frontend based on PHP. To set up this hosting platform for the backend in a quick, cost-effective, and compliant way, Ibexlabs chose Elastic Beanstalk. This provided PHP and NodeJS based run time and also took care of best practices such as auto-scaling, reliability, and availability. The backend infrastructure is made up of API and workers, and Elastic Beanstalk was the natural choice to provide a quick and cost-effective hosting platform.



RDS

By using RDS, Ibexlabs created a highly available, scalable, and secure database for applications running on Elastic Beanstalk. This enabled automated backups and manual backups in case of any DB terminations. With Multi-AZ, Ibexlabs was able to maintain high availability and failover support for DB instances.



AWS Identity and Access Management (IAM)

To maintain AWS resources in each environment in a secure and compliant manner, Ibexlabs used IAM. Through this, Ibexlabs was able to create users, roles, and policies for different AWS resources with least privilege access.



AWS Simple Notification Service (SNS)

Amazon SNS is a fully managed service that is used to send notifications to subscription systems like Amazon SQS queues, AWS Lambda functions and HTTPS endpoints. The content of the notification is defined by the SNS topic in AWS. In this case, Ibexlabs set up an automated email notification when there is a change in any resource & non-compliant resources of the production environment.



AWS CloudTrail

This service enables deep auditing of Ibm's AWS account. With CloudTrail, Ibexlabs was able to log, monitor, and retain account activity related to actions across the AWS infrastructure. This service provides an event history of AWS account activity, such as actions taken through the AWS Management Console, command line tools, and other AWS services. Ibexlabs enabled alerts by using cloud trail logs in case of any unusual activities in the AWS account.



AWS Systems Manager

AWS Systems Manager facilitates resource and application management, reduces the time to resolve and detect functional issues, and makes it simple to perform and handle the infrastructure firmly at scale.

Ibexlabs leveraged a number of services in the Systems Manager, like the Session Manager, Parameter Stores, Maintenance Window, Patch Manager, and Inventory.



Security Hub

AWS Security Hub provides a complete view of the security status of the AWS account. It aggregates, organizes, and prioritizes your security alerts, or findings, from multiple AWS services, such as Amazon Guard Duty and Amazon Security Hub, as well as from AWS Partner solutions. Based on AWS's best practices and industry standards that our organization follows the AWS Security Hub continuously monitors our environment using automated compliance checks.



Amazon GuardDuty

Amazon GuardDuty is a managed cloud security monitoring service that continuously detects threats by analyzing and processing data sources like VPC Flow Logs, AWS CloudTrail event logs, and DNS logs. It uses threat intelligence feeds, such as lists of malicious IP addresses and domains, and machine learning to identify unexpected and potentially unauthorized and malicious activity within the AWS environment. This can include issues like escalations of privileges, the use of exposed credentials, or communication with malicious IP addresses, URLs, or domains. This is the most cost-effective option for threat detection in the AWS Cloud.



Amazon S3

For a highly scalable, fast, and durable solution for object-level storage of any data type we use S3 like Log archiving and assets storage etc..



AWS Config

By using AWS Config Ibexlabs was able to assess, monitor, and audit configuration changes by using the various config rules. It is a fully managed service, and works by continuously recording resource configurations to a chosen S3 bucket and comparing them to the desired state. This allows for a close look at detailed configuration histories, the review of these configuration changes, and most importantly, the response to anything that is not matching the predefined rules. Whatever we have compliance standards or security requirements.

Ibexlabs enabled AWS Config in all accounts and Regions with a recording of configuration changes to all resource types and global resource types like IAM. To store configuration history and snapshot files, an S3 bucket was created in the management account with minimal access. Using AWS Cloudwatch, RDS backups are checked to see if they are available for 15 days or not. If backups are not available for a defined number of days that will send a notification from AWS SNS.

Results

With these implemented services and Ibexlabs' help, Nomo achieved a cloud migration solution that was both secure and extremely efficient. Now equipped with a scaling infrastructure, Nomo can handle their increasing volume of users without experiencing slowdowns or downtime. With continuing weekly support and performance optimization from AWS Trusted Advisor, Ibexlabs is also able to address Nomo's complex and evolving cost optimization, reliability, and scalability needs.

Security Analysis

Data from AWS Config enabled Ibexlabs to continuously monitor the configurations of resources and evaluate these configurations for potential security weaknesses. Changes to the resource configurations trigger Amazon Simple Notification Service (SNS) notifications, which can be sent to the security team to review and take action.

Security Analysis

For infrastructure automation Cloudformation was used. Ibexlabs created Cloudformation templates and deployed those resources in respective AWS accounts to enable config and config rules. Also, Cloudformation created an aggregated config view of multiple accounts.

Workload

Through AWS managed config rules, Ibexlabs implemented the DB-instance-backup-enabled rule. This rule displays non-compliance if the database backup is not available for 35 days. Whenever the rule changes from compliant to non-compliant rule in AWS Config a notification is sent from SNS showing the config rule to be non-compliant.

About Ibexlabs

Ibexlabs LLC is a DevOps & Managed Services provider and an AWS consulting partner. Our AWS certified AWS experts evaluate your infrastructure requirements and make recommendations based on your individual business or personal needs.

Ibexlabs believes in open communication, quality service, and custom solutions to the technical challenges of our clients. On Clutch.co, all our clients have the opportunity to detail our business relationship and report on Ibexlabs's successes and shortcomings. As of May 2020, Ibexlabs is proud to boast an overall rating of 5/5.

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