

Objective

To establish devops process and best practices along with design and implement CI/CD pipelines, log analytics, monitoring for multiple projects to create feedback loops for developers and management team

Scope

- Infrastructure assessment and automation
- Setting up DevOps culture for multiple projects
- AWS cost optimization
- Centralized log collection and analytics with alerts
- Alerts and monitoring systems
- Operations troubleshooting
- Application migration from Azure to AWS

Challenges

- Finite time bounds
- Improving DevOps culture awareness
- Overloaded Ops team due to manual work
- Understanding existing production setup due to limited documentation
- Undefined responsibilities between Dev and Ops team
- Monitoring tool customizations
- Setting up CI/CD pipeline for multiple projects
- Setting up centralized log collection and analytics
- Git repo migrations, administration, branching strategy, auto-versioning
- Reverse engineering to find out deployment steps
- Infrastructure isolation as per environment
- Project migration from Azure PaaS (appservices) to AWS EC2
- AWS cloudwatch integration with Zabbix
- 50K+ URL redirection in apache
- Troubleshooting performance issue of redis cluster running on AWS elasticache

Benefits

- Exposure and hands-on of AWS services for enterprise level solution
- Designing and setting up Log analytics with clustered system to collect and process millions of logs/day/project
- Cost optimizations through AWS trusted advisor and automation for scheduled on/off environments
- Leveraged AWS code pipeline to setup CI/CD pipeline
- Zabbix customizations

Key features

- Setting up DevOps processes and best practices
- Defining Git branching strategies and auto-versioning. Custom application dashboard for auto-scaling group in AWS.
- AWS Code pipeline for CI/CD process
- 50K+ URL redirection with optimization
- Defining application migration process from Azure PaaS to AWS EC2
- AWS Cost optimizations
- Zabbix customizations
- Centralized log monitoring, analytics and alerts
- Athena for data analytics

Technology

- Cloud AWS=EC2, Autoscaling, load balancing, Elastic Beanstalk, S3, RDS, Cloudwatch, IAM, Trusted advisor, VPC, Route53, ElastiCache (redis cluster), CodePipeline, CodeDeploy, CodeBuild, SES, CloudTrail
- Azure=App Services, Database
- SCM Tool - Bitbucket
- Database - AWS RDS Mysql and Aurora
- Orchestration - Jenkins, AWS Code pipeline
- CM Tool/automation - Ansible, awscli
- Monitoring - Zabbix, AWS Cloudwatch
- Data Analytics - Athena
- Log monitoring and Analytics - ELK
- Webservers - nginx and apache