

Case Study - CI:CD Pipeline



A leading global information technology services provider in Data analytics helping fortune 100 companies in the Entertainment, Telecommunication, and Internet industries. See how Idexcel helped by implementing a DevOps pipeline that automated testing and Amazon Web Service (AWS) cloud-based code deployments.

CHALLENGE:

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Our customer was experiencing issues in releasing new versions of their software on schedule and meeting their reliability Service Level Agreements (SLA). The difficulties they encountered were related to the combination of having multiple target environments and a lack of automation. The IT leadership team commissioned a project to implement a DevOps pipeline that automated testing and Amazon Web Service (AWS) cloud-based code deployments. The team was asked to complete the project in 3 months and to approach 100% automation. The expected results included improved code quality and release timeliness.



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SOLUTION:

- Idexcel's team created a deployment pipeline utilizing Amazon Machine Images (AMI), Jenkins and Terraform.
- Configured GIT webhooks to trigger application specific Jenkins job whenever the source code is checked in to GIT; this compiles the code, runs the static code analysis, generates the code coverage report, produces the documentation, and uploads the build artifacts to Amazon S3. If the Jenkins build succeeds, it then triggers an application infrastructure Jenkins job.
- Application infrastructure Jenkins job creates the live and canary load balancers in a configured AWS account for a specified version. If the load balancers already exist in the AWS account for a specified version, it skips creating ELBs. If this Jenkins build succeeds, it then triggers Packer pipeline Jenkins job.
- The Packer pipeline job creates an application-specific Amazon Machine Image (AMI) from the base AMI using Packer to run Puppet. If the AMI is created successfully, it then triggers the Server Group Pipeline Jenkins job
- The Server Group Pipeline Jenkins job establishes the auto scaling group and attaches it to canary ELB; it then runs AWS Lambda sanity tests against the canary ELB. If the sanity tests pass, it then appends the auto scaling group to live load balancer.
- The new software is live at this point; it runs the regression Jenkins job against the live load balancer. If the regression fails, it then attaches the old auto scaling group to the live load balance to roll back the install. If the regression is successful, it triggers another Jenkins build to clean-up the old AWS stack.
- Idexcel has also created an Amazon CloudWatch dashboard to monitor the health of the application. If there are any hardware or software issues, it triggers Amazon Simple Notification Service (SNS), which conveys a notification to the customer support team and on-call resources.

BENEFITS:

Idexcel was able to complete the project in three months. The client team is now deploying their software to production on a daily basis using this pipeline without worrying about questionable software quality, application downtime, or deployment errors. The Clients development and operations team was able to utilize the code pipeline to reduce the number of defects by 30% and increase the cadence of their release schedule by more than 40% per month.

OUR AWS COMPETENCIES



- Public Sector
- Solution Provider
- DevOps Services Competency

- Financial Services Competency
- Migration Services Competency

Contact us

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