

Advanced: Leveraging DevOps to accelerate Cloud migration

Advanced was looking to strengthen their in-house DevOps skillset, as well as to gain developmental and operational freedom by migrating their infrastructure from a third party provider to self-managed AWS hosting.

BUSINESS NEED

When Advanced acquired Science Warehouse, the situation at hand was such that the organisation already had an AWS Cloud infrastructure - only it was managed by a third party Cloud management provider.

Having a third party provider manage their infrastructure was expensive and didn't allow them to have the kind of influence and control they were looking to have. They wanted to change the status quo by taking sole responsibility for their own system and

its applications, and by teaching their in-house teams to develop the highly sought-after DevOps competences, which would enable them to realise this objective.

Advanced was also looking to migrate to self-managed AWS hosting because the third party provider's database engine, Oracle, was racking up costs. Moving to their own DevOps infrastructure would allow them to use Postgres, a free database engine, instead.

PROJECT DETAILS

The project realised for Advanced was a "Lift & Shift" migration to AWS that also involved changing the database engine from Oracle to Postgres.

Work began with the use of Terraform, a sophisticated Infrastructure as Code (IaC) tool, to define the automated infrastructure. This allowed for easier reconstruction of what had already been done, gave Advanced more control over what was already being hosted on AWS, and ensured consistency throughout, (as everything is defined in a single location).

Next, to enable a clear definition of the infrastructure's life cycle, the DevOps team divided the infrastructure management into layers, which helped clarify which parts of it are responsible for the database, the application, networking, etc.

After this, the DevOps team, along with the database engineers,

began migrating the databases. A Postgres database was developed and a part of the infrastructure responsible for the migration was created using the AWS Database Migration Service. The final database was made using Postgres Amazon Aurora, which ensures high performance and high availability.

As the database engine had changed, all of Advanced's existing applications, which until this point made use of the Oracle database, had to be adapted in order to be compliant with Postgres. Making the incompatible database engines compatible was a worthwhile effort as it helped Advanced to benefit from greater cost efficiencies.

Being able to build a brand-new, Cloud-hosted infrastructure from scratch allowed the teams to put their DevOps competencies to use throughout the entire process - which was an important objective for Advanced.

BUSINESS BENEFITS

Migrating to AWS and exchanging an expensive database engine for a significantly more affordable one, via the use of DevOps best practices, has allowed Advanced to see a number of positive, measurable outcomes:

- **Future innovation** – migrating to AWS gave Advanced more control and the possibility to easily develop the infrastructure further in the future,
- **Cost savings** – switching from an expensive database engine to a much cheaper one helped to significantly lower maintenance costs,
- **Accelerated migration** – thanks to a carefully tailored “Lift & Shift” migration model Advanced was able to meet their objectives sooner than they had anticipated,
- **Development speed** – as the infrastructure, deployment, and testing was automated, development was greatly accelerated,
- **Higher quality** – enhanced monitoring, performance insights, and log analytics allowed for a faster reaction time in terms of finding errors,
- **Faster time-to-market** – moving away from cooperating with a third party administrator to an in-house DevOps approach allowed for faster feature releases,
- **Increased in-house competences** – the DevOps teams were able to work together seamlessly, learning from each other and enhancing their skillset.

TECHNICAL DETAILS

SOLUTIONS

AWS Cloud, Layered Architecture Management, Network Peering

TECHNOLOGIES

Amazon Aurora, AWS DMS, AWS ECS Cluster, AWS CodeDeploy, AWS ALB, Amazon EC2, AWS Lambda, Amazon SNS, Amazon SQS, Amazon SES, Amazon VPC

TOOLS

Terraform, Jenkins, Harness, ELK (Kibana)

TEAM

1 DevOps Engineer, 1 Java/DevOps Engineer

ABOUT THE CLIENT

Advanced is a leading supplier of easy-to-use B2B spend management tools. Its Cloud-based solutions help organisations increase compliance and efficiency, as well as save millions of pounds a year through its Source-to-Settle process.

www.oneadvanced.com

ABOUT PGS SOFTWARE

PGS Software is one of the largest public listed custom software & services providers in Poland. As an AWS Advanced Consulting Partner, we specialise in Cloud projects – consulting, cloud-native development, application modernisation, & migration. Working according to agile methodologies (Scrum, DevOps, & Continuous Delivery), we create mobile & web applications as well as provide Business Analysis, Visual Design, UX, UI, & QA services to clients worldwide. We have development & business entities in Poland, UK, Germany, & Spain.



FOR MORE INFORMATION ABOUT OUR SERVICES:
PLEASE CONTACT US AT **+48 71 798 2692** OR **Info@pgs-soft.com**
OR VISIT OUR WEBSITE **WWW.PGS-SOFT.COM**

