

Blue Sky Analytics – Assignment Self Evaluation

Summary:

The assignment emphasizes usage of IaC (Infrastructure as Code) Implementation using AWS Cloudformation. **Cloudformation** is AWS's indigenous IaC service, offering more customizability and flexibility over provisioning AWS resources and managing them.

However the downside of using cloudformation is cloud lock-in, we're bound to use the services offered by AWS only. On the other hand if we're adapting to more flexible open-source services like **Terraform** It solves the cloud-lock-In issue, offers flexibility in modules and options of creating own custom modules.

in a multi-cloud or hybrid environment, CloudFormation doesn't easily allow users to provision or natively coordinate non-AWS resources. It's not impossible, as there is a custom resources feature in CloudFormation, but it requires additional templating and design to bring in third party resources, or those AWS services not available organically.

AWS DynamoDB Managed NoSql database is the best choice for storing unstructured data. AWS Manages everything, Storage, Scalability, CRR, Security, Backup etc. With the only downside of cloud-lock-in, but the flexibility provided by AWS compensates for the same.

AWS Lambda is a very powerful serverless service provided by AWS. Pros include easy integration with existing AWS services, Triggers and Dependencies etc. Very affordable pricing structure.

However Lambda is limited to the customizing options provided by AWS only (environment, runtime, memory), Build on top of firecracker KVM. That's one of the biggest limitation of Lambda.

We should be adapting more open-source serverless options providing wide range of customizability to the level of custom kernel and environments, unlimited execution time and memory.

Here are a few options: <https://medium.com/appvia/serverless-on-kubernetes-63b49aeaf4ef>

What could be done better:

Implementing a open-source custom serverless platform like knative, fission etc instead of Lambda function. On top of a robust, scalable kubernetes deployment with appropriate monitoring infrastructure for monitoring serverless invocation and database operation activity. All of the above provisioned and managed by Terraform Infrastructure as Code.

Personally, I'm a huge open-source enthusiast. I always prefer open-source, self-managed, self-hosted, customizable solutions on top of managed solutions.

Technology-Rating:

AWS : 8/10

Cloudformation : 7/10

DynamoDB: 7/10

Lambda: 7/10