**SGP Project - Distributed architecture and managing using automation tool**

**PROJECT DESCRIPTION**

I will be deploying a apache cluster(Kafka) which will include broker, zookeeper, producers and consumers on AWS using Ec2 instances and I will deploy above with the use of automation in Terraform.

**FUNCTIONAL REQUIREMENTS**

AWS EC2 instances: Amazon Elastic Compute Cloud (Amazon EC2) is a web service that provides secure, resizable compute capacity in the cloud. It is designed to make web-scale cloud computing easier for developers.

Kafka Cluster: Apache Kafka is a distributed publish-subscribe messaging system and a robust queue that can handle a high volume of data and enables you to pass messages from one end-point to another. Kafka is suitable for both offline and online message consumption. Kafka messages are persisted on the disk and replicated within the cluster to prevent data loss.

Terraform: Tool for building, changing and versioning of infrastructure safely and efficiently. Can manage existing and popular service providers as well as custom in-house solutions.

**NON FUNCTIONAL REQUIREMENTS**

Kafka is a unified platform for handling all the real-time data feeds. Kafka supports low latency message delivery and gives guarantee for fault tolerance in the presence of machine failures. It has the ability to handle a large number of diverse consumers.