Configuration Management Tools - Lab Assignment 3

Task 1: Describe the following
- Observability
  - The Three pillars of observability
  - Blackbox vs. Whitebox monitoring
  - Alerting
  - Monitoring Signals
  - Why do we need logs?
  - What is the difference between logs and metrics?
  - What is Tracing ?
- Service Mesh
  - What is a Service Mesh?
  - How does enable it's data plane?
  - mTLS
  - Circuit Breaking
  - Traffic splitting/steering
  - Fault Injection
  - Rolling Update
- Serverless
  - What are some benefits and drawbacks of adopting serverless architecture?

Task 2 : Declare how the following solutions solves the following challenges.
- Monitoring
  - Grafana
  - Prometheus
  - Sentry
  - Kibana
- Logging
  - Fluentd
  - Elasticsearch
  - Logstash
- Tracing
  - Jaeger
  - Zipkin
  - OpenTracing
- Observability Stacks
  - Istio
  - Elastic Stack

Task3 : Choose one of the following topics and write a min 1 page (11 pt, Arial or Times New Roman, reference system of choice) in-depth essay on:

- Continuous Integration/Delivery(Deployment)
- Scheduling & Orchestration
- Distributed architectural design patterns
- Container runtimes
- Cloud Storage
- Automation & Configuration
- Observability, Logging & Monitoring and Tracing
- Chaos Engineering

Task 4: Install Istio or Elastic Stack in your cluster (setting up knative in task 5 will include setting up Istio).

Task 5: Get Knative or OpenFaaS up and running in your cluster.