Day - 1

- **Overview of Docker**
  - Overview of Docker
  - Overview of Kubernetes
  - Overview of Google Cloud

- **Structuring projects, Virtual Private Cloud (VPC) networks, and clusters**
  - Projects
  - Clusters
  - Networks and subnets
  - Multi-zone and regional clusters
  - Master authorized networks
  - Private clusters

- **Managing identity and access**
  - Project-level access
  - Role-based access control (RBAC)
  - Image access and sharing
  - Determining the right image pull policy
  - Using dynamic admission webhooks to enforce policies
  - Other image deployment considerations
  - Using Workload Identity to interact with Google Cloud service APIs

- **Managing cluster security**
  - Vulnerability scanning for images
  - Binary Authorization
  - Secure access with gVisor in GKE Sandbox
  - Audit logging
  - PodSecurityPolicies
  - Container security considerations

- **Create a GKE(Google Kubernetes Engine) cluster environment for production**

Day - 2

- **Deploying a containerized web application**
  - Package a sample web application into a Docker image.
  - Upload the Docker image to Container Registry.
  - Deploy the sample app to the cluster.
  - Manage autoscaling for the deployment.
  - Expose the sample app to the internet.
  - Deploy a new version of the sample app

- **Managing cluster operability**
  - Resource quotas
  - Resource limits
  - Pod disruption budgets
  - Managing Kubernetes upgrades
  - Upgrading the Kubernetes version
  - Node auto-repair
  - Autoscaling GKE clusters

- **Configuring networking**
  - VPC-native clusters compared to routes-based clusters
  - Communicating within the same cluster
  - Network policies
  - Connecting to a GKE cluster from inside Google Cloud
  - Connecting from inside a cluster to external services
  - Configuring your services in Kubernetes to receive internet traffic
  - Backend configuration
  - Using a service mesh
  - Firewalling
  - Connecting to an on-premises data center