Kubernetes Administration (CKA)

Temario

1. Core concepts and Kubernetes architecture
   - 1.1 Kubernetes architecture and its main components
   - 1.2 Pods, Labels, Selectors, Deployments, Services, Namespaces
   - 1.3 Application lifecycle management
   - 1.4 Deployment of applications and services
2. Installation, Configuration & Validation
   - 2.1 Kubernetes installation using kubeadm
   - 2.2 Growing the cluster
   - 2.3 Standalone pods
   - 2.4 Control Plane High Availability
   - 2.5 Cluster maintenance
   - 2.6 Upgrade to a new version
   - 2.7 Cordoning and draining nodes
3. Networking
   - 3.1 Containers network model in Kubernetes
   - 3.2 Service discovery, scaling and load balancing
   - 3.3 DNS for service discovery
4. Scheduling
   - 4.1 Node selectors
   - 4.2 Affinity and anti-affinity rules
   - 4.3 Taints and tolerations
5. Security
   - 5.1 Authentication, Authorization and RBAC
   - 5.2 Configuring TLS access to API
6. Logging / Monitoring
   - 6.1 Application and system components logging
   - 6.2 Cluster wide logging architecture
   - 6.3 Metrics Sever
   - 6.4 Prometheus
7. Storage
8. Storage architecture
   - 8.1 Storage backend in Kubernetes: local, NFS, GlusterFS
   - 8.2 Storage classes and dynamic storage provisioning
   - 8.3 Resource quotas
9. Troubleshooting