

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 versión
 - 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 torage backend in Kubernetes: local, NFS, GlusterFS
 - 8.2 Storage classes and dynamic storage provisioning
 - 8.3 Resource quotas
9. Troubleshooting