

# Kubernetes Administración (CKA)

## Temario

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