**Kubernetics**

Q) *What is Kubernetics?*

A) Kubernetes (also known as k8s or “kube”) is an open source container orchestration platform that automates many of the manual processes involved in deploying, managing, and scaling containerized applications.

Q) *Kubernetics vs Docker?*

A) The difference between the two is that Docker is about packaging containerized applications on a single node and Kubernetes is meant to run them across a cluster.

Q) *Sample audit log for RBAC (role based access control)*

A) {

"kind":"Event",

"apiVersion":"audit.k8s.io/v1",

"metadata":{ "creationTimestamp":"2020-10-21T21:47:07Z" },

"level":"RequestResponse",

"timestamp":"2020-10-21T21:47:07Z",

"auditID":"20ac14d3-1214-42b8-af3c-31454f6d7dfb",

"stage":"ResponseStarted",

"requestURI":"/api/v1/namespaces/default/pods",

"verb":"create",

"user": {

"username":"maddie.shepherd@demo.org",

"groups":[ "system:authenticated" ]

},

"sourceIPs":[ "172.20.66.233" ],

"objectRef": {

"resource":"pods",

"namespace":"default",

"apiVersion":"v1"

},

"requestReceivedTimestamp":"2020-10-21T21:47:07.603214Z",

"stageTimestamp":"2020-10-21T21:47:07.603214Z",

"annotations": {

"authorization.k8s.io/decision": "allow",

"authorization.k8s.io/reason": "RBAC: allowed by RoleBinding 'demo/test-account' of Role 'cluster-admin' to ServiceAccount 'demo/test-account'"

}

}

Q) *What is POD in Kubernetes?*

A) A pod is the smallest execution unit in Kubernetes. A pod encapsulates one or more applications. If a pod (or the node it executes on) fails, Kubernetes can automatically create a new replica of that pod to continue operations.

Q) *Is Pod (Proof Of Delivery) in Kubernetes is same as Virtual Machine?*

A) Pods always run on Nodes. A Node is a worker machine in Kubernetes and may be a VM or a physical machine, depending on the cluster. Each Node runs Pods and is managed by the Master. On a Node you can have multiple pods.

Q*) Is POD a Container?*

A) A Pod represents a single instance of a running process in your cluster. Pods contain one or more containers, such as Docker containers. When a Pod runs multiple containers, the containers are managed as a single entity and share the Pod's resources.

Q) *POD and NODE?*

A) Pods are simply the smallest unit of execution in Kubernetes, consisting of one or more containers, each with one or more application and its binaries. Nodes are the physical servers or VMs that comprise a Kubernetes Cluster.

Q) *What is Cluster in kuberetes?*

A) A Kubernetes cluster is a set of nodes that run containerized applications. Containerizing applications packages an app with its dependences and some necessary services. They are more lightweight and flexible than virtual machines.

\*) We get logs depending on the CSP (Cloud Service Provide) like AWS, AZURE, GCP.

Resource: <https://www.datadoghq.com/blog/key-kubernetes-audit-logs-for-monitoring-cluster-security/>