Free Questions for KCNA

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Question 1

Question Type: MultipleChoice

Which access control component of Kubernetes is responsible for authorization and decides what requestor is allowed to do?

Options:

A- Service Account

B- Role-based access control 'RBAC'

C- Deployment

Answer:

B

Explanation:

https://kubernetes.io/docs/reference/access-authn-authz/authorization/

Authorization Modes

The Kubernetes API server may authorize a request using one of several authorization modes:

- **Node** - A special-purpose authorization mode that grants permissions to kubelets based on the pods they are scheduled to run. To learn more about using the Node authorization mode, see Node Authorization.
- **ABAC** - Attribute-based access control (ABAC) defines an access control paradigm whereby access rights are granted to users through the use of policies which combine attributes together. The policies can use any type of attributes (user attributes, resource attributes, object, environment attributes, etc). To learn more about using the ABAC mode, see ABAC Mode.
- **RBAC** - Role-based access control (RBAC) is a method of regulating access to computer or network resources based on the roles of individual users within an enterprise. In this context, access is the ability of an individual user to perform a specific task, such as view, create, or modify a file. To learn more about using the RBAC mode, see RBAC Mode
  - When specified RBAC (Role-Based Access Control) uses the `rbac.authorization.k8s.io` API group to drive authorization decisions, allowing admins to dynamically configure permission policies through the Kubernetes API.
  - To enable RBAC, start the apiserver with `--authorization-mode=RBAC`.

Question 2

Question Type: MultipleChoice

Which of the following is not the required field to describe Kubernetes objects?

Options:

A- metadata

B- apiVersion

C- Kind

D- Container

E- spec

Answer:

D

Explanation:

https://kubernetes.io/docs/concepts/overview/working-with-objects/kubernetes-objects/

Required Fields

In the `.yaml` file for the Kubernetes object you want to create, you'll need to set values for the following fields:

- `apiVersion` - Which version of the Kubernetes API you're using to create this object
- `kind` - What kind of object you want to create
- `metadata` - Data that helps uniquely identify the object, including a `name` string, `UID`, and optional `namespace`
- `spec` - What state you desire for the object

The precise format of the object `spec` is different for every Kubernetes object, and contains nested fields specific to that object. The Kubernetes API Reference can help you find the spec format for all of the objects you can create using Kubernetes.

Question 3

Question Type: MultipleChoice

A new Pod is created. Then, the Pod is assigned to a Node. Which Kubernetes component was re-sponsible for determining which Node to assign the Pod to?

Options:

A- kubelet

B- Scheduler

C- API Server

D- Controller manager

Answer:

B

Explanation:

https://kubernetes.io/docs/reference/command-line-tools-reference/kube-scheduler/

The Kubernetes scheduler is a control plane process which assigns Pods to Nodes. The scheduler determines which Nodes are valid placements for each Pod in the scheduling queue according to constraints and available resources. The scheduler then ranks each valid Node and binds the Pod to a suitable Node. Multiple different schedulers may be used within a cluster; kube-scheduler is the reference implementation. See scheduling for more information about scheduling and the kube-scheduler component.

```
kube-scheduler [flags]
```

Question 4

Question Type: **MultipleChoice**

What is the command to list all the available objects in your Kubernetes cluster?

Options:

A- kubectl get all

B- kubectl get api-resources

C- kubectl api-resources

D- kubectl get pods

Answer:

C

Explanation:

https://kubernetes.io/docs/reference/kubectl/cheatsheet/

Resource types

List all supported resource types along with their shortnames, API group, whether they are namespaced, and Kind:

```
kubectl api-resources
```

Question 5

Question Type: MultipleChoice

What are the two major components of service mesh?

Options:

A- Control plane and Data plane

B- Master plane and Data plane

C- None of the options

D- Controller plane and User plane

E- Master plane and User plane

Answer:

A

Explanation:

https://istio.io/latest/about/service-mesh/

How it Works

Istio has two components: the data plane and the control plane.

The data plane is the communication between services. Without a service mesh, the network doesn't understand the traffic being sent over, and can't make any decisions based on what type of traffic it is, or who it is from or to.

Question 6

Question Type: MultipleChoice

Open Container Initiative set container standards for

Options:

A- Code, Build, Distribute, Deploy containers

B- Run, build, and image

C- Code, Build, Distribute containers

D- Run, Build, Distribute containers

Answer:

D

Question 7

Question Type: MultipleChoice

What is autoscaling?

Options:

A- Automatically measuring resource usage

B- Automatically assigning workloads to nodes in a cluster

C- Automatically repairing broken application instances

D- Automatically adding or removing compute resources as needed

Answer:

D

Explanation:

https://kubernetes.io/blog/2016/07/autoscaling-in-kubernetes/

Autoscaling means automatically scaling up or down in response to real-time usage data.