

# Linux-Foundation

## Exam Questions KCNA

Kubernetes and Cloud Native Associate (KCNA)



#### NEW QUESTION 1

What is the most common way to scale the application in the cloud environment?

- A. Parallel Scaling
- B. Horizontal Scaling
- C. Vertical Scaling

**Answer:** B

**Explanation:**

<https://kubernetes.io/docs/tasks/run-application/horizontal-pod-autoscale/>

#### NEW QUESTION 2

What does CNCF stand for?

- A. Cloud Native Computing Foundation
- B. Cloud Native Cloud Foundation
- C. Cloud Native Container Foundation

**Answer:** A

**Explanation:**

<https://www.cncf.io/about/who-we-are/>

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The Cloud Native Computing Foundation (CNCf) hosts critical components of the global technology infrastructure. CNCF brings together the world's top developers, end users, and vendors and runs the largest open source developer conferences. CNCF is part of the nonprofit Linux Foundation.

#### NEW QUESTION 3

Which of the following are not the metrics for Site Reliability Engineering?

- A. Service Level Objectives 'SLO'
- B. Service Level Agreements 'SLA'
- C. Service Level Indicators 'SLI'
- D. Service Level Definition 'SLD'

**Answer:** D

**Explanation:**

SLI defined quantitative measure of some aspect of the level of service that is provided.

SLOs are key to making data-driven decisions about reliability, they're at the core of SRE practices.

SLAs an explicit or implicit contract with your users that includes consequences of meeting (or missing) the SLOs they contain.

#### NEW QUESTION 4

There are three Nodes in a cluster, and want to run exactly one replica of a Pod on each Node. Prefer to automatically create a replica on any new Nodes when they are added. Which Kubernetes resource should you use?

- A. DaemonSet
- B. ReplicaSet
- C. NodeSet
- D. StatefulSet
- E. Deployment

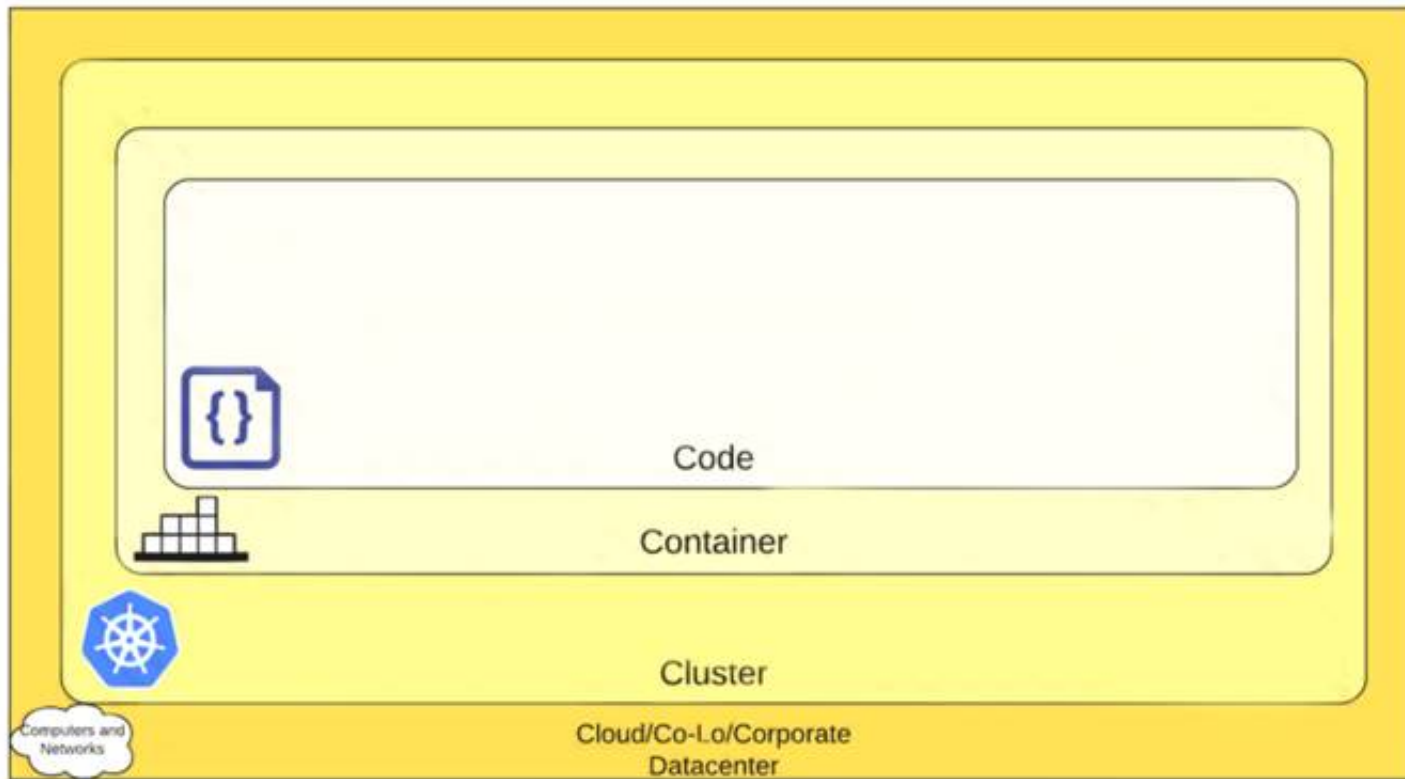
**Answer:** A

**Explanation:**

<https://kubernetes.io/docs/concepts/workloads/controllers/daemonset/>

A DaemonSet runs replicas on all (or just some) Nodes in the cluster.

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#### NEW QUESTION 5

What tool allows us to build useful visual representations of prometheus data?

- A. Grafana
- B. kubectl
- C. Distributed system tracing
- D. Rook
- E. Kibana

**Answer:** A

**Explanation:**

<https://prometheus.io/>  
Graphical user interface, text, application Description automatically generated

### Great visualization

Prometheus has multiple modes for visualizing data: a built-in expression browser, Grafana integration, and a console template language.

#### NEW QUESTION 6

What standard does kubelet use to communicate with the container runtime?

- A. Service Mesh Interface (SMI)
- B. CRI-O
- C. ContainerD
- D. Container Runtime Interface (CRI)

**Answer:** D

**Explanation:**

kubelet can communicate with any runtime that supports the CRI standard.

#### NEW QUESTION 7

What is the primary interface for Kubernetes cluster?

- A. Kubernetes Api
- B. Kubelet
- C. YAML
- D. Control Plane
- E. JSON

**Answer:** A

**Explanation:**

<https://kubernetes.io/docs/concepts/overview/components/#kube-apiserver>

A screenshot of a computer Description automatically generated with medium confidence

## kube-apiserver

The API server is a component of the Kubernetes control plane that exposes the Kubernetes API. The API server is the front end for the Kubernetes control plane.

The main implementation of a Kubernetes API server is `kube-apiserver`. `kube-apiserver` is designed to scale horizontally—that is, it scales by deploying more instances. You can run several instances of `kube-apiserver` and balance traffic between those instances.

**NEW QUESTION 8**

Which kubernetes resource type allows defining which pods are isolated when it comes to network-ing?

- A. Network policy
- B. Domain Name System 'DNS'
- C. Role Binding
- D. Service

**Answer:** A

**Explanation:**

<https://kubernetes.io/docs/concepts/services-networking/network-policies/#the-two-sorts-of-pod-isolation> Text, letter Description automatically generated

## The Two Sorts of Pod Isolation

There are two sorts of isolation for a pod: isolation for egress, and isolation for ingress. They concern what connections may be established. "Isolation" here is not absolute, rather it means "some restrictions apply". The alternative, "non-isolated for \$direction", means that no restrictions apply in the stated direction. The two sorts of isolation (or not) are declared independently, and are both relevant for a connection from one pod to another.

By default, a pod is non-isolated for egress; all outbound connections are allowed. A pod is isolated for egress if there is any NetworkPolicy that both selects the pod and has "Egress" in its `policyTypes`; we say that such a policy applies to the pod for egress. When a pod is isolated for egress, the only allowed connections from the pod are those allowed by the `egress` list of some NetworkPolicy that applies to the pod for egress. The effects of those `egress` lists combine additively.

By default, a pod is non-isolated for ingress; all inbound connections are allowed. A pod is isolated for ingress if there is any NetworkPolicy that both selects the pod and has "Ingress" in its `policyTypes`; we say that such a policy applies to the pod for ingress. When a pod is isolated for ingress, the only allowed connections into the pod are those from the pod's node and those allowed by the `ingress` list of some NetworkPolicy that applies to the pod for ingress. The effects of those `ingress` lists combine additively.

**NEW QUESTION 9**

What kind of limitation cgroups allows?

- A. Prioritization
- B. Resource limiting
- C. Accounting
- D. None of the options
- E. Control
- F. Server cpu and memory



**Answer:** ABCE

#### NEW QUESTION 10

Which of the following is used to request storage in Kubernetes?

- A. PersistentVolume 'PV'
- B. PersistentVolumeClaim 'PVC'
- C. Container Storage Interface 'CSI'
- D. StorageClasses

**Answer:** B

**Explanation:**

<https://kubernetes.io/docs/concepts/storage/persistent-volumes/>

#### NEW QUESTION 10

The Kubernetes rolling update is used for \_\_\_\_\_ .

- A. Updating a service
- B. Scaling an application
- C. Updating a deployment

**Answer:** C

**Explanation:**

<https://kubernetes.io/docs/tutorials/kubernetes-basics/update/update-intro/>

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## Performing a Rolling Update

### Objectives

- Perform a rolling update using kubectl.

### Updating an application

Users expect applications to be available all the time and developers are expected to deploy new versions of them several times a day. In Kubernetes this is done with rolling updates. **Rolling updates** allow Deployments' update to take place with zero downtime by incrementally updating Pods instances with new ones. The new Pods will be scheduled on Nodes with available resources.

In the previous module we scaled our application to run multiple instances. This is a requirement for performing updates without affecting application availability. By default, the maximum number of Pods that can be unavailable during the update and the maximum number of new Pods that can be created, is one. Both options can be configured to either numbers or percentages (of Pods). In Kubernetes, updates are versioned and any Deployment update can be reverted to a previous (stable) version.

### Summary:

- Updating an app

*Rolling updates allow Deployments' update to take place with zero downtime by incrementally updating Pods instances with new ones.*

#### NEW QUESTION 11

Which project in this list is a leading project in the observability space?

- A. Jaeger
- B. Vitess
- C. Argo
- D. Kubernetes

**Answer:** A

**Explanation:**

<https://github.com/cncf/landscape#trail-map>





## CLOUD NATIVE TRAIL MAP

The Cloud Native Landscape (cncl.io) has a large number of options. This Cloud Native Trail Map is a recommended process for leveraging open source, cloud native technologies. At each step, you can choose a vendor-supported offering or do it yourself, and everything after step #3 is optional based on your circumstances.

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[cncl.io](https://cncl.io)

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### NEW QUESTION 13

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?

- A. kubelet
- B. Scheduler
- C. API Server
- D. Controller manager

**Answer: B**

### Explanation:

<https://kubernetes.io/docs/reference/command-line-tools-reference/kube-scheduler/> Graphical user interface, text, application Description automatically generated

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]
```

### NEW QUESTION 17

Which project is not a dominant CNCF project in the storage landscape?

- A. Envoy



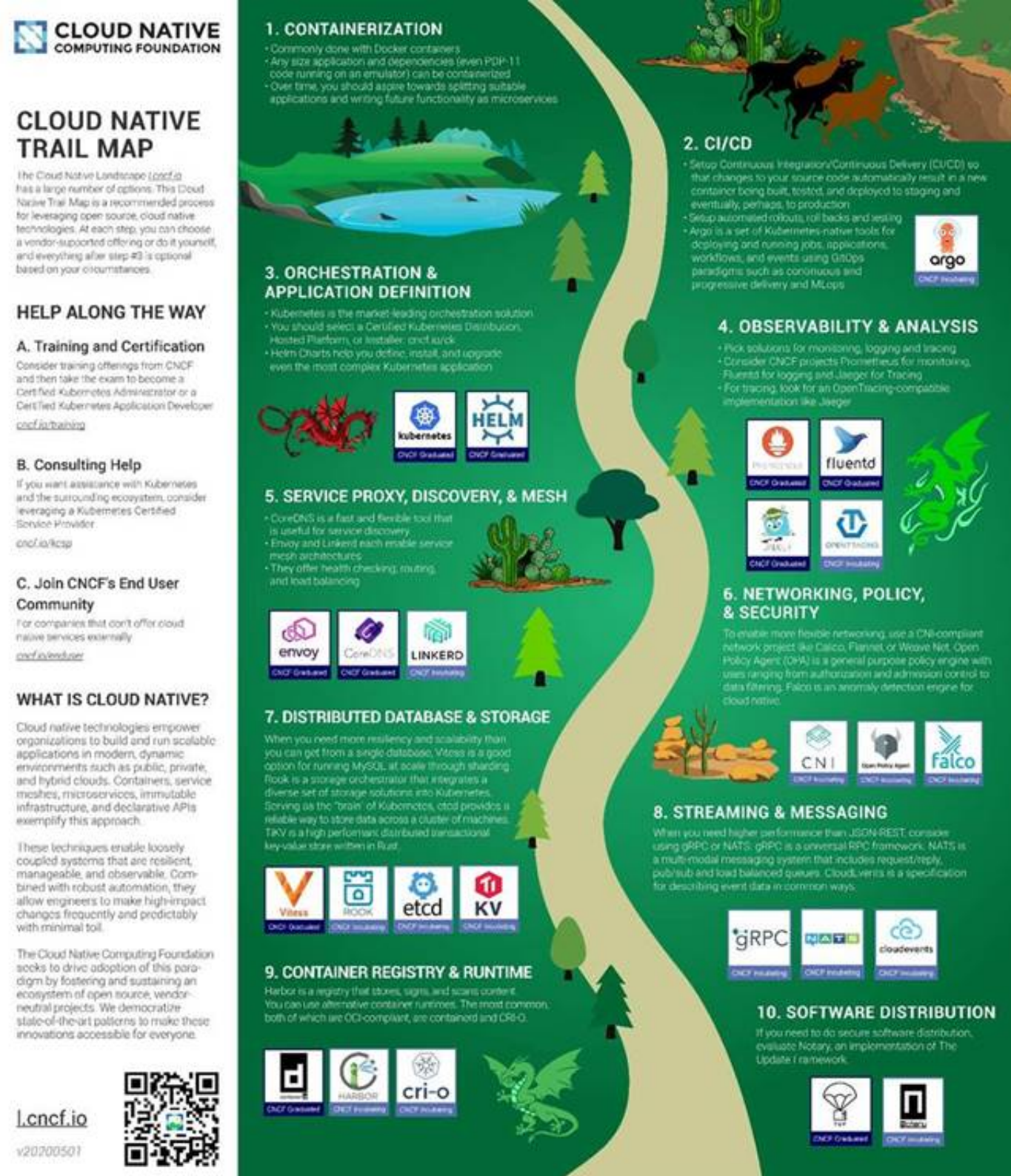
- B. Vitess  
 C. Rook  
 D. TiKV

**Answer: A**

**Explanation:**

<https://github.com/cncf/landscape#trail-map>

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**NEW QUESTION 19**

Which authentication method allows JWTs to authenticate?

- A. OpenId connect  
 B. Client 'TLS' certificates  
 C. OPA gatekeeper  
 D. Anonymous

**Answer: A**

**NEW QUESTION 24**

What do control groups provide when it come to containers

- A. Permission  
 B. Image Storage  
 C. Isolation  
 D. Logging

**Answer: C**

**Explanation:**

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## What is the use of kernel control groups in container technology?

A control group (cgroup) is a Linux kernel feature that limits, accounts for, and isolates the resource usage (CPU, memory, disk I/O, network, and so on) of a collection of processes. Jul 21, 2021

### NEW QUESTION 25

How would you return all the pod data in the json format using kubectl command?

- A. kubectl get pods -o json
- B. kubectl get pods --all-namespaces
- C. kubectl get pods -o wide
- D. kubectl get pods -o jsonpath

**Answer: A**

#### Explanation:

<https://kubernetes.io/docs/reference/generated/kubectl/kubectl-commands#get>

### NEW QUESTION 30

What Linux feature is used to provide isolation for containers?

- A. Processes
- B. Services
- C. NetworkPolicy
- D. Control groups

**Answer: D**

#### Explanation:

Control groups provide isolation for container processes, keeping them separate from other processes on the host.

### NEW QUESTION 35

What do GitOps tools do in kubernetes?

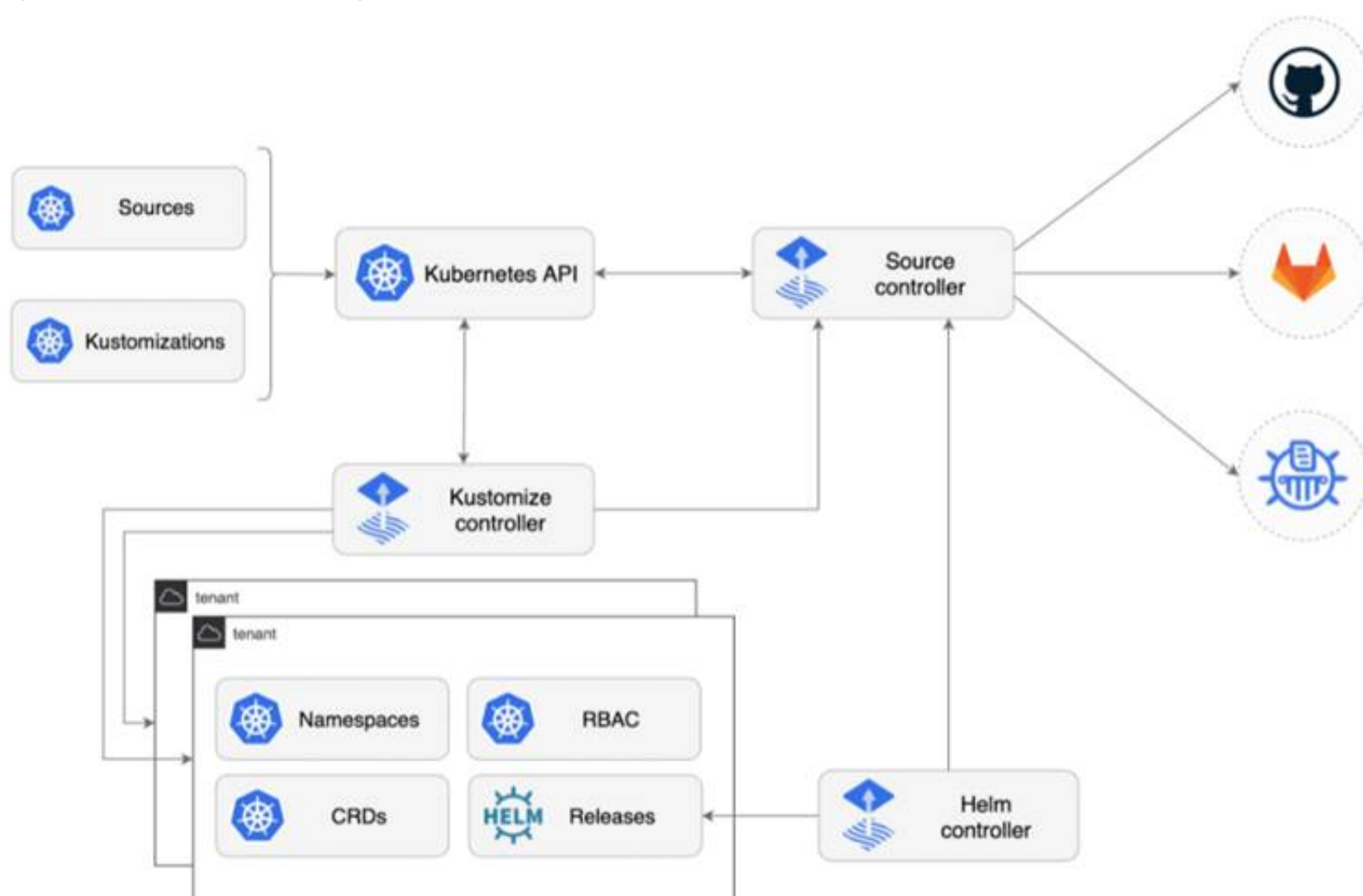
- A. They allow us to make changes to a kubernetes cluster using a Git repository
- B. They manage the source code of kubernetes itself
- C. They allow us to store software code in Git
- D. They allow us to store container images in repositories

**Answer: A**

#### Explanation:

<https://fluxcd.io/docs/components/>

Diagram Description automatically generated





#### NEW QUESTION 40

What are cluster-wide objects

- A. Service and Pods
- B. Volumes and Nodes
- C. ConfigMaps and Secrets

**Answer:** B

#### Explanation:

[https://kubernetes.io/docs/concepts/overview/working-with-objects/\\_print/](https://kubernetes.io/docs/concepts/overview/working-with-objects/_print/) Text, letter Description automatically generated

## 4 - Namespaces

In Kubernetes, *namespaces* provides a mechanism for isolating groups of resources within a single cluster. Names of resources need to be unique within a namespace, but not across namespaces. Namespace-based scoping is applicable only for namespaced objects (*e.g. Deployments, Services, etc*) and not for cluster-wide objects (*e.g. StorageClass, Nodes, PersistentVolumes, etc*).

#### NEW QUESTION 41

Which part of a Kubernetes cluster is responsible for running container workloads?

- A. Worker Node
- B. kube-proxy
- C. Control plane
- D. etcd

**Answer:** A

#### Explanation:

Worker Nodes are responsible for executing containerized workloads.

#### NEW QUESTION 45

What makes cloud native technology so important?

- A. It makes data centric
- B. It strengthens team
- C. It removes roadblocks to innovation
- D. It helps gather software requirements
- E. It makes operational centric

**Answer:** C

#### Explanation:

<https://github.com/cncf/foundation/blob/main/charter.md>

Graphical user interface, text, application Description automatically generated

Cloud native technologies empower organizations to build and run scalable applications in modern, dynamic environments such as public, private, and hybrid clouds. Containers, service meshes, microservices, immutable infrastructure, and declarative APIs exemplify this approach.

These techniques enable loosely coupled systems that are resilient, manageable, and observable. Combined with robust automation, they allow engineers to make high-impact changes frequently and predictably with minimal toil.

#### NEW QUESTION 46

Which of the following is an example of vertical scaling?

- A. Using cluster autoscaler
- B. Adding more resources (memory and/or cpu) to a kubernetes node
- C. Adding more nodes to kubernetes cluster
- D. Adding more replica pods to a deployment

**Answer:** B

#### Explanation:

<https://kubernetes.io/docs/tasks/run-application/horizontal-pod-autoscale/> Text Description automatically generated

Horizontal scaling means that the response to increased load is to deploy more Pods. This is different from *vertical* scaling, which for Kubernetes would mean assigning more resources (for example: memory or CPU) to the Pods that are already running for the workload.

#### NEW QUESTION 50

What does the 'kops' acronym means?

- A. Kubernetes Open Platform Specification
- B. Kubernetes Operations
- C. Kubernetes Operators
- D. Kubernetes Operation Policy Specification

**Answer:** B

#### Explanation:

<https://github.com/kubernetes/kops>

Graphical user interface, text, application, email Description automatically generated

## kOps - Kubernetes Operations

go report A+ -go reference

The easiest way to get a production grade Kubernetes cluster up and running.

### What is kOps?

We like to think of it as `kubect1` for clusters.

`kops` will not only help you create, destroy, upgrade and maintain production-grade, highly available, Kubernetes cluster, but it will also provision the necessary cloud infrastructure.

AWS (Amazon Web Services) and GCE (Google Cloud Platform) are currently officially supported, with DigitalOcean, Hetzner and OpenStack in beta support, and Azure in alpha.

#### NEW QUESTION 55

What is the default service type in Kubernetes?

- A. CusterIP
- B. NodePort
- C. serviceType
- D. loadBalancer

**Answer:** A

#### Explanation:

<https://kubernetes.io/docs/concepts/services-networking/service/#publishing-services-service-types> Graphical user interface, text, application, email Description automatically generated

Kubernetes `ServiceTypes` allow you to specify what kind of Service you want. The default is `ClusterIP`.

Type values and their behaviors are:

- `ClusterIP` : Exposes the Service on a cluster-internal IP. Choosing this value makes the Service only reachable from within the cluster. This is the default `ServiceType`.
- `NodePort`: Exposes the Service on each Node's IP at a static port (the `NodePort`). A `ClusterIP` Service, to which the `NodePort` Service routes, is automatically created. You'll be able to contact the `NodePort` Service, from outside the cluster, by requesting `<NodeIP>:<NodePort>`.
- `LoadBalancer`: Exposes the Service externally using a cloud provider's load balancer. `NodePort` and `ClusterIP` Services, to which the external load balancer routes, are automatically created.
- `ExternalName`: Maps the Service to the contents of the `externalName` field (e.g. `foo.bar.example.com`), by returning a `CNAME` record with its value. No proxying of any kind is set up.

#### NEW QUESTION 56

What is not semantic versioning?

- A. 1.0.0
- B. 2022-05-04
- C. 1.0.0-alpha
- D. 1.0.0-beta.2

**Answer:** B

**Explanation:**

<https://semver.org/>

RegEx SemVer at <https://regex101.com/r/vkijKf/1/>

#### NEW QUESTION 59

The Kubernetes API provides an interface for storing objects. Which of the following describes the type of objects stored by the Kubernetes API?

- A. Containers
- B. REST
- C. YAML
- D. ETCD

**Answer:** B

**Explanation:**

Kubernetes objects are RESTful objects.

#### NEW QUESTION 63

What is autoscaling?

- 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.

#### NEW QUESTION 66

What is the name for a service that has no `clusterIp` address?

- A. Headless
- B. NodePort
- C. ClusterIP
- D. LoadBalancer

**Answer:** A



**Explanation:**

<https://kubernetes.io/docs/concepts/services-networking/service/#headless-services>  
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# Headless Services

Sometimes you don't need load-balancing and a single Service IP. In this case, you can create what are termed "headless" Services, by explicitly specifying "None" for the cluster IP ( `.spec.clusterIP` ).

You can use a headless Service to interface with other service discovery mechanisms, without being tied to Kubernetes' implementation.

For headless Services , a cluster IP is not allocated, kube-proxy does not handle these Services, and there is no load balancing or proxying done by the platform for them. How DNS is automatically configured depends on whether the Service has selectors defined:

**NEW QUESTION 71**

What kubectl command is used to edit a resource on the server?

- A. kubectl resource modify
- B. kubectl update resource
- C. kubectl edit
- D. kubectl resource edit

**Answer: C**

**Explanation:**

<https://kubernetes.io/docs/reference/generated/kubectl/kubectl-commands#edit> Graphical user interface, text, application, email Description automatically generated

## edit

Edit a resource from the default editor.

The edit command allows you to directly edit any API resource you can retrieve via the command-line tools. It will open the editor defined by your KUBE\_EDITOR, or EDITOR environment variables, or fall back to 'vi' for Linux or 'notepad' for Windows. You can edit multiple objects, although changes are applied one at a time. The command accepts file names as well as command-line arguments, although the files you point to must be previously saved versions of resources.

Editing is done with the API version used to fetch the resource. To edit using a specific API version, fully-qualify the resource, version, and group.

The default format is YAML. To edit in JSON, specify "-o json".

The flag --windows-line-endings can be used to force Windows line endings, otherwise the default for your operating system will be used.

In the event an error occurs while updating, a temporary file will be created on disk that contains your unapplied changes. The most common error when updating a resource is another editor changing the resource on the server. When this occurs, you will have to apply your changes to the newer version of the resource, or update your temporary saved copy to include the latest resource version.



**NEW QUESTION 74**

Which of the following provides cloud-native storage orchestration?

- A. Cloud Provider Specific storage (EBS, EFS, Cloud Storage)
- B. Cloud Storage
- C. Storage IO

**Answer: A**

**Explanation:**

<https://kubernetes.io/docs/concepts/storage/persistent-volumes/#types-of-persistent-volumes> Table Description automatically generated with medium confidence

# Types of Persistent Volumes

PersistentVolume types are implemented as plugins. Kubernetes currently supports the following plugins:

- `awsElasticBlockStore` - AWS Elastic Block Store (EBS)
- `azureDisk` - Azure Disk
- `azureFile` - Azure File
- `cephfs` - CephFS volume
- `csi` - Container Storage Interface (CSI)
- `fc` - Fibre Channel (FC) storage
- `gcePersistentDisk` - GCE Persistent Disk
- `glusterfs` - Glusterfs volume
- `hostPath` - HostPath volume (for single node testing only; WILL NOT WORK in a multi-node cluster; consider using `local` volume instead)
- `iscsi` - iSCSI (SCSI over IP) storage
- `local` - local storage devices mounted on nodes.
- `nfs` - Network File System (NFS) storage
- `portworxVolume` - Portworx volume
- `rbd` - Rados Block Device (RBD) volume
- `vsphereVolume` - vSphere VMDK volume

The following types of PersistentVolume are deprecated. This means that support is still available but will be removed in a future Kubernetes release.

- `cinder` - Cinder (OpenStack block storage) (**deprecated** in v1.18)

## NEW QUESTION 76

What CNCF project is the leading DNS project in the CNCF landscape?

- A. Kubernetes
- B. gRPC
- C. KubeDNS
- D. CoreDNS

**Answer:** D

### Explanation:

<https://github.com/cncf/landscape#trail-map>

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### NEW QUESTION 81

Which is NOT a use case for the Kubernetes dashboard?

- A. Troubleshooting any issues with applications
- B. Managing running applications
- C. Installing new Kubernetes cluster
- D. Managing the entire Kubernetes cluster

**Answer: C**

### NEW QUESTION 86

What are default kubernetes namespaces?

- A. default, kube-public, kube-system, kube-node-lease
- B. kube-default, kube-public, kube-system, kube-node-lease
- C. default, kube-public, kube-systems, kube-node-lease
- D. default, kube-public, kube-system, kube-node-leases

**Answer: A**

### Explanation:

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

Graphical user interface, text Description automatically generated with medium confidence



You can list the current namespaces in a cluster using:

```
kubectl get namespace
```

NAME	STATUS	AGE
default	Active	1d
kube-node-lease	Active	1d
kube-public	Active	1d
kube-system	Active	1d

Kubernetes starts with four initial namespaces:

- `default` The default namespace for objects with no other namespace
- `kube-system` The namespace for objects created by the Kubernetes system
- `kube-public` This namespace is created automatically and is readable by all users (including those not authenticated). This namespace is mostly reserved for cluster usage, in case that some resources should be visible and readable publicly throughout the whole cluster. The public aspect of this namespace is only a convention, not a requirement.
- `kube-node-lease` This namespace holds [Lease](#) objects associated with each node. Node leases allow the kubelet to send [heartbeats](#) so that the control plane can detect node failure.

#### NEW QUESTION 87

Which control plane component is responsible for scheduling pods?

- A. kube-proxy
- B. kube scheduler
- C. kubelet
- D. kube api-server

**Answer:** B

#### Explanation:

<https://kubernetes.io/docs/concepts/overview/components/>

Graphical user interface, text, application Description automatically generated

## kube-scheduler

Control plane component that watches for newly created Pods with no assigned node, and selects a node for them to run on.

Factors taken into account for scheduling decisions include: individual and collective resource requirements, hardware/software/policy constraints, affinity and anti-affinity specifications, data locality, inter-workload interference, and deadlines.

#### NEW QUESTION 90

What is FinOps?

- A. The first step in any cloud transformation
- B. Stage beyond DevOps or DevSecOps, where organization transition to serverless technologies
- C. Using data to make cost savings decisions about cloud usage
- D. Specialized cloud features used by financial industries (example: banks, insurance, etc)

**Answer:** C

#### Explanation:

<https://www.servicenow.com/products/it-asset-management/what-is-finops.html> Text, letter Description automatically generated

## What is the origin of FinOps?

Unlike many modern tech movements, FinOps is not a single advancement or policy change pioneered by any specific company or organization; it's a natural evolution of technology management to account for on-demand cloud resources.

With the rise and proliferation of cloud computing in the new millennium, many companies began to see a shift from standard, traditional pricing to usage-based pricing models. And, while this allowed businesses to take a more cost effective approach to technology—paying only for the time and resources they used, rather than paying a set rate—it created a crisis for CFOs. After all, it's next to impossible to predict tool usage with any degree of accuracy, which can make budgeting an exercise in futility.

To address this issue, prevent runaway expenses, and promote business profitability, organizations around the world began to develop the concept of financial operations, (FinOps). This revolution was guided by respected technology companies around the world, first taking shape as cloud cost management, developing into cloud cost optimization, and then into cloud financial management.

Finally, taking inspiration from the success of DevOps, FinOps was born, bringing cross-functionality and agility to financial management of cloud technologies.

### NEW QUESTION 93

What is horizontal scaling?

- A. Creating a Deployment
- B. Adding resources to existing apps and servers
- C. Moving workloads from one server to another
- D. Adding additional replicas of apps and servers

**Answer:** D

### Explanation:

<https://kubernetes.io/docs/tasks/run-application/horizontal-pod-autoscale/> Text, letter Description automatically generated

In Kubernetes, a *HorizontalPodAutoscaler* automatically updates a workload resource (such as a Deployment or StatefulSet), with the aim of automatically scaling the workload to match demand.

Horizontal scaling means that the response to increased load is to deploy more Pods. This is different from *vertical* scaling, which for Kubernetes would mean assigning more resources (for example: memory or CPU) to the Pods that are already running for the workload.

If the load decreases, and the number of Pods is above the configured minimum, the HorizontalPodAutoscaler instructs the workload resource (the Deployment, StatefulSet, or other similar resource) to scale back down.

Horizontal pod autoscaling does not apply to objects that can't be scaled (for example: a DaemonSet.)

The HorizontalPodAutoscaler is implemented as a Kubernetes API resource and a controller. The resource determines the behavior of the controller. The horizontal pod autoscaling controller, running within the Kubernetes control plane, periodically adjusts the desired scale of its target (for example, a Deployment) to match observed metrics such as average CPU utilization, average memory utilization, or any other custom metric you specify.

### NEW QUESTION 96

What is a commonly used package manager for kubernetes applications?

- A. npm
- B. apt
- C. helm
- D. kubernetes manifest



**Answer: C**

**Explanation:**  
<https://helm.sh/>

#### NEW QUESTION 98

What is a benefits of Kubernetes federation?

- A. Avoids scalability limits on pods and nodes
- B. Creates highly available clusters in different regions
- C. Low latency

**Answer: ABC**

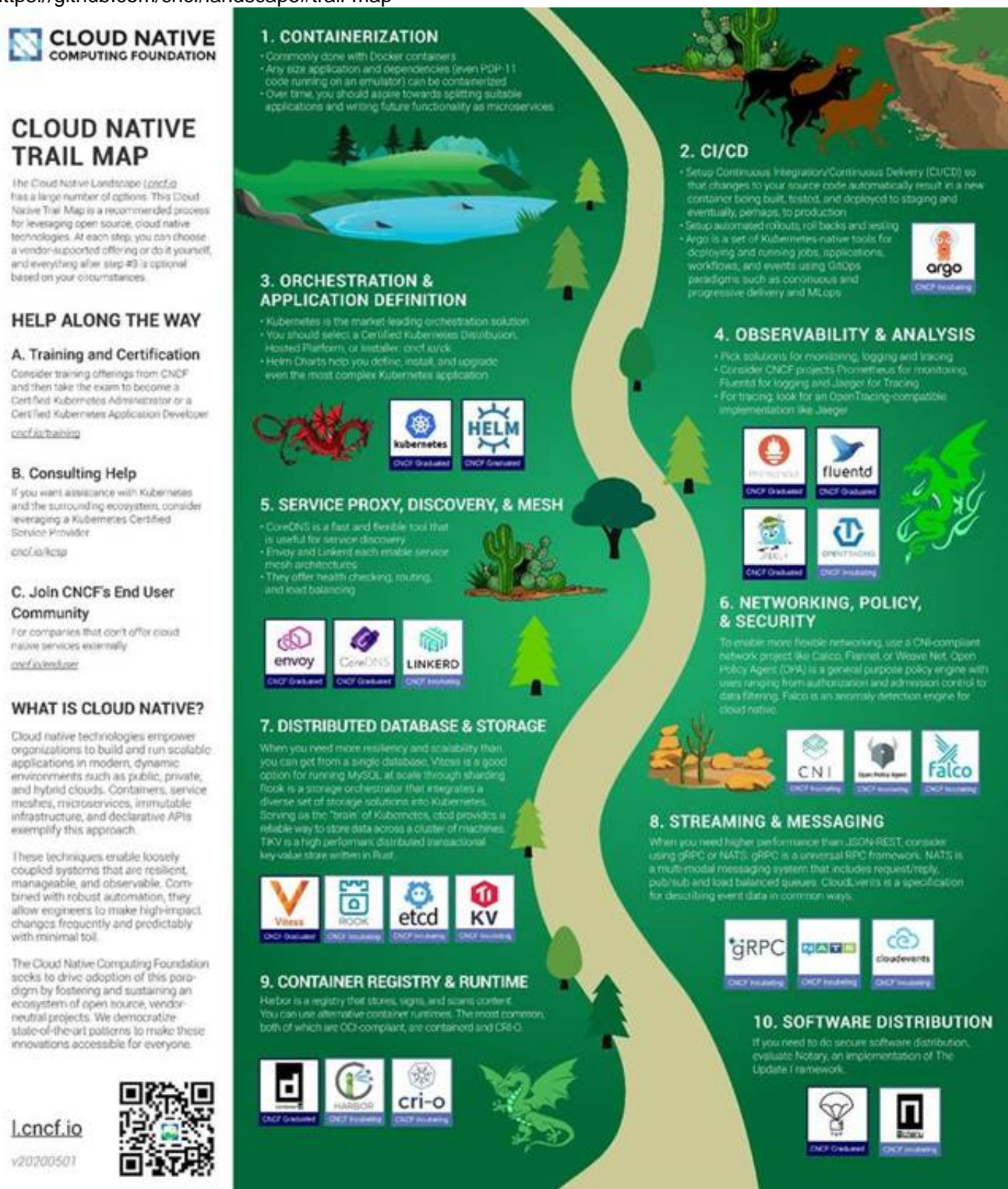
#### NEW QUESTION 100

Fluentd is the leading project in the CNCF space for logging?

- A. TRUE
- B. FALSE

**Answer: A**

**Explanation:**  
<https://github.com/cncf/landscape#trail-map>



#### NEW QUESTION 102

Which kubernetes object do deployments use behind the scenes when they need to scale pods?

- A. Horizontal pod autoscaler
- B. ReplicaSets
- C. kubectl
- D. Replication controller



**Answer:** B

**Explanation:**

<https://kubernetes.io/docs/concepts/workloads/controllers/replicaset/>

Graphical user interface, text, application, email Description automatically generated

# ReplicaSet

A ReplicaSet's purpose is to maintain a stable set of replica Pods running at any given time. As such, it is often used to guarantee the availability of a specified number of identical Pods.

## NEW QUESTION 107

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

- A. Service Account
- B. Role-based access control 'RBAC'
- C. Deployment

**Answer:** B

**Explanation:**

<https://kubernetes.io/docs/reference/access-authn-authz/authorization/> Text, letter Description automatically generated

# 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`.

## NEW QUESTION 108

Various Container Orchestrator Systems (COS)?

- A. Apache Mesos
- B. None of the options
- C. Docker Swarm
- D. Kubernetes

**Answer:** ACD

## NEW QUESTION 112

Which of the following is NOT a Kubernetes component?

- A. Scheduler
- B. Docker
- C. Cloud Controller manager
- D. Kube-proxy

**Answer:** B

**Explanation:**

Docker is not a Kubernetes component.

**NEW QUESTION 114**

Which of the following are characteristics of Statefulsets?

- A. Ordered, graceful deployment and scaling
- B. Creates replica sets
- C. Uses headless services

**Answer:** A

**Explanation:**

<https://kubernetes.io/docs/concepts/workloads/controllers/statefulset/>

Graphical user interface, text, application, email Description automatically generated

## Using StatefulSets

StatefulSets are valuable for applications that require one or more of the following.

- Stable, unique network identifiers.
- Stable, persistent storage.
- Ordered, graceful deployment and scaling.
- Ordered, automated rolling updates.

**NEW QUESTION 118**

How to get the logs of the previously terminated nginx container from the web pod?

- A. `kubectl logs -p -c nginx web`
- B. `kubectl logs nginx`
- C. `kubectl logs -p -c web nginx`
- D. `kubectl logs -f -c nginx web`

**Answer:** A

**Explanation:**

<https://kubernetes.io/docs/reference/generated/kubectl/kubectl-commands#logs> Text Description automatically generated with medium confidence

**Return snapshot of previous terminated ruby container logs from pod web-1**

```
kubectl logs -p -c ruby web-1
```

**NEW QUESTION 119**

'`kubectl delete -n my-ns po,svc --all`' will delete pods and services including uninitialized ones in the namespace 'my-ns'

- A. FALSE
- B. TRUE

**Answer:** B

**Explanation:**

<https://kubernetes.io/docs/reference/generated/kubectl/kubectl-commands#delete> Graphical user interface, text, application, email Description automatically generated

IMPORTANT: Force deleting pods does not wait for confirmation that the pod's processes have been terminated, which can leave those processes running until the node detects the deletion and completes graceful deletion. If your processes use shared storage or talk to a remote API and depend on the name of the pod to identify themselves, force deleting those pods may result in multiple processes running on different machines using the same identification which may lead to data corruption or inconsistency. Only force delete pods when you are sure the pod is terminated, or if your application can tolerate multiple copies of the same pod running at once. Also, if you force delete pods, the scheduler may place new pods on those nodes before the node has released those resources and causing those pods to be evicted immediately.

Note that the delete command does NOT do resource version checks, so if someone submits an update to a resource right when you submit a delete, their update will be lost along with the rest of the resource.

After a CustomResourceDefinition is deleted, invalidation of discovery cache may take up to 10 minutes. If you don't want to wait, you might want to run "kubectl api-resources" to refresh the discovery cache.

Usage

```
$ kubectl delete [{-f FILENAME} | {-k DIRECTORY} | TYPE [(NAME | -l label | --all)]]
```

Delete a pod based on the type and name in the JSON passed into stdin

cat pod.json | kubectl **delete** -f -

Delete pods and services with same names "baz" and "foo"

kubectl **delete** pod,service baz foo

Delete pods and services with label name=myLabel

kubectl **delete** pods,services -l **name**=myLabel

Delete a pod with minimal delay

kubectl **delete** pod foo --now

Force delete a pod on a dead node

kubectl **delete** pod foo --force

Delete all pods

kubectl **delete** pods --all

NEW QUESTION 123

Which of the following computing model doesn't require you to provision infrastructure?

- A. None of the above
- B. Bare Metal
- C. Compute Engine
- D. Virtual Machines
- E. Serverless

Answer: E

NEW QUESTION 125

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