Kubernetes Interview Questions

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BEGINNER

1. What is Kubernetes and why is it damn popular?

This is a basic interview question asked by the interviewer to check candidate's knowledge around Kubernetes. The interviewer expects the candidate to be aware of why Kubernetes is HOT in the market and what problem does Kubernetes solve for all of us. One can begin the answer with -

Kubernetes is an open-source system for automating deployment, scaling, and management of containerized applications. It groups containers that make up an application into logical units for easy management and discovery.
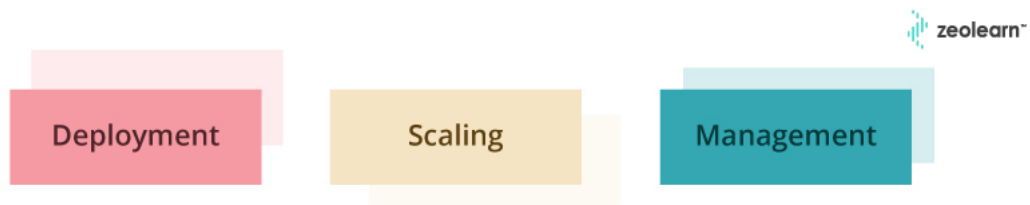
Kubernetes is a HUGE open source project with a lot of code and functionalities. The primary responsibility of Kubernetes is container orchestration. That means making sure that all the containers that execute various workloads are scheduled to run physical or virtual machines. The containers must be packed efficiently following the constraints of the deployment environment and the cluster configuration. In addition, Kubernetes must keep an eye on all running containers and replace dead, unresponsive, or otherwise unhealthy containers.

Said that Kubernetes is rightly a platform for managing application containers across multiple hosts. It provides lots of management features for container-oriented applications, such as rolling deployment, resource, and volume management. Same as the nature of containers, it's designed to run anywhere, so we're able to run it on a bare metal, in our data center, on the public cloud, or even hybrid cloud.

Kubernetes considers most of the operational needs for application containers. The Top 10 Reasons why Kubernetes is so popular are as follow:

- Largest Open Source project in the world
- Great Community Support
- Robust Container deployment
- Effective Persistent storage
- Multi-Cloud Support(Hybrid Cloud)
- Container health monitoring
- Compute resource management
- Auto-scaling Feature Support
- Real-world Use cases Available
- High availability by cluster federation

Levels

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2. Why should I use Kubernetes?

3. How Kubernetes is related to docker?

4.

How Kubernetes simplify the containerized application deployment process?

5. How to Install Kubernetes?

6. Explain the Architecture Layers of Kubernetes?

7.

List out the Master Server Components of Kubernetes?

8.

List the Node Server Components of Kubernetes ?

9.

List out Kubernetes Objects and Workloads?

10. Explain the Replication Controllers and Replication Sets in Kubernetes ?

11. Explain Pods in Kubernetes Context

12. Explain stateful sets

13. Explain Daemon sets

14. Explain Master

15. Explain Minions

16. ExplainVolumes and Persistent Volumes in kubernetes

17. Explain Labels and Annotations in kubernetes

18. What is a service role in kubernetes components

19. Explain Kubelet

20. What Is The Gke?

21. What happens when a master fails? What happens when a worker fails?

22.

How does DNS work in Kubernetes?

23. How do you build a High Availability (HA) cluster?

24. How do I determine the status of a Deployment?

25. How do I update all my pods if the image changed but the tag is the same?

26. How do I debug a Pending pod?

27. What is KUBE proxy?

28. How do I debug a Pending pod?

29. How do I rollback the Deployment?

30. What is an Ingress Controller?

ADVANCED

1. How do I expose a service to a host outside the cluster?

There are two ways by which we can expose a service to host outside the cluster:

1) Service type should be set to NodePort. Every node in the cluster will be made to listen on the specified NodePort, then all the traffic from any node
will be forwarded from that NodePort to a random pod in the service.

2) Service type should be set to Load Balancer mode. Nodeport will be provisioned as mentioned in the above step, and then additional step which will automatically provision the load balancer in the cloud infrastructure.

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631&title=+How+do+I+expose+a+service+to+a+host+outside+the+cluster%3F)   **Add Bookmark**

2. How does a Load Balancer service work?

3. Is it possible to force the pod to run on a specific node?

4. How do I get all the pods on a node?

5. Can pods mount NFS volumes?

6. Is it possible to route traffic from outside the Kubernetes cluster directly to pods?

7. Why is my pod showing "pending" status?

8. What monitoring tools are popularly used in Kubernetes?

9. Is it possible for containers within a pod to communicate with each other?

10. Is it possible to configure credentials to download images from a private docker registry?

11. Can you brief about Taints and Tolerations

12. Explain the role of Secrets in Kubernetes

13. How can we priortize pods and preempt them.

14. What is Kubectl and what is it used for?

15. Explain the concept of Storage Classes

16. What are the volumes per node limits for each Cloud providers

17. How many types of Container Hooks are available, and explain each one of them

18.

What is a Resource Quota and Why we need them.

19. What is a Pod Security Policy and why is it important?

20. Explain the Service Catalog along with its Architecture

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