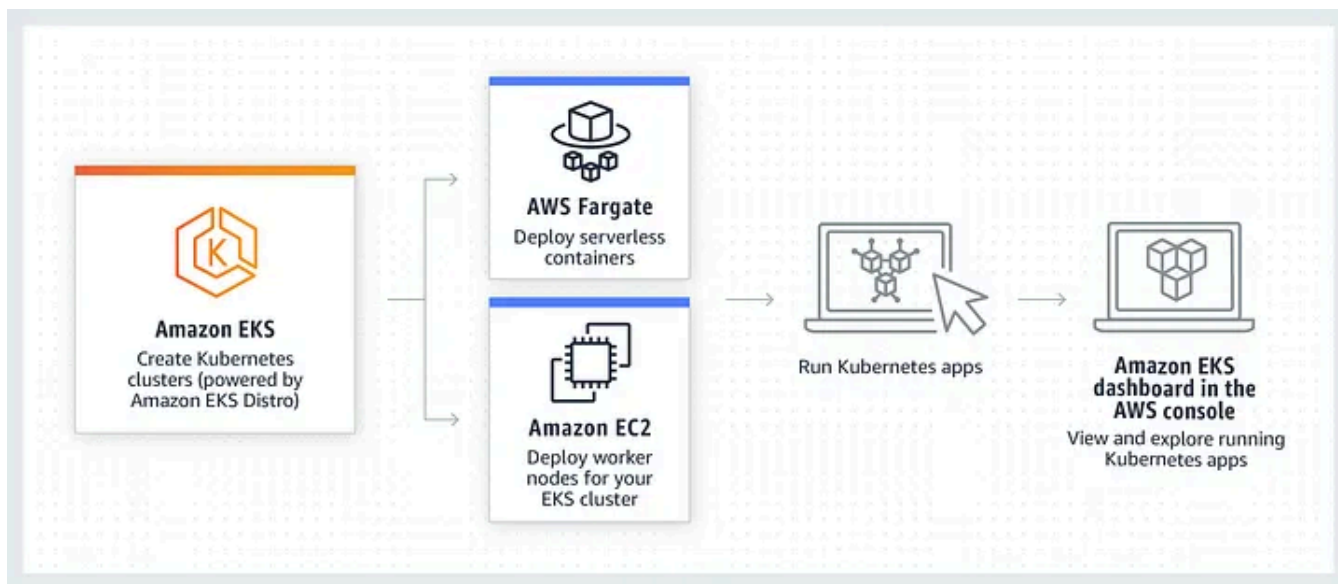


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AWS EKS Service Interview Questions & Answers



Bharath Kumar Reddy · [Follow](#)

5 min read · Nov 8, 2023



Here are interview questions on Amazon EKS that you might encounter for experienced DevOps engineer roles, along with answers:

1. Explain the key components of Amazon EKS and how they work together to manage containerized applications.

Amazon EKS consists of three main components:

- **Control plane:** The control plane manages the overall state of the cluster, including the worker nodes, pods, and services. It is responsible for scheduling pods, managing pod lifecycle, and providing an API for managing the cluster.

- **Worker nodes:** Worker nodes are the physical or virtual machines that run the containerized applications. They are responsible for pulling container images, running containers, and providing network connectivity for the pods.
- **Kubernetes API:** The Kubernetes API is the primary interface for managing an EKS cluster. It is a RESTful API that allows you to create, update, and delete resources in your cluster.

2. Describe the different networking options available for Amazon EKS clusters, including Amazon VPC, AWS PrivateLink, and Calico.

Amazon EKS supports several networking options:

- **Amazon VPC:** The default networking option for EKS clusters. It allows you to isolate your cluster in a private VPC and control network access to your pods and services.
- **AWS PrivateLink:** Provides private connectivity between your EKS cluster and other AWS services, such as Amazon S3, DynamoDB, and Amazon RDS, without exposing your cluster's traffic to the public internet.
- **Calico:** An open-source networking solution that provides advanced networking features for EKS clusters, such as network policy enforcement and network policy automation.

3. Discuss how to use AWS IAM roles to manage access to AWS resources for EKS pods and services.

AWS IAM roles allow you to grant specific permissions to Amazon EKS pods and services to access AWS resources, such as Amazon S3 buckets, DynamoDB tables, and Amazon SNS topics. This approach ensures that pods and services have the necessary permissions to perform their tasks without granting them excessive access to your AWS account.

4. Explain how to configure and manage logging and monitoring for Amazon EKS clusters using Amazon CloudWatch and other AWS services.

Logging and monitoring are essential for ensuring the health and performance of your Amazon EKS clusters. You can use Amazon CloudWatch to collect logs from your pods and nodes, as well as metrics about their performance. Additionally, you

can use other AWS services, such as Amazon CloudTrail and Amazon Kinesis Firehose, to further enhance your logging and monitoring capabilities.

5. Describe how to implement security best practices for Amazon EKS clusters, including pod security policies, network policies, and image scanning.

Security is paramount for Amazon EKS clusters. You can implement various security best practices, including:

- Pod security policies: Enforce resource limits and access control rules for pods to restrict their behavior and prevent unauthorized access.
- Network policies: Define network policies to control traffic between pods and external resources, preventing unauthorized communication and protecting your cluster from network-based attacks.
- Image scanning: Use Amazon Inspector or other container image scanning tools to identify vulnerabilities in container images before deployment, reducing the risk of security breaches.

6. Explain how to automate Amazon EKS deployments using AWS CodePipeline and other continuous integration and continuous delivery (CI/CD) tools.

CI/CD pipelines automate the process of building, testing, and deploying Amazon EKS applications. You can use AWS CodePipeline to create a CI/CD pipeline that integrates with your version control system, builds your application containers, and deploys them to your EKS cluster.

7. Discuss how to troubleshoot and resolve common issues that may arise with Amazon EKS clusters.

Troubleshooting EKS clusters involves identifying the root cause of the issue and taking appropriate corrective actions. Some common troubleshooting techniques include:

- Checking logs and events: Reviewing logs and events from pods, nodes, and the control plane can provide valuable insights into the cause of the issue.
- Using diagnostic tools: Utilizing tools like `kubectl` and Amazon CloudWatch to gather detailed information about the cluster's state and resource utilization.

- Consulting documentation and community resources: Referencing official documentation and community resources for troubleshooting guidance and potential solutions to known issues.

8. Explain how to manage autoscaling for Amazon EKS clusters using Amazon Cluster Autoscaler and other autoscaling strategies.

Autoscaling ensures that your EKS cluster has the right number of worker nodes to meet the workload demands. You can use Amazon Cluster Autoscaler to automatically adjust the number of worker nodes based on the CPU or memory utilization of the cluster. Additionally, you can implement custom autoscaling strategies using tools like Kubernetes Horizontal Pod Autoscaler (HPA) or custom metrics-based autoscalers.

9. Describe how to handle upgrades and rollbacks for Amazon EKS clusters to minimize downtime and disruption.

Upgrading and rolling back EKS clusters requires careful planning and execution to prevent downtime and disruption. You can use tools like AWS Deployment Controller or Kubernetes Kubectl to manage rolling updates and ensure that the cluster is always in a healthy state during the upgrade process.

10. Discuss how to integrate Amazon EKS with other AWS services, such as Amazon Machine Learning, Amazon SageMaker, and Amazon Aurora, for building and deploying data-intensive applications.

Amazon EKS integrates seamlessly with other AWS services, enabling you to build and deploy data-intensive applications. You can use Amazon Machine Learning and Amazon SageMaker to build and train machine learning models, and then deploy them as containerized applications on your EKS cluster. Additionally, you can use Amazon Aurora as a highly scalable and reliable database for your data-driven applications.

11. Explain how to leverage Amazon EKS for serverless applications using AWS Fargate and other serverless architectures.

Amazon EKS supports serverless architectures, allowing you to run containerized applications without managing EC2 instances. You can use AWS Fargate to run your containers on a managed infrastructure, eliminating the need to provision and

manage EC2 instances. This approach simplifies deployment and management, and enables you to scale your applications seamlessly.

12. Describe how to implement security best practices for multi-tenant EKS clusters, including workload isolation, network segmentation, and identity and access management (IAM).

Multi-tenant EKS clusters require additional security considerations to isolate workloads and protect against unauthorized access. You can use Kubernetes Network Policy Enforcement (NPE) to isolate traffic between pods in different namespaces or tenants. Additionally, you can implement IAM roles and policies to restrict access to AWS resources based on the tenant or workload.

13. Discuss how to monitor and troubleshoot performance issues in Amazon EKS clusters, including identifying bottlenecks, optimizing resource utilization, and resolving performance degradation.

Monitoring and troubleshooting performance issues in EKS clusters involves gathering metrics, analyzing logs, and identifying the root cause of the performance degradation. You can use tools like Prometheus and Grafana to collect and visualize metrics, and Kubernetes troubleshooting tools like `kubectl` and `kubeshark` to investigate performance issues.

14. Explain how to prepare for and respond to security incidents in Amazon EKS clusters, including incident response plans, security incident and event management (SIEM) tools, and post-incident analysis.

Security incident response is crucial for protecting EKS clusters from cyberattacks. You should have a well-defined incident response plan, implement SIEM tools to detect and respond to security incidents, and conduct thorough post-incident analysis to learn from the incident and improve your security posture.

By demonstrating your understanding of these advanced concepts and your ability to apply them in real-world scenarios, you can solidify your position as an experienced DevOps engineer with expertise in Amazon EKS.



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structure
Infrastructure with the
on template
either YAML
or start
available
templates



Amazon S3
Check out your
template code
locally, or upload it
into an S3 bucket



AWS CloudFormation
Use AWS CloudFormation via
the browser console,
command line tools or APIs to
create a stack based on your
template code



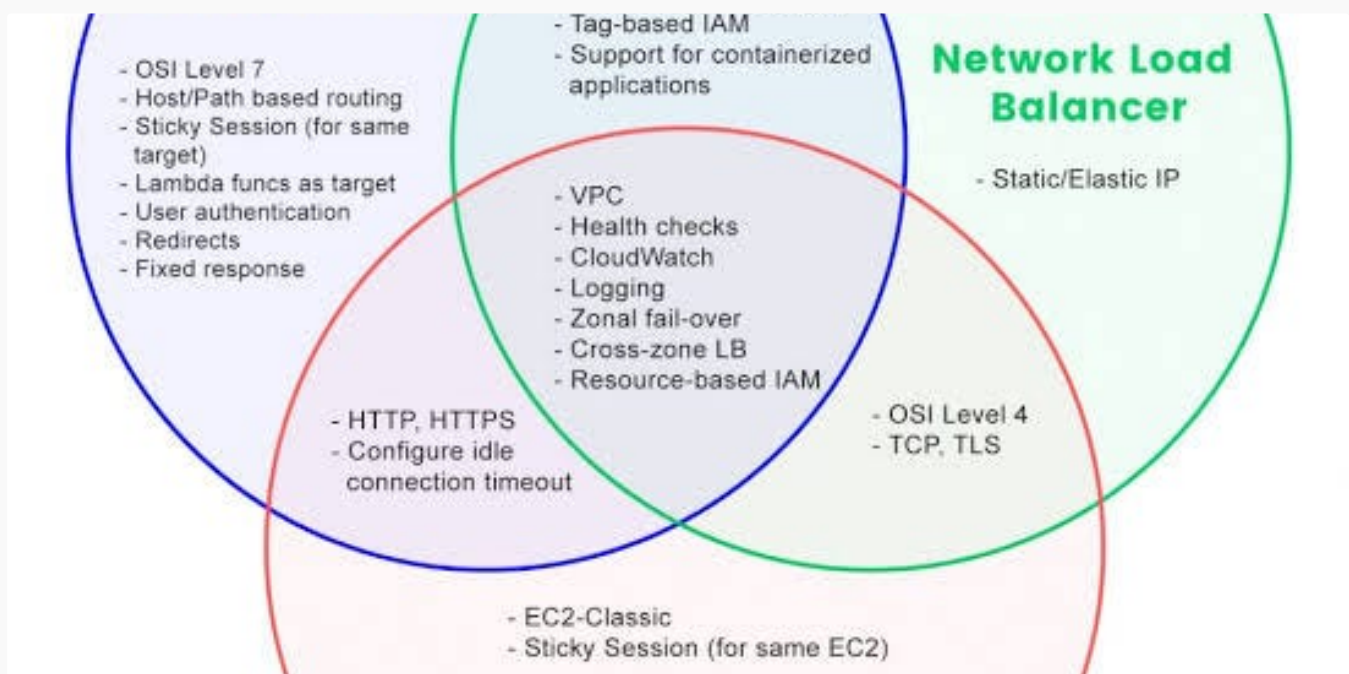
AWS Cloud
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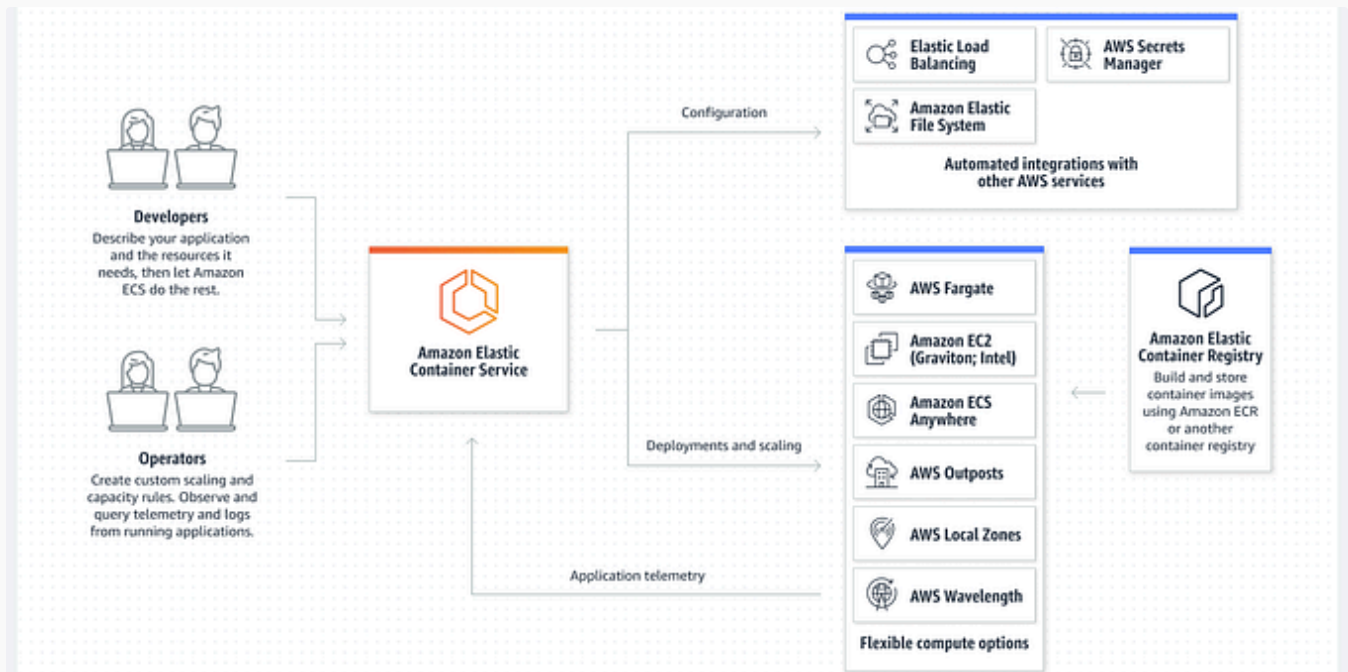
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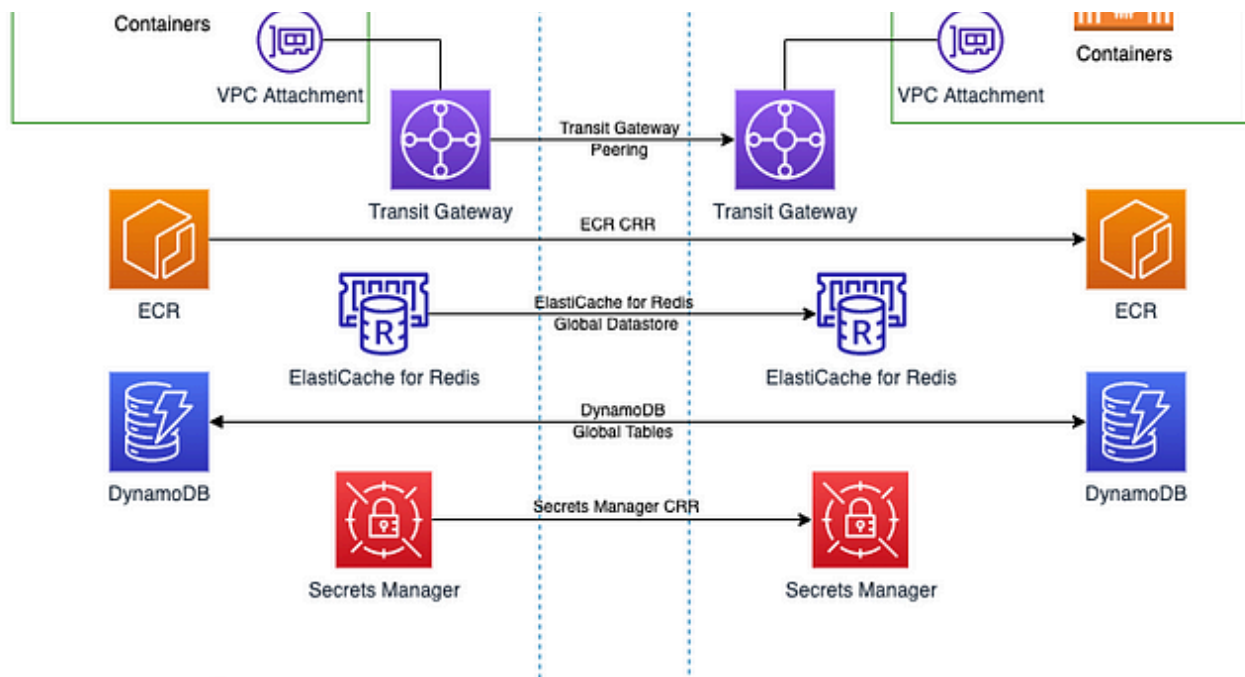
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
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1. Explain the fundamental concepts of Amazon ECS, including clusters, tasks, services, and task definitions.

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
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1. What is Terraform in AWS ?

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Amazon.com

Software Development Engineer

SEATTLE, WA

Mar. 2020 – May 2021

- Developed Amazon checkout and payment services to handle traffic of 10 Million daily global transactions
- Integrated Iframes for credit cards and bank accounts to secure 80% of all consumer traffic and prevent CSRF, cross-site scripting, and cookie-jacking
- Led Your Transactions implementation for JavaScript front-end framework to showcase consumer transactions and reduce call center costs by \$25 Million
- Recovered Saudi Arabia checkout failure impacting 4000+ customers due to incorrect GET form redirection

Projects

NinjaPrep.io (React)

- Platform to offer coding problem practice with built in code editor and written + video solutions in React
- Utilized Nginx to reverse proxy IP address on Digital Ocean hosts
- Developed using Styled-Components for 95% CSS styling to ensure proper CSS scoping
- Implemented Docker with Seccomp to safely run user submitted code with < 2.2s runtime

HeatMap (JavaScript)

- Visualized Google Takeout location data of location history using Google Maps API and Google Maps heatmap code with React
- Included local file system storage to reliably handle 5mb of location history data
- Implemented Express to include routing between pages and jQuery to parse Google Map and implement heatmap overlay



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1-page. Well-formatted.



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Ashwin

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