General Questions

1.describe your experience with aws and how you have utilized in your previous projects

In my role as a Cloud Operations Engineer, I have accumulated over 4 years of hands-on experience with various AWS services, including EC2, EKS, S3, and Lambda. My experience primarily revolves around managing scalable cloud infrastructures and ensuring optimal performance and reliability.

For instance, I was involved in a project that deployed over 39 million devices across 11.2 million homes, utilizing more than 6,000 EC2 instances and 90+ EKS clusters across 40+ AWS accounts. This project required meticulous planning and execution to ensure high availability and performance.

My responsibilities included automating deployments using AWS services, implementing CI/CD pipelines, and conducting regular health checks on EC2 servers. I also managed security protocols, ensuring vulnerabilities were detected and patched promptly.

Furthermore, I have experience in optimizing resource usage through instance right-sizing and idle resource cleanup, which significantly reduced costs while maintaining performance. I also utilized AWS CloudWatch for monitoring and alert management, creating dashboards to visualize performance metrics.

Overall, my extensive experience with AWS services has equipped me with the skills necessary to design and manage cloud infrastructure effectively, ensuring that it meets both performance and reliability standards.

Q1. Describe the AWS environment you managed.

A:

I worked in a large-scale, multi-account AWS environment supporting a smart home security platform with:

39M+ deployed devices

170B+ AI-based notifications per year

26B+ API calls/day

6,000+ EC2 instances

90+ EKS clusters across 40+ AWS accounts

I was responsible for EC2, VPC, EKS, EBS/EFS, S3, Route53, ElastiCache, RDS/Aurora, ALB/NLB, SNS/SQS, CloudFront, Lambda, Secrets Manager, KMS, and Transit Gateway.

My role involved provisioning, scaling, monitoring, patching, deployment, and ensuring operational excellence.

Q2. What steps do you take during EC2 troubleshooting?

A:

I start by:

1. Checking instance reachability (CloudWatch checks).
2. Verifying system logs via EC2 console.
3. Checking disk space, memory, CPU spikes.
4. Reviewing networking (SG, NACL, route table, VPC reachability).
5. Verifying IAM roles, instance profile permissions.
6. If required:Attach root volume to another instance, fix issue, reattach. Restore from AMI/EBS snapshot.

Q3. How did you perform EC2 AL2 → AL2023 migration?
A:
I used a planned rollout approach:
1. Took **AMI backups**.
2. Verified **package compatibility** and application dependencies.
3. Used **SSM** and **CloudInit** automation scripts to update AMI.
4. Launched new nodes with AL2023 and gradually migrated workloads.
5. Decommissioned old AL2 instances after validation.

Q4. How do you secure AWS workloads?
A:
- Patch vulnerabilities on Linux servers
- Enforce IAM least privilege
- Use ACM + custom certs
- Enable encryption (EBS, S3, RDS, Secrets Manager)
- VPC hardening (subnets, NACLs, SGs)
- Monitor with Instana, CloudWatch, Grafana
- Automated certificate renewals
- Used KMS keys for encryption

Q5. How do you upgrade Kubernetes / EKS clusters?
A:
1. Review AWS EKS release notes
2. Upgrade control plane
3. Upgrade node groups
4. Drain nodes, move pods
5. Validate workloads
6. Post-upgrade validation using:
    - kubectl get nodes/pods/events
    - Application health checks

I've upgraded 90+ clusters across multiple regions.

Q6. How do you troubleshoot a CrashLoopBackOff pod?
A:
- Check logs using kubectl logs
- Describe pod to check events (kubectl describe pod)

- Validate image, command, env variables
- Check resource limits (OOMKilled)
- Check readiness/liveness probes
- Verify attached PVCs
- Check configmaps & secrets

Q7. How do you scale pods efficiently?
A:
- Configure HPA based on CPU/Memory/Custom metrics (Instana/Datadog)
- Use Cluster Autoscaler for node scaling
- Tune resource requests/limits to avoid wastage
- Use Spot + On-Demand balancing for cost optimization

Q8. Describe your deployment process.
A:
I managed deployments for:
- Database updates
- Firmware deployments
- Kubernetes workloads

Using Harness and Harness NextGen for:
- Build, run, manage pipelines
- Automated EKS deployments
- Validations post-deployment
- Rollback triggers

I deployed to QA, Staging, and Production environments.

Q9. How do you ensure safe production deployments?
A:
- Canary/Blue-Green deployment
- Pre-deployment checks
- Automated validation tests
- Monitoring dashboards (Instana, Grafana)
- Auto-rollback on failures
- Post-deployment reports

Q10. In Terraform, how do you manage multiple environments?
A:
- Use workspaces
- Separate variable files per environment
- Reusable modules
- Remote backend (S3 + DynamoDB lock)

Q11. What automation did you build?
A:

- EKS healthcheck automation
- Certificate renewal automation
- EC2 maintenance automation
- Infra cleanup scripts
- Monitoring dashboards and alarms

Using Terraform, Python, and Bash.

Q12. How did you handle incidents in a 24x7 environment?

A:

- Worked on PagerDuty escalations
- WarRoom participation
- Root-cause analysis
- Updating documentation in Confluence
- SLA management
- Monitoring high-volume systems (26B API calls/day)

Q13. How do you reduce latency or 5xx errors?

A:

- Deep dive into CloudWatch / Instana logs
- Check ALB/NLB health & target failures
- Debug API throttling
- Verify DB performance & connections
- Tune autoscaling
- Add caching using ElastiCache
- Fix network bottlenecks

Q14. Explain your experience with certificate management.

A:

- Manage Entrust, SSL, ACM certificates
- Automate renewals using scripts
- Install certs on EC2, Load Balancers, Cloudflare
- Maintain certificate trackers
- Ensure zero downtime during renewals

Q15. What did you do in Azure?

A:

- L1/L2 support
- Troubleshooting VM/network/storage issues
- Dashboards and alerts using Grafana
- Cost optimization
- On-call support

Q16. What is your biggest achievement?

A:

Handling cloud operations for a massive IoT + AI workload with:

- 39M+ devices
- 170B+ notifications
- 26B+ API calls/day

- 90+ EKS clusters

I ensured reliability, scaling, monitoring, and zero-downtime deployments.
This experience strengthened my SRE and Cloud Ops expertise.

Q17. How do you handle pressure during major outages?
A:
I stay calm, follow a structured debugging approach, and communicate clearly.
Being part of **WarRoom calls 24x7** trained me to prioritize, escalate correctly, and restore services quickly.