Troubleshooting Interview Questions – ALB + EC2 Auto Scaling

Purpose of This Document

This document focuses **only on troubleshooting scenarios** related to the **ALB + EC2 Auto Scaling architecture**.

These questions are **very common for AWS Support Engineer L2 / Cloud Engineer roles**, where the interviewer wants to see: - Logical debugging approach - Understanding of AWS service dependencies - Calm, step-by-step problem solving

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1. Website is not loading using ALB DNS name. How will you troubleshoot?

Answer (Step-by-step): 1. Check if the **ALB state is Active** 2. Verify **Listener** is configured on port 80 3. Check **Target Group health status** 4. If targets are unhealthy: - Verify EC2 security group allows port 80 - Check web server is running on EC2 5. Check EC2 instance system logs

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2. Target group shows all instances as unhealthy. What could be the reasons?

Answer: - Web server (Apache/Nginx) not running - Incorrect **health check path** - Security group blocking traffic from ALB - Instance not listening on expected port - Wrong protocol or port in target group

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3. EC2 instance is running but application is not accessible. How do you debug?

Answer: - SSH into the instance - Check web server status:

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systemctl status httpd
```

- Check if port 80 is listening:

```
netstat -tulnp | grep 80
```

- Verify `/var/www/html/index.html` exists

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4. Auto Scaling is not launching new instances even though CPU is high. Why?

Answer: - Check **CloudWatch metrics** for ASG - Verify scaling policy is attached - Ensure cooldown period is completed - Check MaxSize limit - Confirm correct metric (ASGAverageCPUUtilization)

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5. Auto Scaling launched a new instance but it is not serving traffic. What went wrong?

Answer: - Instance not registered with target group - Health checks failing - Incorrect security group attached - User Data script failed

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6. How do you verify if User Data executed successfully?

Answer: - SSH into instance - Check cloud-init logs:

```
/var/log/cloud-init-output.log
```

- Confirm web server installation and startup

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7. One EC2 instance was terminated automatically. Is this an issue?

Answer: No. In Auto Scaling, instance termination is expected behavior. If CPU usage drops or health checks fail, Auto Scaling replaces instances automatically to maintain desired capacity.

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8. ALB is working but traffic is always hitting only one instance. Why?

Answer: - Low traffic volume - Sticky sessions enabled - Only one healthy target - Load balancing algorithm distributing evenly but traffic is minimal

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9. Security team reports ALB is publicly accessible. How do you explain this?

Answer: ALB must be public to accept user traffic. EC2 instances remain protected because they receive traffic only from the ALB via security groups.

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10. How would you restrict direct access to EC2 instances?

Answer: - Allow inbound traffic only from ALB security group - Remove public IP from EC2 instances - Use private subnets

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11. Application works initially but fails after some time. What do you check?

Answer: - EC2 CPU and memory usage - Disk space - Application logs - Health check failures - Scaling events

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12. How do you troubleshoot high latency reported by users?

Answer: - Check ALB metrics (Latency) - Check EC2 CPU utilization - Verify Auto Scaling is scaling out - Review application logs

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13. CloudFormation stack failed. How do you debug?

Answer: - Check **Events tab** in CloudFormation - Identify failed resource - Fix dependency or permission issue - Re-run stack creation

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14. How do you troubleshoot missing EC2 instances in ASG?

Answer: - Check ASG desired capacity - Review scaling activities - Verify launch template configuration - Check service quotas

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15. Explain your troubleshooting approach in one sentence.

Answer: I troubleshoot by starting from the user-facing layer, then moving step by step through load balancer, target group, Auto Scaling, EC2 instance, and finally the application level.

Interview Tip (Very Important)

Always explain **what you check first and why**. Interviewers value structured thinking more than the final fix.

✅**This document is optimized for AWS Support Engineer L2 troubleshooting interviews.**