



HOW TO ACE YOUR NEXT TECHNICAL INTERVIEW

ACE TECHNICAL INTERVIEWS

Welcome to **AWS** Elemental

aws  elemental
LIVE

MediaLive

Media Services

[Amazon Elastic Transcoder](#)

[AWS Elemental MediaConvert](#)

[AWS Elemental MediaLive](#)

[AWS Elemental MediaPackage](#)

[AWS Elemental MediaStore](#)

[AWS Elemental MediaTailor](#)

Notable AWS Elemental Media Services customers:

- Amazon Prime Video
- British Telecom
- FOX SPORTS Australia
- fuboTV
- BBC
- Comcast
- Globosat
- MSNBC
- Qatar TV
- Red Bull Media House
- Sky
- Telstra
- U.S. House of Representatives
- Viocorp

Over 1000 more!



HOW TO ACE YOUR NEXT TECHNICAL INTERVIEW

ACE TECHNICAL INTERVIEWS

Behavioral Interviews vs Technical Interviews

Before the Interview

INTERVIEW MINDSET



Common Misconceptions

They're just going to ask about prior work

Buzzwords will help me bluff through weak areas

I should work through problems quietly

If I don't know the right answer, I fail

It is a one-way interview

Preparing for the Interview

Research the company

Ask the recruiter about the interview structure

Schedule the interview a couple of weeks out if you need time to prepare.

Ask about the dress code. Dress comfortably

Get a good night's sleep before the interview

For a phone interview, find a quiet place. Have a computer and/or notebook handy.

Practicing for a Coding Interview

Practice coding the same way as you would in the interview

Practice sample questions that are novel to you
(hackerrank is one resource)

Work with a partner to practice, if possible

Whiteboard, Paper, or Laptop?

May not be a laptop available, ask the recruiter

Practice if not used to writing on a whiteboard

Use of space and legibility are considerations

Probably no IDE on the laptop

During the Interview

INTERVIEW MINDSET



Topics for Coding Interviews

Data Structures and Algorithms

Clear and Maintainable Code

Problem Solving

General Strategy for Coding Interviews

Rephrase the question

Ask clarifying questions

Build test cases

Start with the simplest answer

Optimize or expand your solution

Verify your work

Given an array of numbers, identify if any two elements in the array add to 10

Given an array of **numbers**, identify if any two elements in the array add to 10

Given an array of `unsigned ints`, identify if any two elements in the array add to 10

2 for loops

{
{1}
{10, 0}
{5}
{1,4,5,3,6}
{1,4,5,3,8}

```
public boolean sumTo10(int[] a) {  
    for (int i=0; i<a.length; ++i) {  
        for (int j=0; j<a.length; ++j) {  
            if ( a[i] + a[j] == 10)  
                return true;  
        }  
    }  
    return false;  
}
```

2 for loops

{
{1}
{10, 0}
{5}
{1,4,5,3,6}
{1,4,5,3,8}

```
public static boolean sumTo10(int[] a) {  
    for (int i=0; i<a.length; ++i) {  
        for (int j=i+1; j<a.length; ++j) {  
            if ( a[i] + a[j] == 10)  
                return true;  
        }  
    }  
    return false;  
}
```

use an additional data structure

{
{1}
{10, 0}
{5}
{1,4,5,3,6}
{1,4,5,3,8}

```
public boolean sumTo10(int[] a) {  
    HashSet<Integer> complemenets = new HashSet<Integer>();  
  
    for (int i=0; i<a.length; ++i) {  
        int val = a[i];  
  
        if (complemenets.contains(10 -val)) return true;  
        complemenets.add(val);  
  
    }  
    return false;  
}
```

Clear and Maintainable Code

```
public boolean sumToN(int[] a, int n) {
    HashSet<Integer> complemenets = new HashSet<Integer>();

    for (int i=0; i<a.length; ++i) {
        int val = a[i];
        if (val > n) continue;
        if (val < 0) throw new IllegalArgumentException("Negative numbers are not supported");

        if (complemenets.contains(n -val)) return true;
        complemenets.add(val);
    }
    return false;
}
```

General Strategy for Design Interviews

Ask clarifying questions and collect requirements

Work backwards from the customer

Think about how to monitor the system (operational excellence)

Be flexible in your design as you learn new requirements

How would you build a service like TinyURL?

TINYURL

- Working Backwards
 - Who are our customers?

TINYURL

- Ask Clarifying Questions
- Collect Requirements

TINYURL

- Functional Requirements
 - What do shortened URLs look like?
 - Do we re-use shortened URLs or make new ones? (1:1 or 1:n)
 - How long are shortened URLs valid?

TINYURL

- Scaling Requirements
 - What TPS?
 - How many reads vs. writes?
 - How many shortened URLs to store?

TINYURL

- Operation Excellence
 - Is my service up and running?
 - Key Metrics
 - Canaries

TINYURL

- Actual Design
 - System Components
 - Webservers
 - Database

TINYURL

- Use Cases
 - Creating a new tiny URL
 - Using a tiny URL
 - Exception conditions
 - Scalability

TINYURL

A man with short brown hair, wearing a dark suit and tie, is playing an acoustic guitar. The background is a light blue wall with a repeating pattern of stylized trees or leaves. A pixelated speech bubble with a black border and white fill is overlaid on the image, containing the text "NEVER GONNA GIVE YOU UP".

NEVER GONNA GIVE YOU UP

TINYURL

- Changing Requirements
 - How do we prevent Rick Roll?
 - Banned long URLs
 - Preview Feature

What is it like to interview at AWS Elemental?

Online Screening



<https://www.myamcat.com/amazon-lateral-demo>

The Anatomy of an On-Site Loop

Typically, 5-6 Interviews

3 Coding interviews
1-2 System Design Interview
1 Behavioral Focused Interview

Behavioral assessment in each interview

Behavioral Interview

Amazon Leadership Principles

<https://www.amazon.jobs/principles>

Additional Resources

TECHNICAL INTERVIEWS



CRACKING *the* CODING INTERVIEW

189 PROGRAMMING QUESTIONS & SOLUTIONS

THE 6TH EDITION. NOW AVAILABLE ON AMAZON.



Gayle Laakmann McDowell

Gayle Laakmann McDowell has a strong background in software development with extensive experience on both sides of the hiring table.

She has worked for Microsoft, Apple, and Google as a software engineer. She spent three years at Google, where she was one of the top interviewers and served on the hiring committee. She interviewed hundreds of candidates in the U.S. and abroad, assessed thousands of candidate interview packets for the hiring committee, and reviewed many more resumes.

As a candidate, she interviewed with—and received offers from—twelve tech companies, including Microsoft, Google, Amazon, IBM, and Apple.

Gayle founded CareerCup to enable candidates to perform at their best during these challenging interviews. CareerCup.com offers a database of thousands of interview questions from major companies and a forum for interview advice.



In addition to *Cracking the Coding Interview*, Gayle has written other two books:

For more Detailed Refreshers....

<http://bit.ly/stanfordBinaryTrees>

<http://highscalability.com/>

<http://bit.ly/MITalgos>

<http://bit.ly/princetonAlgos>

Questions?



Thank You!