

From Dev to Cloud Architect – Keys to Success





Agenda

Soft Skills

- Dev to Senior Dev
- Role of an Architect?
- Role of a cloud architect?

Cloud Architect Technical Skills

- More
- Lots More
- Even More

Being a Junior Dev





Dev to
Senior Dev



Dev to
Senior Dev
Responsibility



Dev to
Senior Dev

Responsibility

THE #1 NEW YORK TIMES BESTSELLER
NOW WITH NEW FOREWORD AND Q&A SECTION

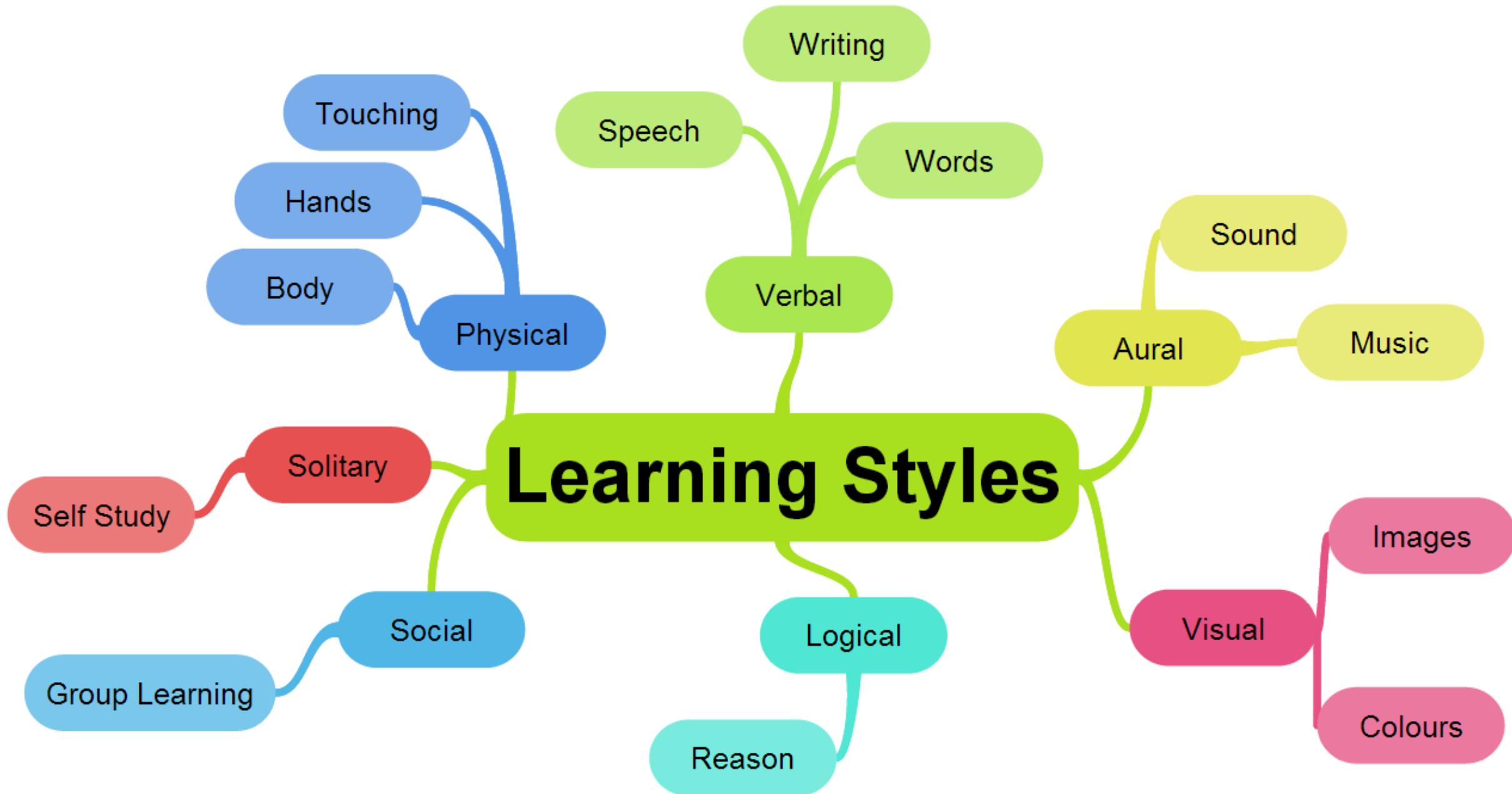
EXTREME OWNERSHIP

HOW
U.S. NAVY
SEALS
LEAD AND WIN

JOCKO WILLINK AND LEIF BABIN

Dev to Senior Dev Knowledge





Dev to Senior Dev

Always Learning



Ali Spittel
@ASpittel

...

The most important skill to have as a programmer is the ability to teach yourself new things effectively and efficiently.

You're going to be constantly growing and picking up new technologies. The ability to do that is more important than any individual tool or technology.

11:00 AM · Feb 28, 2019 · TweetDeck

Dev to Senior Dev

Always Learning



Ali Spittel  
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• • •

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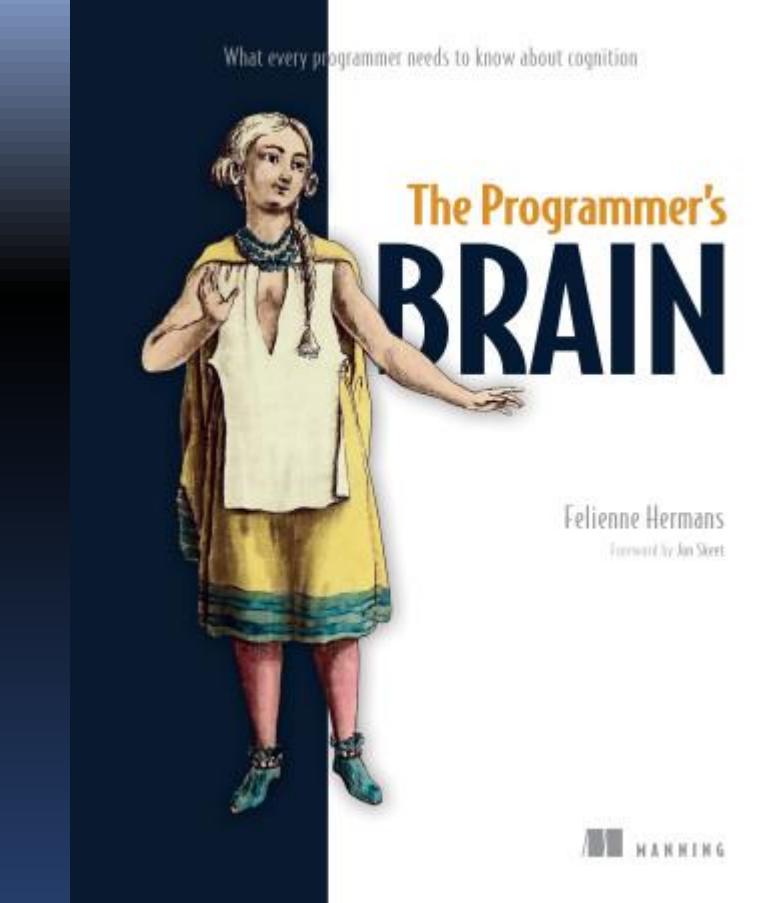
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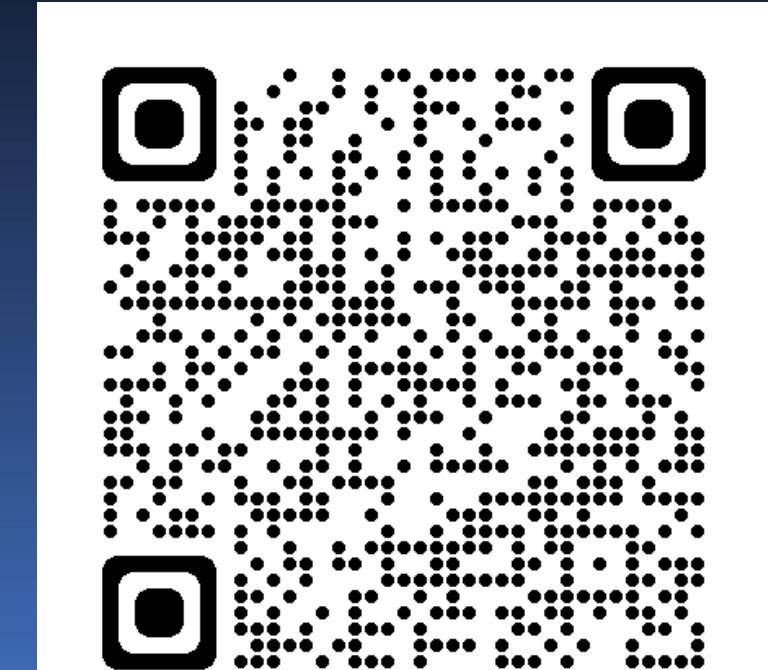
- Invest in yourself.
 - Learn how you learn best.
 - Build an environment for you to constantly learn and grow.

Dev to
Senior Dev

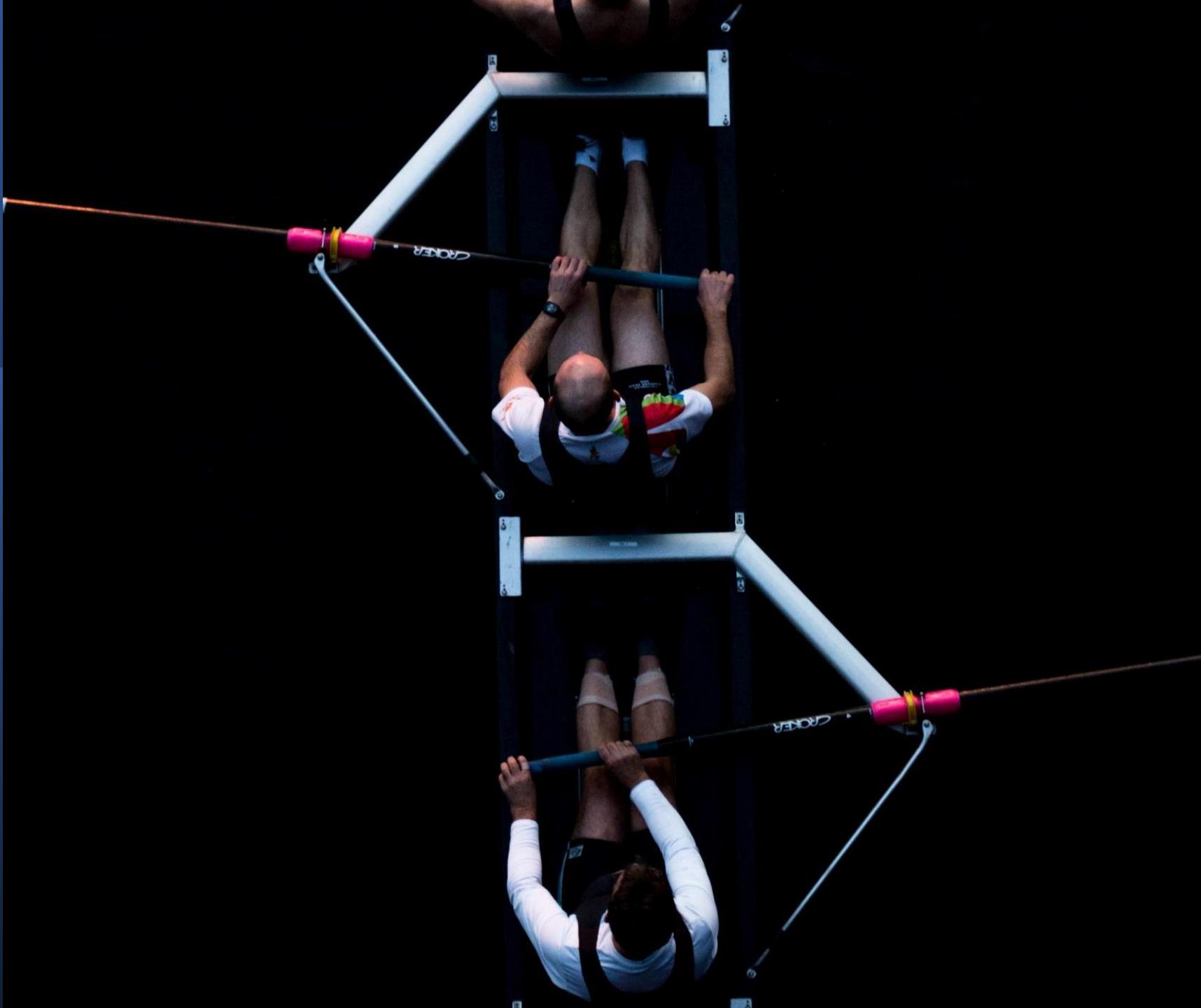
Always
Learning



The Programmer's Brain explores the way your brain, and your teams', works when it's thinking about code. You'll improve your code comprehension by turning confusion into a learning tool, and pick up awesome techniques for reading code and quickly memorizing syntax with easy to use exercises and tricks.

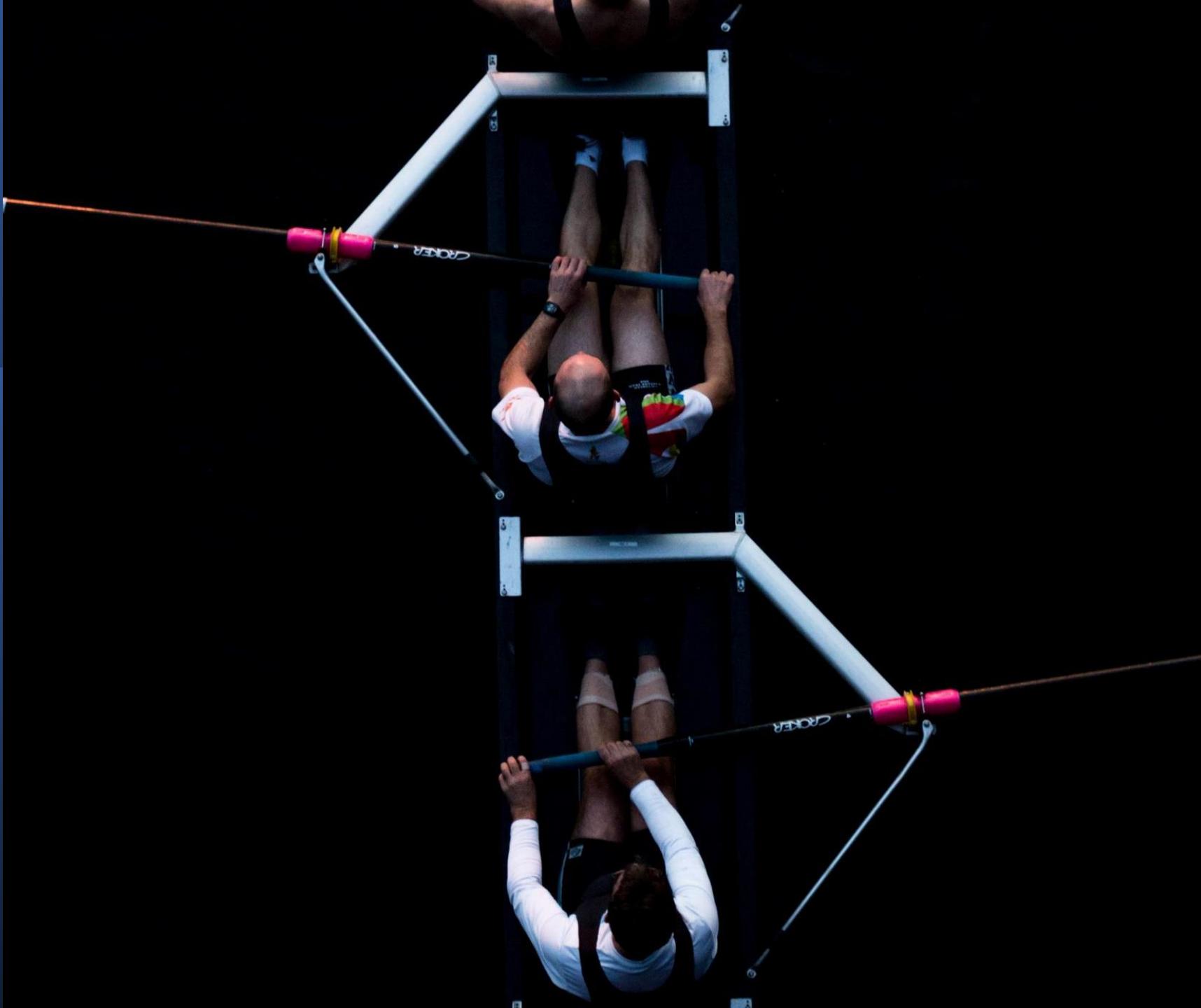


Dev to
Senior Dev
Leadership



Dev to
Senior Dev

Leadership
-Servant Leader



Dev to
Senior Dev

Leadership
-Servant Leader

L. DAVID MARQUET

CAPTAIN, U.S. NAVY (RETired)

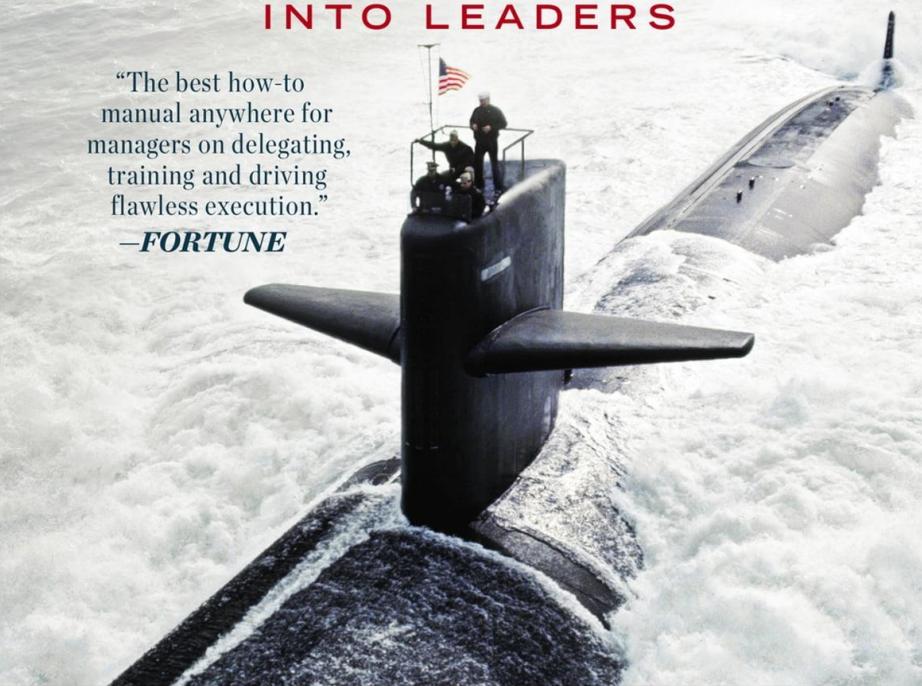
FOREWORD BY STEPHEN R. COVEY

Turn the Ship Around!

A TRUE STORY OF
TURNING FOLLOWERS
INTO LEADERS

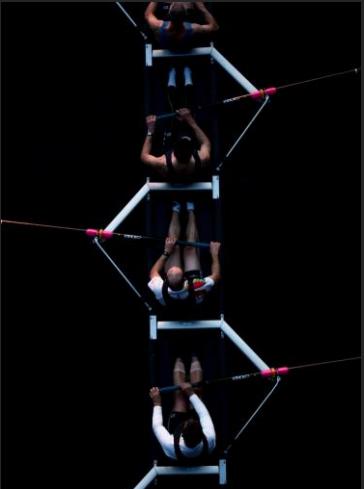
"The best how-to manual anywhere for managers on delegating, training and driving flawless execution."

-FORTUNE



Dev to
Senior Dev
Mentoring





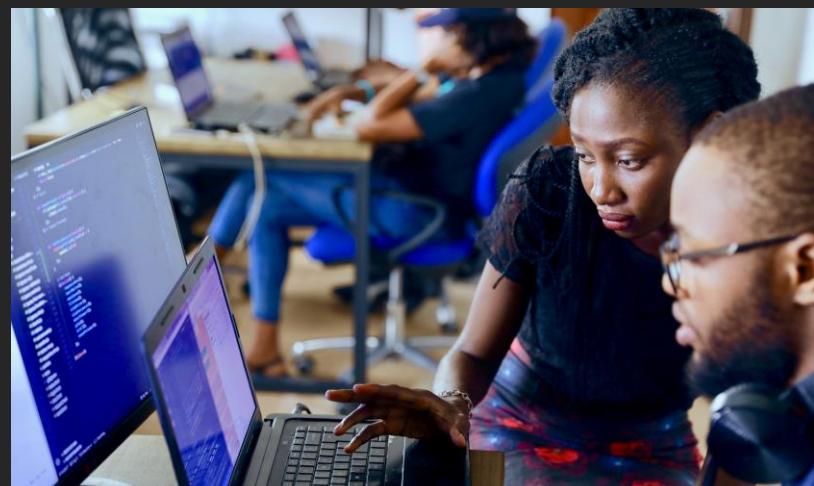
LEADERSHIP



RESPONSIBILITY



KNOWLEDGE



MENTORING

Role of an Architect



Role of an
Architect

Visionary

Abstract Business Goals to Reality



Role of an Architect

Designing for the Future



Role of an Architect

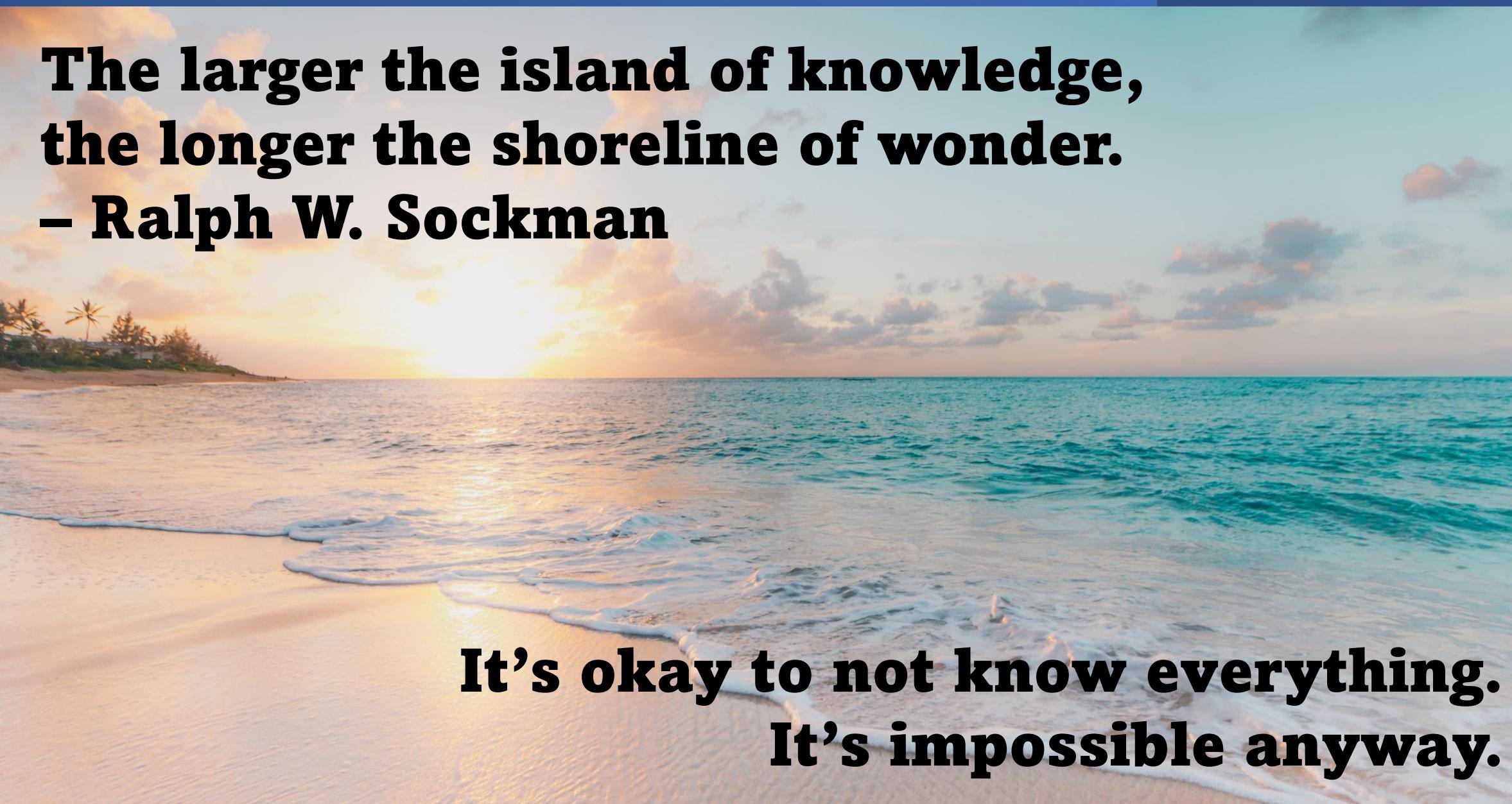
Not Required to Know Everything



Role of an
Architect

Not Required
to Know
Everything





**The larger the island of knowledge,
the longer the shoreline of wonder.**

– Ralph W. Sockman

**It's okay to not know everything.
It's impossible anyway.**

Role of an Architect

Multi-Role Capabilities

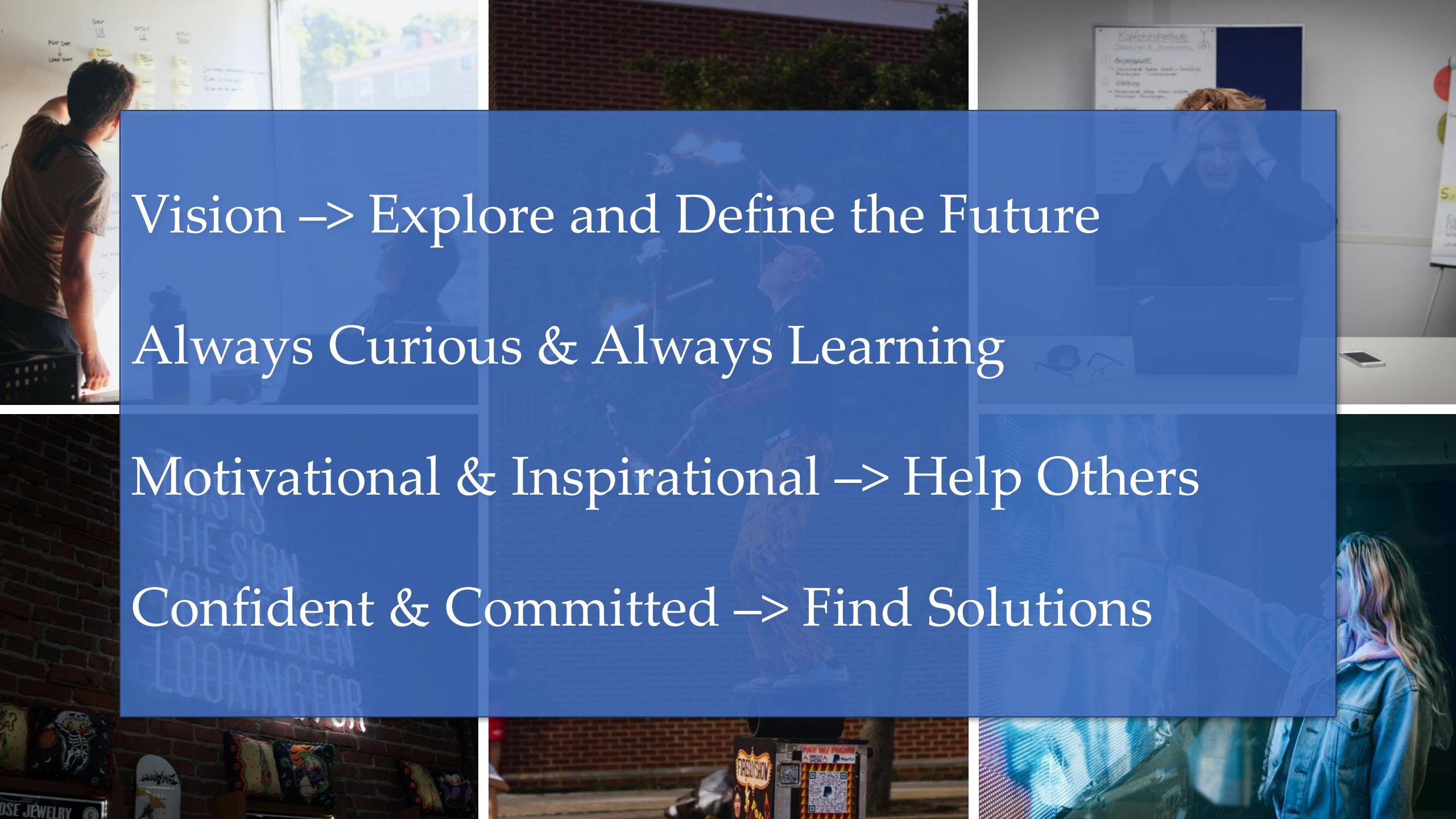


Role of an
Architect

Multi-Role
Capabilities

A photograph of a man performing a fire breathing act. He is standing on a metal pipe, wearing a red bandana and orange flame-patterned pants. He is blowing fire from his mouth into a torch held in his right hand. He is also holding a long pole with a torch at the end. In the background, there is a brick wall and some spectators.

**Business Analyst
Project Manager
Product Manager
Developer**



Vision → Explore and Define the Future

Always Curious & Always Learning

Motivational & Inspirational → Help Others

Confident & Committed → Find Solutions

Role of a Cloud Architect



Role of a Cloud Architect

Cost Management



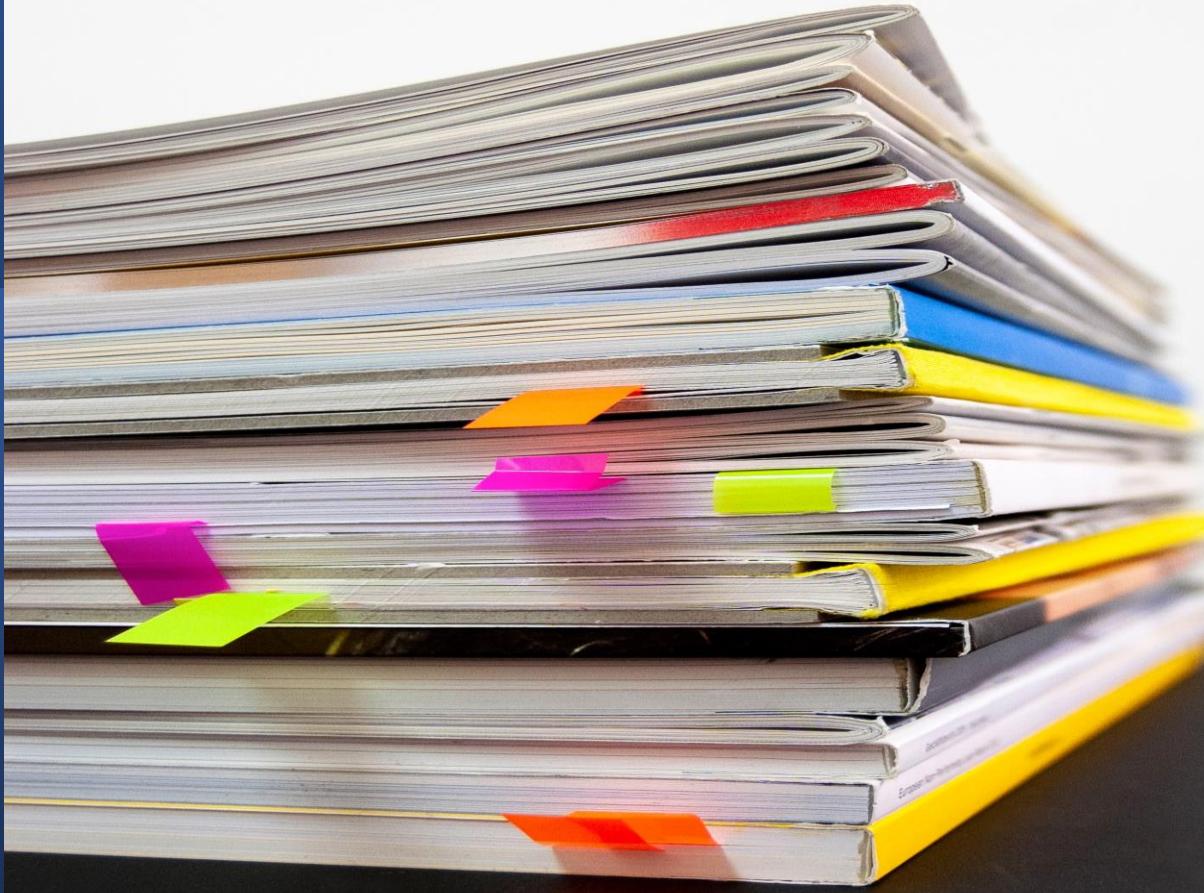
Role of a Cloud Architect

Vendor Management



Role of a Cloud Architect

Documentation



Role of a Cloud Architect

Sales



Role of a Cloud Architect

Marketing



Role of a Cloud Architect

Company Politics



Role of a Cloud Architect

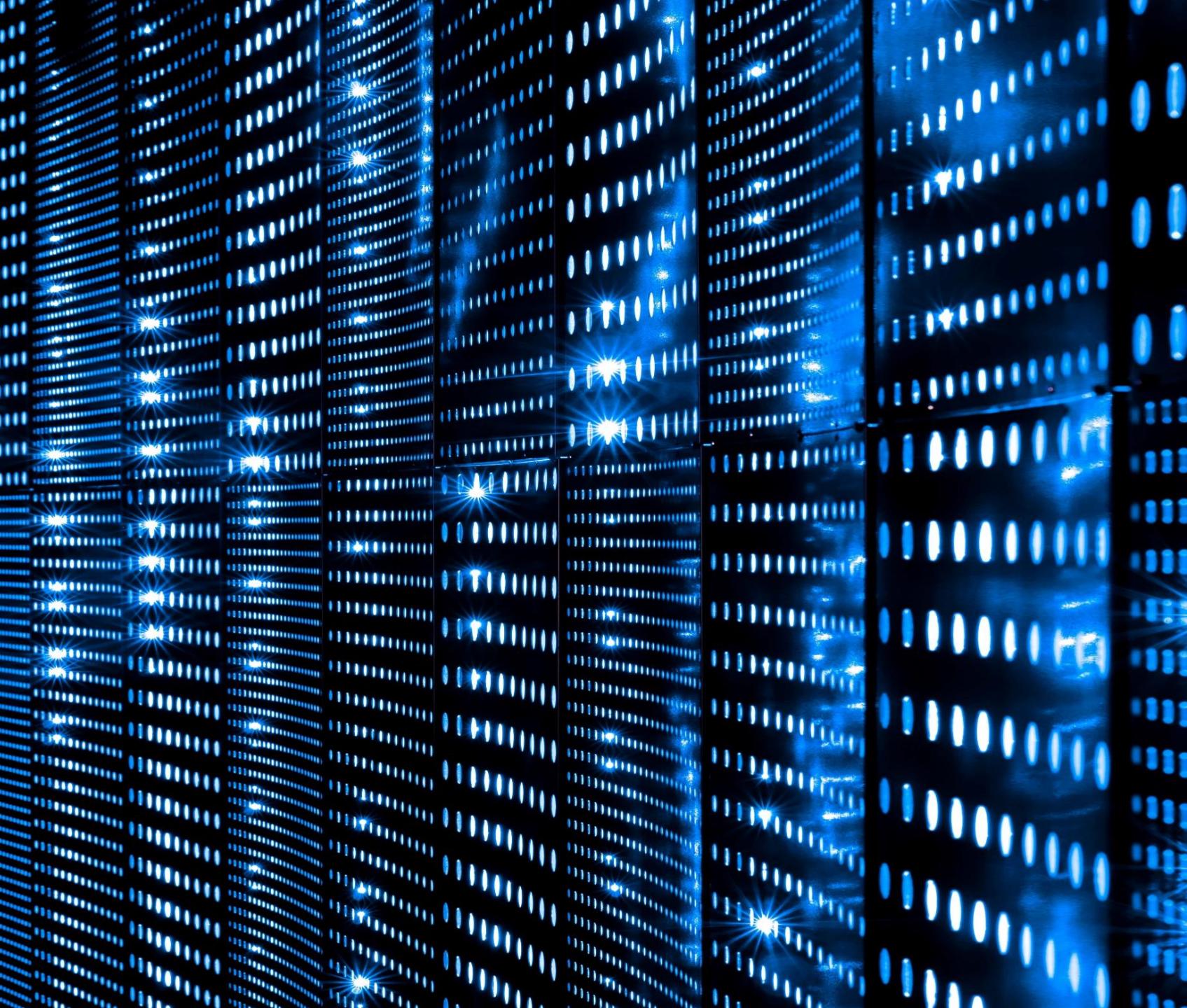
Critical
Thinking



Role of a Cloud Architect

Security





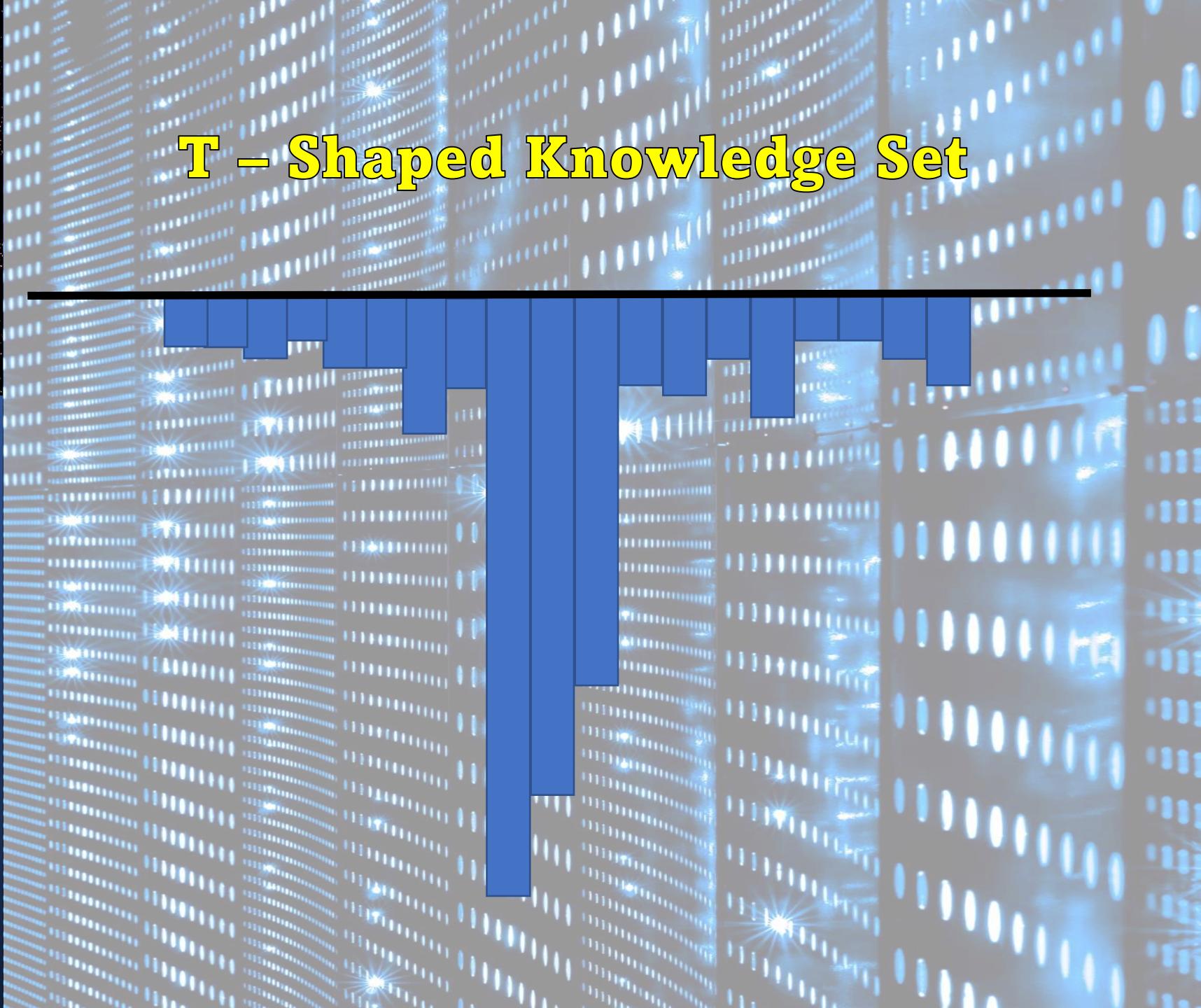
Technical Skills

Role of a Cloud Architect



Role of a Cloud Architect

Technical Skills
- Breadth not
Depth

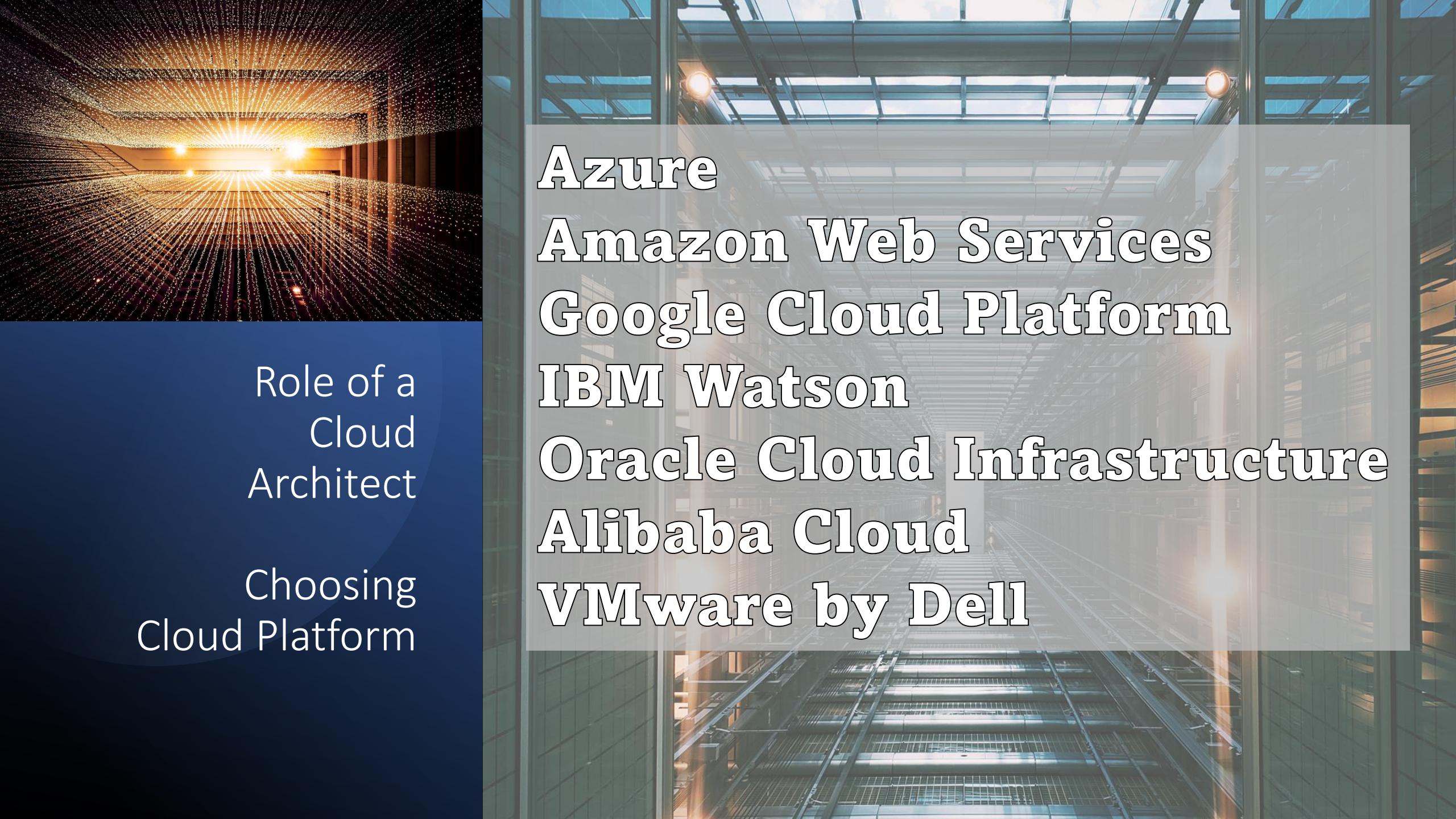


T – Shaped Knowledge Set



Role of a Cloud Architect

Choosing Cloud Platform



Choosing
Cloud Platform

Role of a
Cloud
Architect

Azure
Amazon Web Services
Google Cloud Platform
IBM Watson
Oracle Cloud Infrastructure
Alibaba Cloud
VMware by Dell



Role of a Cloud Architect

World-Wide Options



Getting Started

Role of a Cloud Architect

- Best to have a good knowledge set in many areas.
- Study for entry certification exams like AZ-900 then AZ-104
- PluralSight
- A Cloud Guru
- YouTube
- User Groups
- Conferences
- Exposure to many fundamentals, ideas, solutions, tools

Technical Skills Networking

Role of a Cloud Architect



A network is one of the foundational components of any cloud solution.

vLAN / vNET

Subnets

CIDR

Security Groups

Firewall

IDS/IPS

Virtual Appliance

Load Balancers

PrivateLink

OSI Model

Route Table

vNet == Virtual Network

VPC == Virtual Private Cloud

vLAN == Virtual Local Area Network

CIDR == Classless Inter-Domain Routing

IDS == Intrusion Detection System

IPS == Intrusion Prevention System

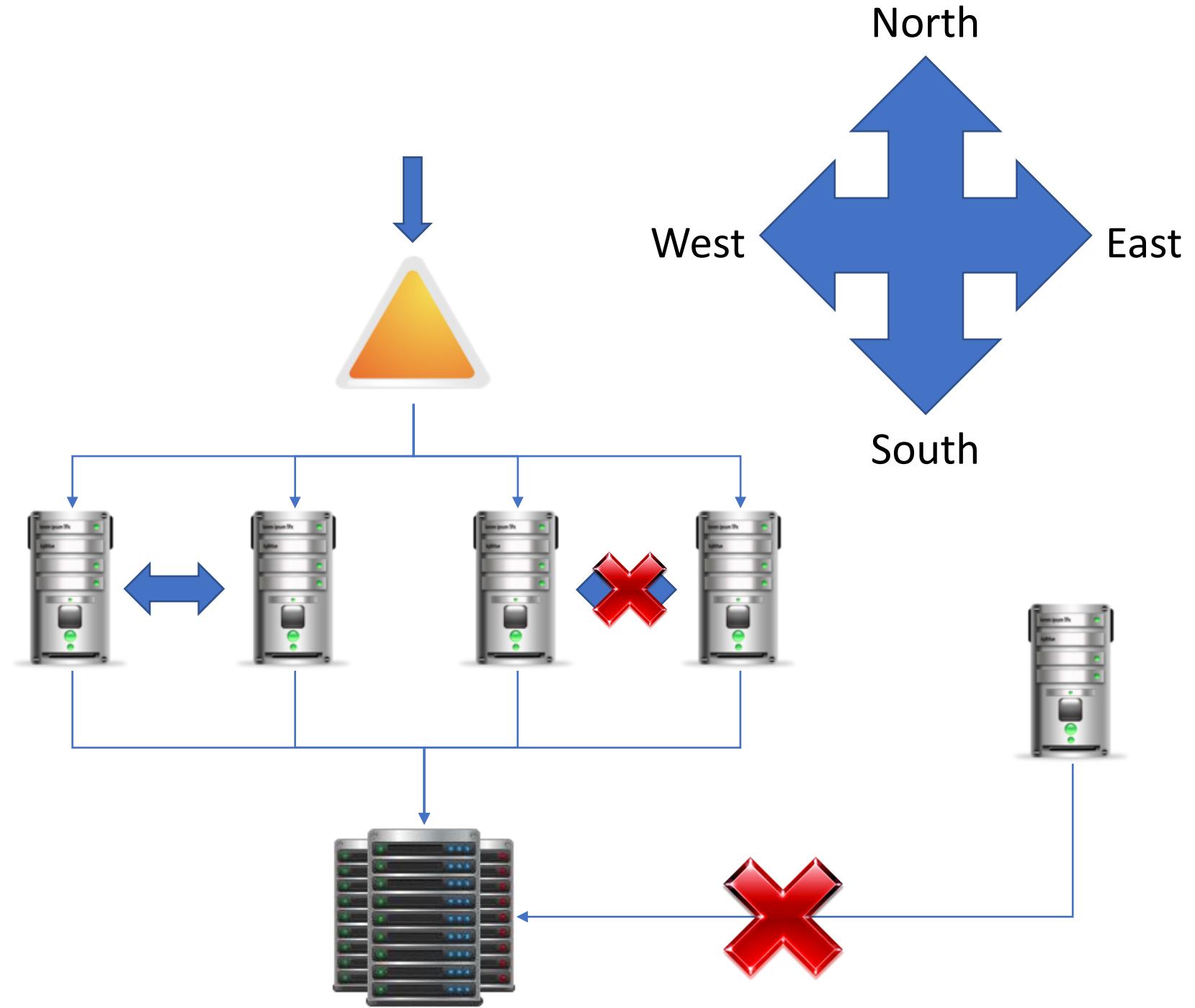
OSI == Open Systems Interconnection Model

Data ingress & egress



Role of a Cloud Architect

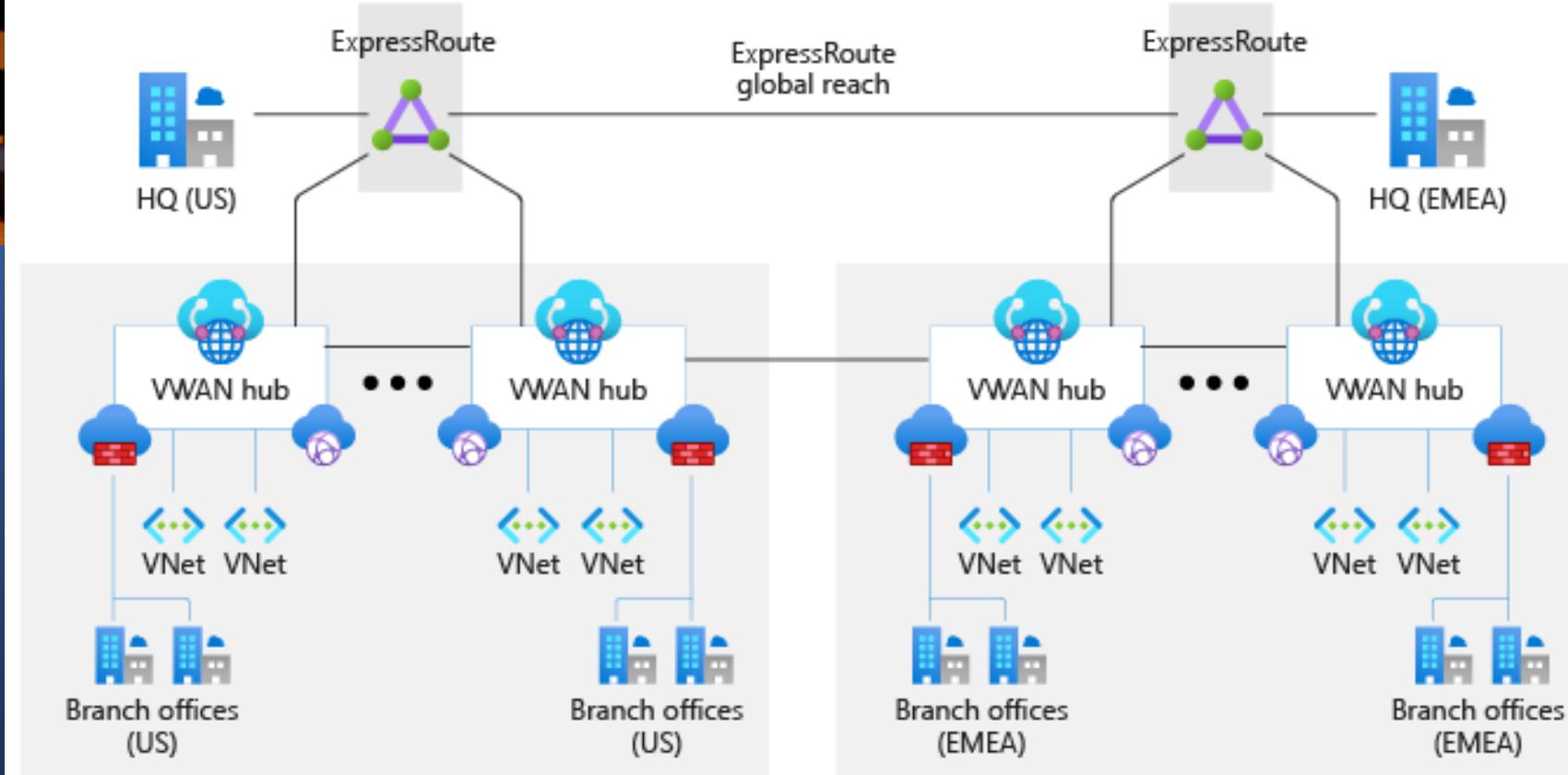
Technical Skills Network Security

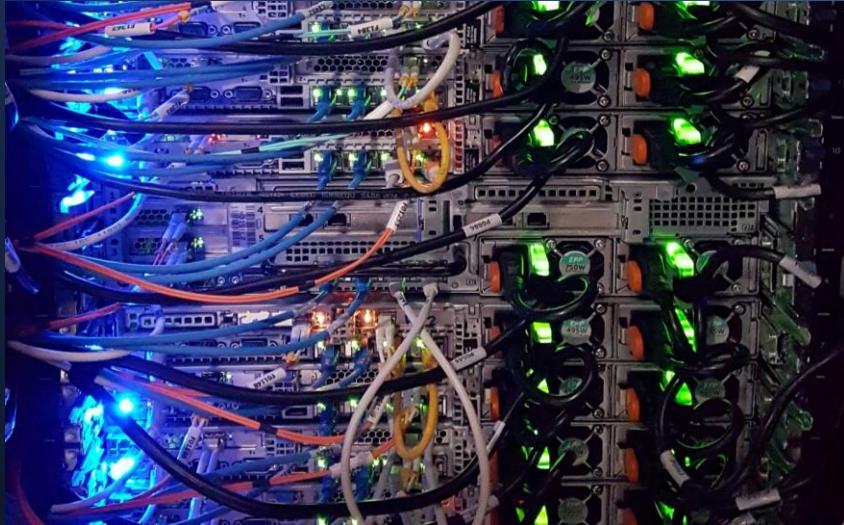


Role of a Cloud Architect

Technical Skills

Network Topology





Technical Skills
Computing

Role of a
Cloud
Architect

VMs & EC2

Serverless

- AWS Lambda
- Azure Functions

VM == Virtual Machine

EC2 == Elastic Cloud Computing

Operating Systems

- Windows
- Linux

Right-Sizing based on expected load

SKU versioning



Role of a Cloud Architect

Technical Skills
Containerization

Kubernetes

- AKS
- EKS

AKS == Azure Kubernetes Service

EKS == AWS Elastic Kubernetes Service

Registries

- ACR
- ECR

ACR == Azure Container Registry

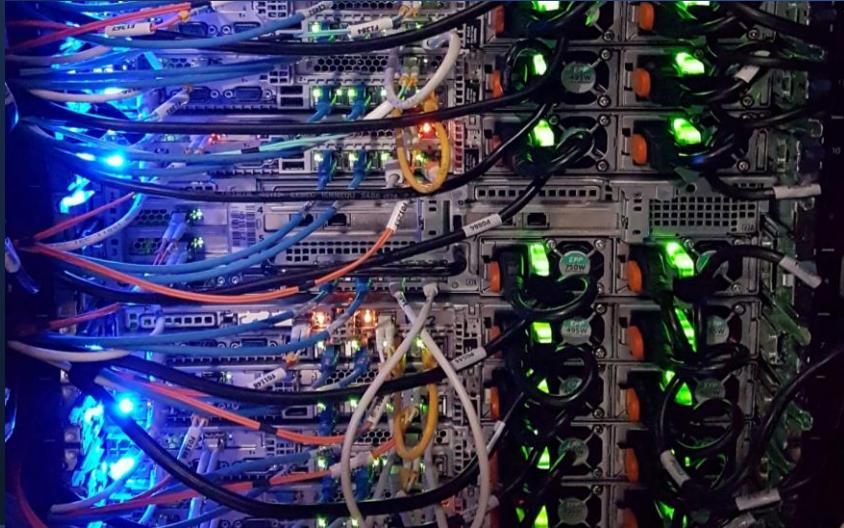
ECR == AWS Elastic Container Registry

Container Services

- ACS
- ECS

ACS == Azure Container Service

ECS == AWS Elastic Container Service



Role of a Cloud Architect

Technical Skills Storage

Storage Accounts

AWS

- S3 Buckets
- EBS
- EFS

S3 == Simple Storage Solution

EBS == Elastic Block Storage

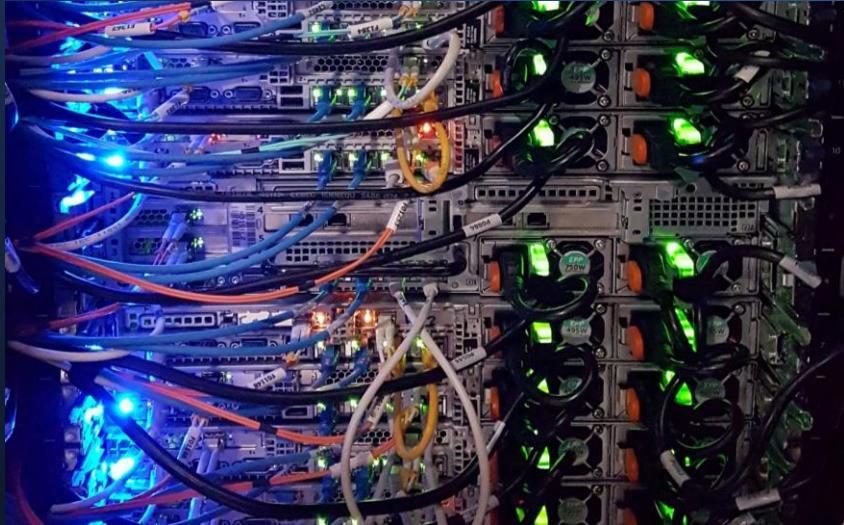
EFS == Elastic File Storage

Azure

- Blob
- File
- Table

Data residency laws

Data retention requirements



Technical Skills
Database

Role of a Cloud Architect

Relational

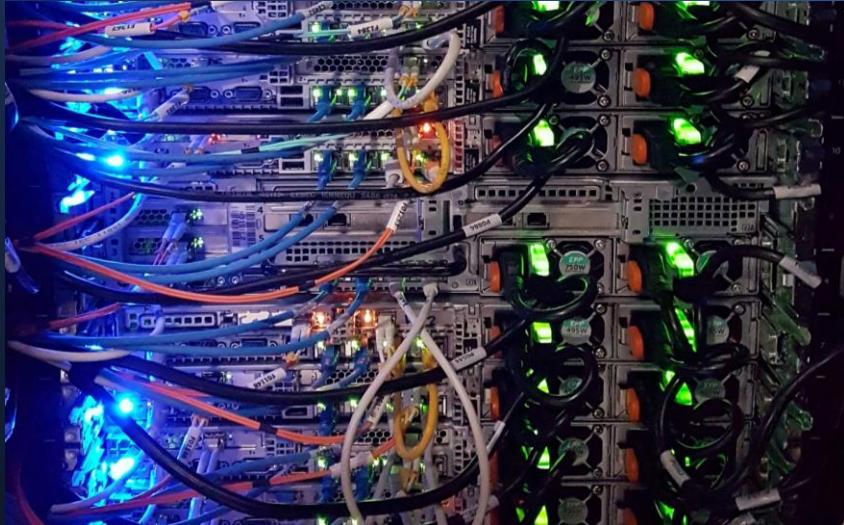
- SQL Server
- Aurora

NoSQL

- CosmosDB
- DynamoDB
- DocumentDB

Analytics

- Azure Synapse
- AWS Redshift



Role of a Cloud Architect

Technical Skills Resiliency

Geo-Redundancy, Data Replication, Data Residency Laws

9's

SLA's

RPO == Recovery Point Objective

RTO == Recovery Time Objective

CAP == Consistency, Availability, (network) Partitioning

Hot/Hot, Hot/Warm, Hot/Cold

Active/Active, Active/Passive

Failover vs Failback

Azure Site Recovery

Azure Backup/Restore

Alerts

Technical Skills

Security

Role of a Cloud Architect



Identity

- IAM
- RBAC

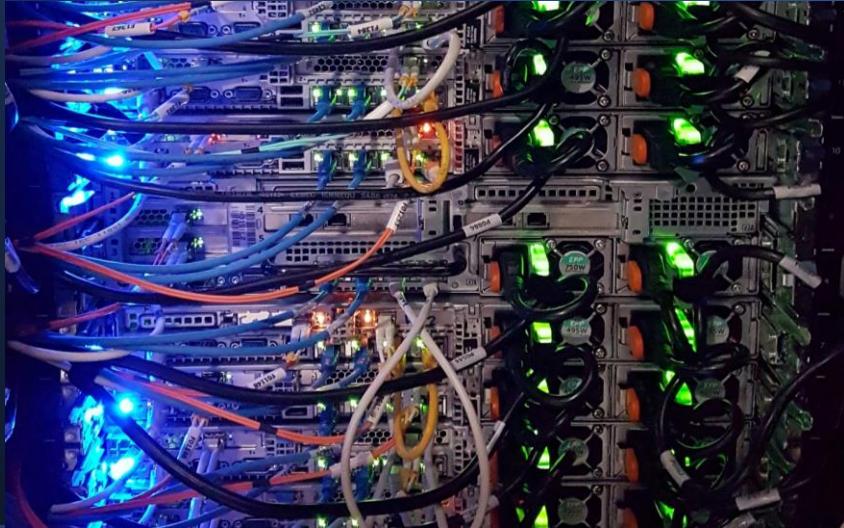
Network

- Penetration Testing
- DDoS
- Bastion

IAM == Identity & Access Management

RBAC == Role Based Access Control

DDoS == Distributed Denial of Service



Role of a Cloud Architect

Technical Skills
Data Centers

Regional Capabilities

Azure

Several regions in the US

Up to 3 Availability Zones per Region

AWS

4 regions in the US

Up to 6 Availability Zones per Region

Paired Regions

- Infrastructure updates
- Data residency



Technical Skills

DevOps

Role of a Cloud Architect

Azure

- DevOps

AWS

- Code Build
- Code Deploy
- Code Pipeline

Deployment Options

- Swap
- Rolling Updates
- Blue/Green
- Canary

Consider “Infrastructure as Code”

- Terraform
- Pulumi
- ARM Templates
- CloudFormation



Role of a Cloud Architect

You Got This !



THANK YOU !

Dev to
Cloud
Architect

Who am I ?

SEAN WHITESELL

CLOUD ARCHITECT AT ARCHITECTNOW

MICROSOFT MVP

TULSA .NET USER GROUP LEADER

GitHub: [seanw122/presentations](#)

Web: [seanwhitesell.com](#)

Twitch: [codewithsean](#)

Twitter: [codewithseanw](#)

