Admissions & Support: support@mockattempt.com
Phone / WhatsApp: +91 98765 43210
Course Code: AWSM • **Updated:** 04 Nov 2026
https://mockattempt.com/training/aws-certified-solutions-architect-program

AWSM • CLOUD & DEVOPS ENGINEERING **BEGINNER TO EXPERT • JOB-GUARANTEED***

100% PLACEMENT GUARANTEED* CAREER PROGRAM (6-MO REFUND*)

AWS Certified Solutions Architect & Cloud Engineering Master Program

Complete Zero-to-Expert Computing, Linux CLI, Networking, Git & SQL/Python Basics to Enterprise AWS Architecture, Terraform IaC, Docker/EKS, DevSecOps & SAA-C03 | 100% Placement Guaranteed* (6 Months Fees Refund*)

Duration: 28w (420h) • Weekend Only (2h/Day) (448 Hrs) • **Modules:** 22 • **Live Topics:** 86 • **Subtopics:** 688+ • **Labs & Tasks:** 172 • **Mocks / AI Vivas:** 172 / 172 • **Projects:** 22 Module + 1 Live Client Prod

All-Inclusive Direct Fee (Incl. 18% GST • Zero Hidden Charges): Total Payable: ₹29,999 (Net Tuition ₹25,423 + Included 18% GST ₹4,576) • **Split Option:** ₹4,500/mo × 6 (0% Split) • **Effective ROI:** ~₹67/Guided Hr (~₹349/Live Topic)

Faculty: 100% Active Working IT Professionals • **Weekend-Only Live Batch (7:00 AM – 8:00 PM IST Flexible Slots):** Weekend-Only Career Live Batch (Sat – Sun • 2 Hrs/Day • 7:00 AM – 8:00 PM) (Saturday & Sunday Only (2 Hours Live Session / Day) • 07:00 AM – 08:00 PM IST (Students Can Choose Any 2-Hour Weekend Slot Based on Working Professional Trainer Availability) • 28 Weeks (448 Guided Live + Lab Hours))

✓ **Trainer LeetCode & HackerRank Mentorship (Python 3.12 (Boto3 / AWS Lambda) & SQL): Live trainer support to crack LeetCode & HackerRank problems, optimize complexity, and handle edge cases.**

✓ **6-Month Placement Guarantee* + Online AI Assessment (OA) Support: Complete 100% assigned repositories & score ≥90% across all Topic Mock Tests & Voice AI Interviews → 100+ verified IT job openings within 6 months with active Senior Trainer coaching to crack employer Online AI Assessments (OA), or 100% net tuition refund*.**

Core Technologies & Engineering Stack: Linux, Networking & Cloud Basics • AWS Solutions Architecture • Terraform IaC & Docker / EKS • DevSecOps CI/CD & SAA-C03 • Git, YAML & Python Boto3 Automation • Enterprise Multi-AZ VPC & Peering • IAM Zero-Trust, KMS & AWS WAF • EC2 Auto Scaling & ALB/NLB • Amazon S3, CloudFront & Route 53 • SQL Basics, RDS Multi-AZ & Aurora • DynamoDB & ElastiCache Redis • AWS Lambda, API Gateway & Step Functions • SQS, SNS, EventBridge & Kinesis • Amazon ECS Fargate & Amazon EKS • CloudWatch, DR & FinOps Governance

1. PROGRAM MASTERY OUTCOMES & ELIGIBILITY

End-to-End Engineering Outcomes:

1. Start from Day-1 zero coding experience and master every foundation, framework, database, cloud, and system design layer up to expert level
2. Build and ship 22 real-world production GitHub repositories + 1 Live Client Production Cloud Deployment (zero dummy to-do apps)
3. Achieve ≥90% mastery across every Topic Mock Test and Spoken MockAttempt AI Technical Interview (unlimited free re-attempts allowed below 90%)
4. Earn Dual Barcode-Verifiable Credentials: Course Excellence Certificate + Official Project Internship Confirmation Letter
5. Unlock 6-Month Placement Support guaranteeing 100 curated relevant IT job openings — backed by our 100% Tuition Fee Refund* policy
6. Crack LeetCode and HackerRank problems in Python 3.12 (Boto3 / AWS Lambda) & SQL with live trainer mentorship on algorithmic/query patterns, edge cases, and optimal complexity.
7. Receive active Senior Trainer coaching during your 6-month (180-day) Placement Tenure to crack employer Online AI Assessments (OA), timed coding rounds, and automated screening tests.
8. Enterprise AWS Solutions Architecture: Multi-AZ VPC transit networking, IAM/KMS zero-trust governance, ALB/ASG, and Route 53.

Eligibility & Prerequisites: Zero prior programming or IT experience required — Module 1 starts from Day-1 setup, logic building, and plain-English fundamentals • Basic computer literacy and commitment to attend Weekend-Only Live Sessions (Saturday & Sunday, 2 Hours/Day between 7:00 AM – 8:00 PM IST taught by active Working IT Professionals) plus guided weekday real-repository sprints • Dedication to complete 100% of assigned tasks and re-attempt assessments until crossing ≥90% mastery • Ideal for B.Tech / BCA / MCA / B.Sc IT students, non-CS beginners, career switchers, and working developers upgrading to 2026 production standards. • Dedication to write original code in your GitHub portfolio and complete the mentor-guided Live Client Production Sprint.

2. DETAILED ZERO-TO-EXPERT MODULE, TOPIC & SUBTOPIC SYLLABUS (22 MODULES • 86 LIVE TOPICS • 688+ SUBTOPICS)

Progressive Zero-to-Expert Mastery Stages: Modules 1–5: Stage 1: Day-1 Foundations & Core Mental Models (20 Topics / 160 Subtopics) • Modules 6–12: Stage 2: Applied Engineering, Data & API Workflows (28 Topics / 224 Subtopics) • Modules 13–17: Stage 3: Internals, Concurrency, Security & Performance (20 Topics / 160 Subtopics) • Modules 18–22: Stage 4: Cloud Scale, System Design & ≥90% Placement Gate (18 Topics / 144 Subtopics)

MODULE 1 OF 22 • STAGE 1 • 21 LIVE + LAB HOURS • 4 TOPICS (32 SUBTOPICS) • 1 CAPSTONE PROJECT (100 MARKS)

Computing, Operating Systems, Virtualization & Cloud Foundations From Scratch

Beginner-to-expert real-repository module covering Computing, Operating Systems, Virtualization & Cloud Foundations From Scratch with supervised live coding, ≥90% MockAttempt AI Viva Gates, and production GitHub PR verification.

Objectives: ✓ How Servers Work From Zero: CPU Cores, RAM, SSD/NVMe IOPS, Network NICs & OS Kernel Basics — Purpose: Build clear hardware-to-operating-system intuition so cloud instance sizing never feels like guesswork. • ✓ Bare-Metal Servers vs Hypervisor Virtual Machines (KVM/Nitro) vs Containers Explained Simply — Purpose: Understand how AWS isolates multi-tenant customer workloads securely on physical data-center racks. • ✓ Cloud Service Models (IaaS, PaaS, SaaS, Serverless) & Shared Responsibility Security Model — Purpose: Know exactly what security controls AWS manages versus what you must configure as a Cloud Engineer. • ✓ AWS Global Infrastructure: Regions, Availability Zones, Local Zones, Edge PoPs & Latency Planning — Purpose: Select fault-tolerant multi-AZ topologies that satisfy data-residency laws and sub-50ms user latency.

1.1 How Servers Work From Zero: CPU Cores, RAM, SSD/NVMe IOPS, Network NICs & OS Kernel Basics

[90 mins • Assignment (100M) • Hands-On Lab (50M) • 2 Mock Sets • 2 AI Vivas]

Subtopics Covered: Input Validation, Edge • Modular Clean • Idiomatic AWSM Implementation • AWS Multi • Runnable Code Implementation (HCL) • Idiomatic AWSM Implementation: Well-Architected IaC (Terraform), private subnets, auto-scaling & S3/CloudFron... • AWS Multi-AZ VPC, IAM STS, ALB/ECS/EKS, RDS/DynamoDB & EventBridge Execution & Memory Lifecycle for How Servers Work From Zero • Production Hardening & Security: IAM least-privilege OIDC roles, KMS encryption, Security Groups & WAF

Purpose: To understand and apply How Servers Work From Zero: CPU Cores, RAM, SSD/NVMe IOPS, Network NICs & OS Kernel Basics in real AWS Certified Solutions Architect & Cloud Engin...

What Topic Is Next → Next Topic 1.2: Bare-Metal Servers vs Hypervisor Virtual Machines (KVM/Nitro) vs Containers Explained Simply

1.2 Bare-Metal Servers vs Hypervisor Virtual Machines (KVM/Nitro) vs Containers Explained Simply

[90 mins • Assignment (100M) • Hands-On Lab (50M) • 2 Mock Sets • 2 AI Vivas]

Subtopics Covered: Input Validation, Edge • Modular Clean • Idiomatic AWSM Implementation • AWS Multi • Runnable Code Implementation (HCL) • Idiomatic AWSM Implementation: Well-Architected IaC (Terraform), private subnets, auto-scaling & S3/CloudFron... • AWS Multi-AZ VPC, IAM STS, ALB/ECS/EKS, RDS/DynamoDB & EventBridge Execution & Memory Lifecycle for Bare-Metal Servers vs Hypervisor Virtual Machines (K... • Production Hardening & Security: IAM least-privilege OIDC roles, KMS encryption, Security Groups & WAF

Purpose: To understand and apply Bare-Metal Servers vs Hypervisor Virtual Machines (KVM/Nitro) vs Containers Explained Simply in real AWS Certified Solutions Architect & Cloud Eng...

What Topic Is Next → Next Topic 1.3: Cloud Service Models (IaaS, PaaS, SaaS, Serverless) & Shared Responsibility Security Model

1.3 Cloud Service Models (IaaS, PaaS, SaaS, Serverless) & Shared Responsibility Security Model

[90 mins • Assignment (100M) • Hands-On Lab (50M) • 2 Mock Sets • 2 AI Vivas]

Subtopics Covered: Input Validation, Edge • Modular Clean • Idiomatic AWSM Implementation • AWS Multi • Runnable Code Implementation (HCL) • Idiomatic AWSM Implementation: Well-Architected IaC (Terraform), private subnets, auto-scaling & S3/CloudFron... • AWS Multi-AZ VPC, IAM STS, ALB/ECS/EKS, RDS/DynamoDB & EventBridge Execution & Memory Lifecycle for Cloud Service Models (IaaS, PaaS, SaaS, Serverless) • Production Hardening & Security: IAM least-privilege OIDC roles, KMS encryption, Security Groups & WAF

Purpose: To understand and apply Cloud Service Models (IaaS, PaaS, SaaS, Serverless) & Shared Responsibility Security Model in real AWS Certified Solutions Architect & Cloud Engin...

What Topic Is Next → Next Topic 1.4: AWS Global Infrastructure: Regions, Availability Zones, Local Zones, Edge PoPs & Latency Planning

1.4 AWS Global Infrastructure: Regions, Availability Zones, Local Zones, Edge PoPs & Latency Planning

[90 mins • Assignment (100M) • Hands-On Lab (50M) • 2 Mock Sets • 2 AI Vivas]

Subtopics Covered: Input Validation, Edge • Modular Clean • Idiomatic AWSM Implementation • AWS Multi • Runnable Code Implementation (HCL) • Idiomatic AWSM Implementation: Well-Architected IaC (Terraform), private subnets, auto-scaling & S3/CloudFron... • AWS Multi-AZ VPC, IAM STS, ALB/ECS/EKS, RDS/DynamoDB & EventBridge Execution & Memory Lifecycle for AWS Global Infrastructure • Production Hardening & Security: IAM least-privilege OIDC roles, KMS encryption, Security Groups & WAF

Purpose: To understand and apply AWS Global Infrastructure: Regions, Availability Zones, Local Zones, Edge PoPs & Latency Planning in real AWS Certified Solutions Architect & Clou...

What Topic Is Next → Module 1 Capstone (cloudvault-m01-computing-cloud-foundations) → Next Topic 2.1: Linux Filesystem Hierarchy (/etc, /var, /opt, /proc), Navigation & File Lifecycle Commands

Module 1 Hands-On Capstone Project (100 Marks): cloudvault-m01-computing-cloud-foundations — Architect, implement, test, and push the production GitHub repository 'cloudvault-m01-computing-cloud-foundations' (strictly zero dummy scaffolding) demonstrating end-to-end mastery of Modul...

MODULE 2 OF 22 • STAGE 1 • 21 LIVE + LAB HOURS • 4 TOPICS (32 SUBTOPICS) • 1 CAPSTONE PROJECT (100 MARKS)

Linux Terminal & Command Line Mastery From Zero

Beginner-to-expert real-repository module covering Linux Terminal & Command Line Mastery From Zero with supervised live coding, ≥90% MockAttempt AI Viva Gates, and production GitHub PR verification.

Objectives: ✓ Linux Filesystem Hierarchy (/etc, /var, /opt, /proc), Navigation & File Lifecycle Commands — Purpose: Operate confidently inside headless Ubuntu and Amazon Linux 2023 cloud servers without a GUI. • ✓ Standard Streams (stdin, stdout, stderr), Pipes, Redirection & Text Processing (grep, sed, awk, jq) — Purpose: Filter gigabytes of server logs and JSON AWS CLI responses in seconds directly from the terminal. • ✓ Users, Groups, POSIX Permissions (chmod, chown, umask), sudoers Least Privilege & Package Managers — Purpose: Prevent accidental privilege escalation and manage OS packages cleanly across Linux distributions. • ✓ Archiving (tar, gzip), Environment Variables, Shell Profiles & Editors (vim / nano) for Live Ops — Purpose: Edit production configuration files and environment profiles safely over remote terminal sessions.

2.1 Linux Filesystem Hierarchy (/etc, /var, /opt, /proc), Navigation & File Lifecycle Commands [90 mins • Assignment (100M) • Hands-On Lab (50M) • 2 Mock Sets • 2 AI Vivas]

Subtopics Covered: Input Validation, Edge • Modular Clean • Idiomatic AWSM Implementation • AWS Multi • Runnable Code Implementation (HCL) • Idiomatic AWSM Implementation: Well-Architected IaC (Terraform), private subnets, auto-scaling & S3/CloudFron... • AWS Multi-AZ VPC, IAM STS, ALB/ECS/EKS, RDS/DynamoDB & EventBridge Execution & Memory Lifecycle for Linux Filesystem Hierarchy (/etc, /var, /opt, /proc) • Production Hardening & Security: IAM least-privilege OIDC roles, KMS encryption, Security Groups & WAF

Purpose: To understand and apply Linux Filesystem Hierarchy (/etc, /var, /opt, /proc), Navigation & File Lifecycle Commands in real AWS Certified Solutions Architect & Cloud Engin...

What Topic Is Next → Next Topic 2.2: Standard Streams (stdin, stdout, stderr), Pipes, Redirection & Text Processing (grep, sed, awk, jq)

2.2 Standard Streams (stdin, stdout, stderr), Pipes, Redirection & Text Processing (grep, sed, awk, jq) [90 mins • Assignment (100M) • Hands-On Lab (50M) • 2 Mock Sets • 2 AI Vivas]

Subtopics Covered: Input Validation, Edge • Modular Clean • Idiomatic AWSM Implementation • AWS Multi • Runnable Code Implementation (HCL) • Idiomatic AWSM Implementation: Well-Architected IaC (Terraform), private subnets, auto-scaling & S3/CloudFron... • AWS Multi-AZ VPC, IAM STS, ALB/ECS/EKS, RDS/DynamoDB & EventBridge Execution & Memory Lifecycle for Standard Streams (stdin, stdout, stderr) • Production Hardening & Security: IAM least-privilege OIDC roles, KMS encryption, Security Groups & WAF

Purpose: To understand and apply Standard Streams (stdin, stdout, stderr), Pipes, Redirection & Text Processing (grep, sed, awk, jq) in real AWS Certified Solutions Architect & Cl...

What Topic Is Next → Next Topic 2.3: Users, Groups, POSIX Permissions (chmod, chown, umask), sudoers Least Privilege & Package Managers

2.3 Users, Groups, POSIX Permissions (chmod, chown, umask), sudoers Least Privilege & Package Managers [90 mins • Assignment (100M) • Hands-On Lab (50M) • 2 Mock Sets • 2 AI Vivas]

Subtopics Covered: Input Validation, Edge • Modular Clean • Idiomatic AWSM Implementation • AWS Multi • Runnable Code Implementation (HCL) • Idiomatic AWSM Implementation: Well-Architected IaC (Terraform), private subnets, auto-scaling & S3/CloudFron... • AWS Multi-AZ VPC, IAM STS, ALB/ECS/EKS, RDS/DynamoDB & EventBridge Execution & Memory Lifecycle for Users • Production Hardening & Security: IAM least-privilege OIDC roles, KMS encryption, Security Groups & WAF

Purpose: To understand and apply Users, Groups, POSIX Permissions (chmod, chown, umask), sudoers Least Privilege & Package Managers in real AWS Certified Solutions Architect & Clo...

What Topic Is Next → Next Topic 2.4: Archiving (tar, gzip), Environment Variables, Shell Profiles & Editors (vim / nano) for Live Ops

2.4 Archiving (tar, gzip), Environment Variables, Shell Profiles & Editors (vim / nano) for Live Ops [90 mins • Assignment (100M) • Hands-On Lab (50M) • 2 Mock Sets • 2 AI Vivas]

Subtopics Covered: Input Validation, Edge • Modular Clean • Idiomatic AWSM Implementation • AWS Multi • Runnable Code Implementation (HCL) • Idiomatic AWSM Implementation: Well-Architected IaC (Terraform), private subnets, auto-scaling & S3/CloudFron... • AWS Multi-AZ VPC, IAM STS, ALB/ECS/EKS, RDS/DynamoDB & EventBridge Execution & Memory Lifecycle for Archiving (tar, gzip) • Production Hardening & Security: IAM least-privilege OIDC roles, KMS encryption, Security Groups & WAF

Purpose: To understand and apply Archiving (tar, gzip), Environment Variables, Shell Profiles & Editors (vim / nano) for Live Ops in real AWS Certified Solutions Architect & Cloud...

What Topic Is Next → Module 2 Capstone (cloudvault-m02-linux-cli-essentials) → Next Topic 3.1: Process Lifecycle, Signals (SIGTERM vs SIGKILL), systemd Services, journalctl & Cron Timers

Module 2 Hands-On Capstone Project (100 Marks): cloudvault-m02-linux-cli-essentials — Architect, implement, test, and push the production GitHub repository 'cloudvault-m02-linux-cli-essentials' (strictly zero dummy scaffolding) demonstrating end-to-end mastery of Module 2: Li...

MODULE 3 OF 22 • STAGE 1 • 21 LIVE + LAB HOURS • 4 TOPICS (32 SUBTOPICS) • 1 CAPSTONE PROJECT (100 MARKS)

Linux System Administration, Processes, Storage, SSH & Bash Scripting

Beginner-to-expert real-repository module covering Linux System Administration, Processes, Storage, SSH & Bash Scripting with supervised live coding, ≥90% MockAttempt AI Viva Gates, and production GitHub PR verification.

Objectives: ✓ Process Lifecycle, Signals (SIGTERM vs SIGKILL), systemd Services, journalctl & Cron Timers — Purpose: Write self-restarting systemd unit files and inspect crash logs cleanly on cloud instances. • ✓ Disk Partitioning, Filesystems (ext4, XFS), LVM Volume Expansion, Mounts (/etc/fstab) & Swap — Purpose: Attach and expand cloud block volumes online without rebooting servers or losing data. • ✓ Asymmetric Cryptography Basics, SSH Keypairs, Hardened sshd_config, Bastion Jump Hosts & SCP/Rsync — Purpose: Lock down remote Linux access with key-only authentication and zero root password exposure. • ✓ Bash Scripting From Scratch: Variables, Conditionals, Loops, Exit Codes (set -euo pipefail) & Health Checks — Purpose: Automate server bootstrapping, log rotation, and backup verification with defensive shell scripts.

3.1 Process Lifecycle, Signals (SIGTERM vs SIGKILL), systemd Services, journalctl & Cron Timers [90 mins • Assignment (100M) • Hands-On Lab (50M) • 2 Mock Sets • 2 AI Vivas]

Subtopics Covered: Input Validation, Edge • Modular Clean • Idiomatic AWSM Implementation • AWS Multi • Runnable Code Implementation (HCL) • Idiomatic AWSM Implementation: Well-Architected IaC (Terraform), private subnets, auto-scaling & S3/CloudFron... • AWS Multi-AZ VPC, IAM STS, ALB/ECS/EKS, RDS/DynamoDB & EventBridge Execution & Memory Lifecycle for Process Lifecycle • Production Hardening & Security: IAM least-privilege OIDC roles, KMS encryption, Security Groups &

WAF

Purpose: To understand and apply Process Lifecycle, Signals (SIGTERM vs SIGKILL), systemd Services, journalctl & Cron Timers in real AWS Certified Solutions Architect & Cloud Engi...

What Topic Is Next → Next Topic 3.2: Disk Partitioning, Filesystems (ext4, XFS), LVM Volume Expansion, Mounts (/etc/fstab) & Swap

3.2 Disk Partitioning, Filesystems (ext4, XFS), LVM Volume Expansion, Mounts (/etc/fstab) & Swap [90 mins • Assignment (100M) • Hands-On Lab (50M) • 2 Mock Sets • 2 AI Vivas]

Subtopics Covered: Input Validation, Edge • Modular Clean • Idiomatic AWSM Implementation • AWS Multi • Runnable Code Implementation (HCL) • Idiomatic AWSM Implementation: Well-Architected IaC (Terraform), private subnets, auto-scaling & S3/CloudFron... • AWS Multi-AZ VPC, IAM STS, ALB/ECS/EKS, RDS/DynamoDB & EventBridge Execution & Memory Lifecycle for Disk Partitioning • Production Hardening & Security: IAM least-privilege OIDC roles, KMS encryption, Security Groups & WAF

Purpose: To understand and apply Disk Partitioning, Filesystems (ext4, XFS), LVM Volume Expansion, Mounts (/etc/fstab) & Swap in real AWS Certified Solutions Architect & Cloud Eng...

What Topic Is Next → Next Topic 3.3: Asymmetric Cryptography Basics, SSH Keypairs, Hardened sshd_config, Bastion Jump Hosts & SCP/Rsync

3.3 Asymmetric Cryptography Basics, SSH Keypairs, Hardened sshd_config, Bastion Jump Hosts & SCP/Rsync [90 mins • Assignment (100M) • Hands-On Lab (50M) • 2 Mock Sets • 2 AI Vivas]

Subtopics Covered: Input Validation, Edge • Modular Clean • Idiomatic AWSM Implementation • AWS Multi • Runnable Code Implementation (HCL) • Idiomatic AWSM Implementation: Well-Architected IaC (Terraform), private subnets, auto-scaling & S3/CloudFron... • AWS Multi-AZ VPC, IAM STS, ALB/ECS/EKS, RDS/DynamoDB & EventBridge Execution & Memory Lifecycle for Asymmetric Cryptography Basics • Production Hardening & Security: IAM least-privilege OIDC roles, KMS encryption, Security Groups & WAF

Purpose: To understand and apply Asymmetric Cryptography Basics, SSH Keypairs, Hardened sshd_config, Bastion Jump Hosts & SCP/Rsync in real AWS Certified Solutions Architect & Clo...

What Topic Is Next → Next Topic 3.4: Bash Scripting From Scratch: Variables, Conditionals, Loops, Exit Codes (set -euo pipefail) & Health Checks

3.4 Bash Scripting From Scratch: Variables, Conditionals, Loops, Exit Codes (set -euo pipefail) & Health Checks [90 mins • Assignment (100M) • Hands-On Lab (50M) • 2 Mock Sets • 2 AI Vivas]

Subtopics Covered: Input Validation, Edge • Modular Clean • Idiomatic AWSM Implementation • AWS Multi • Runnable Code Implementation (HCL) • Idiomatic AWSM Implementation: Well-Architected IaC (Terraform), private subnets, auto-scaling & S3/CloudFron... • AWS Multi-AZ VPC, IAM STS, ALB/ECS/EKS, RDS/DynamoDB & EventBridge Execution & Memory Lifecycle for Bash Scripting From Scratch • Production Hardening & Security: IAM least-privilege OIDC roles, KMS encryption, Security Groups & WAF

Purpose: To understand and apply Bash Scripting From Scratch: Variables, Conditionals, Loops, Exit Codes (set -euo pipefail) & Health Checks in real AWS Certified Solutions Archit...

What Topic Is Next → Module 3 Capstone (cloudvault-m03-linux-admin-bash) → Next Topic 4.1: OSI 7-Layer & TCP/IP Models, MAC vs IP Addresses, ARP, Switches, Routers & Packet Encapsulation

Module 3 Hands-On Capstone Project (100 Marks): cloudvault-m03-linux-admin-bash — Architect, implement, test, and push the production GitHub repository 'cloudvault-m03-linux-admin-bash' (strictly zero dummy scaffolding) demonstrating end-to-end mastery of Module 3: Linux...

MODULE 4 OF 22 • STAGE 1 • 21 LIVE + LAB HOURS • 4 TOPICS (32 SUBTOPICS) • 1 CAPSTONE PROJECT (100 MARKS)

Computer Networking, OSI / TCP-IP, DNS, TLS & CIDR Subnetting From Scratch

Beginner-to-expert real-repository module covering Computer Networking, OSI / TCP-IP, DNS, TLS & CIDR Subnetting From Scratch with supervised live coding, ≥90% MockAttempt AI Viva Gates, and production GitHub PR verification.

Objectives: ✓ OSI 7-Layer & TCP/IP Models, MAC vs IP Addresses, ARP, Switches, Routers & Packet Encapsulation — Purpose: Trace exactly how a packet travels from a user laptop across routers to a private cloud server. • ✓ IPv4 & IPv6 Addressing, Binary-to-Decimal Intuition & Practical CIDR Subnet Calculation (/16 to /28) — Purpose: Design non-overlapping VPC address blocks with room for future Kubernetes pods and hybrid peering. • ✓ TCP 3-Way Handshake, UDP, Ports, NAT, DNS Resolution Hierarchy & Record Types (A, CNAME, ALIAS, TXT) — Purpose: Diagnose connection timeouts, port blocks, and DNS propagation issues systematically. • ✓ HTTP/1.1 vs HTTP/2/3, TLS Certificates (Public/Private CA, mTLS) & CLI Network Debugging (curl, dig, ss) — Purpose: Verify HTTPS certificate chains, cipher suites, and listening sockets from the command line.

4.1 OSI 7-Layer & TCP/IP Models, MAC vs IP Addresses, ARP, Switches, Routers & Packet Encapsulation [90 mins • Assignment (100M) • Hands-On Lab (50M) • 2 Mock Sets • 2 AI Vivas]

Subtopics Covered: Input Validation, Edge • Modular Clean • Idiomatic AWSM Implementation • AWS Multi • Runnable Code Implementation (HCL) • Idiomatic AWSM Implementation: Well-Architected IaC (Terraform), private subnets, auto-scaling & S3/CloudFron... • AWS Multi-AZ VPC, IAM STS, ALB/ECS/EKS, RDS/DynamoDB & EventBridge Execution & Memory Lifecycle for OSI 7-Layer • Production Hardening & Security: IAM least-privilege OIDC roles, KMS encryption, Security Groups & WAF

Purpose: To understand and apply OSI 7-Layer & TCP/IP Models, MAC vs IP Addresses, ARP, Switches, Routers & Packet Encapsulation in real AWS Certified Solutions Architect & Cloud...

What Topic Is Next → Next Topic 4.2: IPv4 & IPv6 Addressing, Binary-to-Decimal Intuition & Practical CIDR Subnet Calculation (/16 to /28)

4.2 IPv4 & IPv6 Addressing, Binary-to-Decimal Intuition & Practical CIDR Subnet Calculation (/16 to /28) [90 mins • Assignment (100M) • Hands-On Lab (50M) • 2 Mock Sets • 2 AI Vivas]

Subtopics Covered: Input Validation, Edge • Modular Clean • Idiomatic AWSM Implementation • AWS Multi • Runnable Code Implementation (HCL) • Idiomatic AWSM Implementation: Well-Architected IaC (Terraform), private subnets, auto-scaling & S3/CloudFron... • AWS Multi-AZ VPC, IAM STS, ALB/ECS/EKS, RDS/DynamoDB & EventBridge Execution & Memory Lifecycle for IPv4 • Production Hardening & Security: IAM least-privilege OIDC roles, KMS encryption, Security Groups & WAF

Purpose: To understand and apply IPv4 & IPv6 Addressing, Binary-to-Decimal Intuition & Practical CIDR Subnet Calculation (/16 to /28) in real AWS Certified Solutions Architect & C...

What Topic Is Next → Next Topic 4.3: TCP 3-Way Handshake, UDP, Ports, NAT, DNS Resolution Hierarchy & Record Types (A, CNAME, ALIAS, TXT)

4.3 TCP 3-Way Handshake, UDP, Ports, NAT, DNS Resolution Hierarchy & Record Types (A, CNAME, ALIAS, TXT) [90 mins • Assignment (100M) • Hands-On Lab (50M) • 2 Mock Sets • 2 AI Vivas]

Subtopics Covered: Input Validation, Edge • Modular Clean • Idiomatic AWSM Implementation • AWS Multi • Runnable Code Implementation (HCL) • Idiomatic AWSM Implementation: Well-Architected IaC (Terraform), private subnets, auto-scaling & S3/CloudFron... • AWS Multi-AZ VPC, IAM STS, ALB/ECS/EKS, RDS/DynamoDB & EventBridge Execution & Memory Lifecycle for TCP 3-Way Handshake • Production Hardening & Security: IAM least-privilege OIDC roles, KMS encryption, Security Groups & WAF

Purpose: To understand and apply TCP 3-Way Handshake, UDP, Ports, NAT, DNS Resolution Hierarchy & Record Types (A, CNAME, ALIAS, TXT) in real AWS Certified Solutions Architect & C...

What Topic Is Next → Next Topic 4.4: HTTP/1.1 vs HTTP/2/3, TLS Certificates (Public/Private CA, mTLS) & CLI Network Debugging (curl, dig, ss)

4.4 HTTP/1.1 vs HTTP/2/3, TLS Certificates (Public/Private CA, mTLS) & CLI Network Debugging (curl, dig, ss) [90 mins • Assignment (100M) • Hands-On Lab (50M) • 2 Mock Sets • 2 AI Vivas]

Subtopics Covered: Input Validation, Edge • Modular Clean • Idiomatic AWSM Implementation • AWS Multi • Runnable Code Implementation (HCL) • Idiomatic AWSM Implementation: Well-Architected IaC (Terraform), private subnets, auto-scaling & S3/CloudFron... • AWS Multi-AZ VPC, IAM STS, ALB/ECS/EKS, RDS/DynamoDB & EventBridge Execution & Memory Lifecycle for HTTP/1.1 vs HTTP/2/3 • Production Hardening & Security: IAM least-privilege OIDC roles, KMS encryption, Security Groups & WAF

Purpose: To understand and apply HTTP/1.1 vs HTTP/2/3, TLS Certificates (Public/Private CA, mTLS) & CLI Network Debugging (curl, dig, ss) in real AWS Certified Solutions Architect...

What Topic Is Next → Module 4 Capstone (cloudvault-m04-networking-cidr-dns) → Next Topic 5.1: Git From Scratch: Repositories, Staging, Branching, Rebasing, Pull Requests & .gitignore Secret Guards

Module 4 Hands-On Capstone Project (100 Marks): cloudvault-m04-networking-cidr-dns — Architect, implement, test, and push the production GitHub repository 'cloudvault-m04-networking-cidr-dns' (strictly zero dummy scaffolding) demonstrating end-to-end mastery of Module 4: Com...

MODULE 5 OF 22 • STAGE 1 • 21 LIVE + LAB HOURS • 4 TOPICS (32 SUBTOPICS) • 1 CAPSTONE PROJECT (100 MARKS)

Git Version Control, JSON / YAML Configuration & Python Scripting for Cloud

Beginner-to-expert real-repository module covering Git Version Control, JSON / YAML Configuration & Python Scripting for Cloud with supervised live coding, ≥90% MockAttempt AI Viva Gates, and production GitHub PR verification.

Objectives: ✓ Git From Scratch: Repositories, Staging, Branching, Rebasing, Pull Requests & .gitignore Secret Guards — Purpose: Version-control every cloud template and automation script with clean peer-reviewed Git history. • ✓ Mastering JSON & YAML Data Formats: Schema Nesting, Anchors & Cloud Policy / Manifest Authoring — Purpose: Read and author error-free IAM policies, CloudFormation templates, and Kubernetes YAML manifests. • ✓ Python 3 Fundamentals From Zero: Variables, Lists, Dictionaries, Loops, Functions & Error Handling — Purpose: Learn practical Python step-by-step even if you have never written a programming script before. • ✓ Automating Cloud Operations with Python requests & AWS SDK (Boto3) Paginators, Waiters & Retries — Purpose: Write clean Python Boto3 scripts to audit untagged resources, rotate snapshots, and query cloud APIs.

5.1 Git From Scratch: Repositories, Staging, Branching, Rebasing, Pull Requests & .gitignore Secret Guards [90 mins • Assignment (100M) • Hands-On Lab (50M) • 2 Mock Sets • 2 AI Vivas]

Subtopics Covered: Input Validation, Edge • Modular Clean • Idiomatic AWSM Implementation • AWS Multi • Runnable Code Implementation (HCL) • Idiomatic AWSM Implementation: Well-Architected IaC (Terraform), private subnets, auto-scaling & S3/CloudFron... • AWS Multi-AZ VPC, IAM STS, ALB/ECS/EKS, RDS/DynamoDB & EventBridge Execution & Memory Lifecycle for Git From Scratch • Production Hardening & Security: IAM least-privilege OIDC roles, KMS encryption, Security Groups & WAF

Purpose: To understand and apply Git From Scratch: Repositories, Staging, Branching, Rebasing, Pull Requests & .gitignore Secret Guards in real AWS Certified Solutions Architect &...

What Topic Is Next → Next Topic 5.2: Mastering JSON & YAML Data Formats: Schema Nesting, Anchors & Cloud Policy / Manifest Authoring

5.2 Mastering JSON & YAML Data Formats: Schema Nesting, Anchors & Cloud Policy / Manifest Authoring [90 mins • Assignment (100M) • Hands-On Lab (50M) • 2 Mock Sets • 2 AI Vivas]

Subtopics Covered: Input Validation, Edge • Modular Clean • Idiomatic AWSM Implementation • AWS Multi • Runnable Code Implementation (HCL) • Idiomatic AWSM Implementation: Well-Architected IaC (Terraform), private subnets, auto-scaling & S3/CloudFron... • AWS Multi-AZ VPC, IAM STS, ALB/ECS/EKS, RDS/DynamoDB & EventBridge Execution & Memory Lifecycle for Mastering JSON • Production Hardening & Security: IAM least-privilege OIDC roles, KMS encryption, Security Groups & WAF

Purpose: To understand and apply Mastering JSON & YAML Data Formats: Schema Nesting, Anchors & Cloud Policy / Manifest Authoring in real AWS Certified Solutions Architect & Cloud...

What Topic Is Next → Next Topic 5.3: Python 3 Fundamentals From Zero: Variables, Lists, Dictionaries, Loops, Functions & Error Handling

5.3 Python 3 Fundamentals From Zero: Variables, Lists, Dictionaries, Loops, Functions & Error Handling [90 mins • Assignment (100M) • Hands-On Lab (50M) • 2 Mock Sets • 2 AI Vivas]

Subtopics Covered: Input Validation, Edge • Modular Clean • Idiomatic AWSM Implementation • AWS Multi • Runnable Code Implementation (HCL) • Idiomatic AWSM Implementation: Well-Architected IaC (Terraform), private subnets, auto-scaling & S3/CloudFron... • AWS Multi-AZ VPC, IAM STS, ALB/ECS/EKS, RDS/DynamoDB & EventBridge Execution & Memory Lifecycle for Python 3 Fundamentals From Zero • Production Hardening & Security: IAM least-privilege OIDC roles, KMS encryption, Security Groups & WAF

Purpose: To understand and apply Python 3 Fundamentals From Zero: Variables, Lists, Dictionaries, Loops, Functions & Error Handling in real AWS Certified Solutions Architect & Clo...

What Topic Is Next → Next Topic 5.4: Automating Cloud Operations with Python requests & AWS SDK (Boto3) Paginators, Waiters & Retries

5.4 Automating Cloud Operations with Python requests & AWS SDK (Boto3) Paginators, Waiters & Retries [90 mins • Assignment (100M) • Hands-On Lab (50M) • 2 Mock Sets • 2 AI Vivas]

Subtopics Covered: Input Validation, Edge • Modular Clean • Idiomatic AWSM Implementation • AWS Multi • Runnable Code Implementation (HCL) • Idiomatic AWSM Implementation: Well-Architected IaC (Terraform), private subnets, auto-scaling & S3/CloudFron... • AWS Multi-AZ VPC, IAM STS, ALB/ECS/EKS, RDS/DynamoDB & EventBridge Execution & Memory Lifecycle for Automating Cloud Operations with Python requests • Production Hardening & Security: IAM least-privilege OIDC roles, KMS encryption, Security Groups & WAF

Purpose: To understand and apply Automating Cloud Operations with Python requests & AWS SDK (Boto3) Paginators, Waiters & Retries in real AWS Certified Solutions Architect & Cloud...

What Topic Is Next → Module 5 Capstone (cloudvault-m05-git-yaml-python-boto3) → Next Topic 6.1: AWS Account Hardening From Day 1: Root Account MFA, AWS Budgets, Anomaly Alerts & Billing Tags

Module 5 Hands-On Capstone Project (100 Marks): cloudvault-m05-git-yaml-python-boto3 — Architect, implement, test, and push the production GitHub repository 'cloudvault-m05-git-yaml-python-boto3' (strictly zero dummy scaffolding) demonstrating end-to-end mastery of Module 5: G...

MODULE 6 OF 22 • STAGE 2 • 21 LIVE + LAB HOURS • 4 TOPICS (32 SUBTOPICS) • 1 CAPSTONE PROJECT (100 MARKS)

AWS Account Setup, Billing Guardrails & Identity and Access Management (IAM) Core

Beginner-to-expert real-repository module covering AWS Account Setup, Billing Guardrails & Identity and Access Management (IAM) Core with supervised live coding, ≥90% MockAttempt AI Viva Gates, and production GitHub PR verification.

Objectives: ✓ AWS Account Hardening From Day 1: Root Account MFA, AWS Budgets, Anomaly Alerts & Billing Tags — Purpose: Ensure zero surprise cloud bills and lock away root credentials before provisioning a single resource. • ✓ IAM Users, Groups, Roles, Temporary STS Credentials & JSON Policy Evaluation Logic (Allow vs Explicit Deny) — Purpose: Master how AWS evaluates identity-based and resource-based policies on every API request. • ✓ IAM Conditions (MFA, SourceIp, PrincipalTag), Permission Boundaries & Cross-Account Role Assumption — Purpose: Enforce context-aware zero-trust access across dev, staging, security, and production environments. • ✓ AWS CLI v2 Setup, Named SSO Profiles, IAM Access Analyzer & Credential Hygiene Best Practices — Purpose: Eliminate leaked static access keys permanently using short-lived STS tokens and Access Analyzer audits.

6.1 AWS Account Hardening From Day 1: Root Account MFA, AWS Budgets, Anomaly Alerts & Billing Tags [90 mins • Assignment (100M) • Hands-On Lab (50M) • 2 Mock Sets • 2 AI Vivas]

Subtopics Covered: Input Validation, Edge • Modular Clean • Idiomatic AWSM Implementation • AWS Multi • Runnable Code Implementation (HCL) • Idiomatic AWSM Implementation: Well-Architected IaC (Terraform), private subnets, auto-scaling & S3/CloudFron... • AWS Multi-AZ VPC, IAM STS, ALB/ECS/EKS, RDS/DynamoDB & EventBridge Execution & Memory Lifecycle for AWS Account Hardening From Day 1 • Production Hardening & Security: IAM least-privilege OIDC roles, KMS encryption, Security Groups & WAF

Purpose: To understand and apply AWS Account Hardening From Day 1: Root Account MFA, AWS Budgets, Anomaly Alerts & Billing Tags in real AWS Certified Solutions Architect & Cloud E...

What Topic Is Next → Next Topic 6.2: IAM Users, Groups, Roles, Temporary STS Credentials & JSON Policy Evaluation Logic (Allow vs Explicit Deny)

6.2 IAM Users, Groups, Roles, Temporary STS Credentials & JSON Policy Evaluation Logic (Allow vs Explicit Deny) [90 mins • Assignment (100M) • Hands-On Lab (50M) • 2 Mock Sets • 2 AI Vivas]

Subtopics Covered: Input Validation, Edge • Modular Clean • Idiomatic AWSM Implementation • AWS Multi • Runnable Code Implementation (HCL) • Idiomatic AWSM Implementation: Well-Architected IaC (Terraform), private subnets, auto-scaling & S3/CloudFron... • AWS Multi-AZ VPC, IAM STS, ALB/ECS/EKS, RDS/DynamoDB & EventBridge Execution & Memory Lifecycle for IAM Users • Production Hardening & Security: IAM least-privilege OIDC roles, KMS encryption, Security Groups & WAF

Purpose: To understand and apply IAM Users, Groups, Roles, Temporary STS Credentials & JSON Policy Evaluation Logic (Allow vs Explicit Deny) in real AWS Certified Solutions Archit...

What Topic Is Next → Next Topic 6.3: IAM Conditions (MFA, SourceIp, PrincipalTag), Permission Boundaries & Cross-Account Role Assumption

6.3 IAM Conditions (MFA, SourceIp, PrincipalTag), Permission Boundaries & Cross-Account Role Assumption [90 mins • Assignment (100M) • Hands-On Lab (50M) • 2 Mock Sets • 2 AI Vivas]

Subtopics Covered: Input Validation, Edge • Modular Clean • Idiomatic AWSM Implementation • AWS Multi • Runnable Code Implementation (HCL) • Idiomatic AWSM Implementation: Well-Architected IaC (Terraform), private subnets, auto-scaling & S3/CloudFron... • AWS Multi-AZ VPC, IAM STS, ALB/ECS/EKS, RDS/DynamoDB & EventBridge Execution & Memory Lifecycle for IAM Conditions (MFA, SourceIp, PrincipalTag) • Production Hardening & Security: IAM least-privilege OIDC roles, KMS encryption, Security Groups & WAF

Purpose: To understand and apply IAM Conditions (MFA, SourceIp, PrincipalTag), Permission Boundaries & Cross-Account Role Assumption in real AWS Certified Solutions Architect & Cl...

What Topic Is Next → Next Topic 6.4: AWS CLI v2 Setup, Named SSO Profiles, IAM Access Analyzer & Credential Hygiene Best Practices

6.4 AWS CLI v2 Setup, Named SSO Profiles, IAM Access Analyzer & Credential Hygiene Best Practices [90 mins • Assignment (100M) • Hands-On Lab (50M) • 2 Mock Sets • 2 AI Vivas]

Subtopics Covered: Input Validation, Edge • Modular Clean • Idiomatic AWSM Implementation • AWS Multi • Runnable Code Implementation (HCL) • Idiomatic AWSM Implementation: Well-Architected IaC (Terraform), private subnets, auto-scaling & S3/CloudFron... • AWS Multi-AZ VPC, IAM STS, ALB/ECS/EKS, RDS/DynamoDB & EventBridge Execution & Memory Lifecycle for AWS CLI v2 Setup • Production Hardening & Security: IAM least-privilege OIDC roles, KMS encryption, Security Groups & WAF

Purpose: To understand and apply AWS CLI v2 Setup, Named SSO Profiles, IAM Access Analyzer & Credential Hygiene Best Practices in real AWS Certified Solutions Architect & Cloud En...

What Topic Is Next → Module 6 Capstone (cloudvault-m06-aws-iam-zero-trust) → Next Topic 7.1: AWS Organizations, Organizational Units (OUs), Service Control Policies (SCPs) & AWS Control Tower

Module 6 Hands-On Capstone Project (100 Marks): cloudvault-m06-aws-iam-zero-trust — Architect, implement, test, and push the production GitHub repository 'cloudvault-m06-aws-iam-zero-trust' (strictly zero dummy scaffolding) demonstrating end-to-end mastery of Module 6: AWS...

MODULE 7 OF 22 • STAGE 2 • 21 LIVE + LAB HOURS • 4 TOPICS (32 SUBTOPICS) • 1 CAPSTONE PROJECT (100 MARKS)

Enterprise Multi-Account Governance, AWS Organizations, KMS & Edge Security

Beginner-to-expert real-repository module covering Enterprise Multi-Account Governance, AWS Organizations, KMS & Edge Security with supervised live coding, ≥90% MockAttempt AI Viva Gates, and production GitHub PR verification.

Objectives: ✓ AWS Organizations, Organizational Units (OUs), Service Control Policies (SCPs) & AWS Control Tower — Purpose: Prevent anyone — even account admins — from disabling CloudTrail or launching servers in unapproved regions. • ✓ Centralized Human Workforce Access with AWS IAM Identity Center (SSO) & SAML / OIDC Federation — Purpose: Connect corporate identity providers to multi-account AWS permission sets cleanly. • ✓ Cryptography on AWS: KMS Customer Managed Keys, Envelope Encryption, Key Rotation & AWS Secrets Manager — Purpose: Encrypt EBS, S3, and RDS data at rest and rotate database passwords automatically without app downtime. • ✓ Perimeter & Threat Defense: AWS Certificate Manager (ACM), AWS WAF, Shield, GuardDuty & Security Hub — Purpose: Block SQLi/XSS/bot floods at the edge and detect anomalous API calls continuously.

7.1 AWS Organizations, Organizational Units (OUs), Service Control Policies (SCPs) & AWS Control Tower [90 mins • Assignment (100M) • Hands-On Lab (50M) • 2 Mock Sets • 2 AI Vivas]

Subtopics Covered: Input Validation, Edge • Modular Clean • Idiomatic AWSM Implementation • AWS Multi • Runnable Code Implementation (HCL) • Idiomatic AWSM Implementation: Well-Architected IaC (Terraform), private subnets, auto-scaling & S3/CloudFron... • AWS Multi-AZ VPC, IAM STS, ALB/ECS/EKS, RDS/DynamoDB & EventBridge Execution & Memory Lifecycle for AWS Organizations • Production Hardening & Security: IAM least-privilege OIDC roles, KMS encryption, Security Groups & WAF

Purpose: To understand and apply AWS Organizations, Organizational Units (OUs), Service Control Policies (SCPs) & AWS Control Tower in real AWS Certified Solutions Architect & Clo...

What Topic Is Next → Next Topic 7.2: Centralized Human Workforce Access with AWS IAM Identity Center (SSO) & SAML / OIDC Federation

7.2 Centralized Human Workforce Access with AWS IAM Identity Center (SSO) & SAML / OIDC Federation [90 mins • Assignment (100M) • Hands-On Lab (50M) • 2 Mock Sets • 2 AI Vivas]

Subtopics Covered: Input Validation, Edge • Modular Clean • Idiomatic AWSM Implementation • AWS Multi • Runnable Code Implementation (HCL) • Idiomatic AWSM Implementation: Well-Architected IaC (Terraform), private subnets, auto-scaling & S3/CloudFron... • AWS Multi-AZ VPC, IAM STS, ALB/ECS/EKS, RDS/DynamoDB & EventBridge Execution & Memory Lifecycle for Centralized Human Workforce Access with AWS IAM Iden... • Production Hardening & Security: IAM least-privilege OIDC roles, KMS encryption, Security Groups & WAF

Purpose: To understand and apply Centralized Human Workforce Access with AWS IAM Identity Center (SSO) & SAML / OIDC Federation in real AWS Certified Solutions Architect & Cloud E...

What Topic Is Next → Next Topic 7.3: Cryptography on AWS: KMS Customer Managed Keys, Envelope Encryption, Key Rotation & AWS Secrets Manager

7.3 Cryptography on AWS: KMS Customer Managed Keys, Envelope Encryption, Key Rotation & AWS Secrets Manager [90 mins • Assignment (100M) • Hands-On Lab (50M) • 2 Mock Sets • 2 AI Vivas]

Subtopics Covered: Input Validation, Edge • Modular Clean • Idiomatic AWSM Implementation • AWS Multi • Runnable Code Implementation (HCL) • Idiomatic AWSM Implementation: Well-Architected IaC (Terraform), private subnets, auto-scaling & S3/CloudFron... • AWS Multi-AZ VPC, IAM STS, ALB/ECS/EKS, RDS/DynamoDB & EventBridge Execution & Memory Lifecycle for Cryptography on AWS • Production Hardening & Security: IAM least-privilege OIDC roles, KMS encryption, Security Groups & WAF

Purpose: To understand and apply Cryptography on AWS: KMS Customer Managed Keys, Envelope Encryption, Key Rotation & AWS Secrets Manager in real AWS Certified Solutions Architect...

What Topic Is Next → Next Topic 7.4: Perimeter & Threat Defense: AWS Certificate Manager (ACM), AWS WAF, Shield, GuardDuty & Security Hub

7.4 Perimeter & Threat Defense: AWS Certificate Manager (ACM), AWS WAF, Shield, GuardDuty & Security Hub [90 mins • Assignment (100M) • Hands-On Lab (50M) • 2 Mock Sets • 2 AI Vivas]

Subtopics Covered: Input Validation, Edge • Modular Clean • Idiomatic AWSM Implementation • AWS Multi • Runnable Code Implementation (HCL) • Idiomatic AWSM Implementation: Well-Architected IaC (Terraform), private subnets, auto-scaling & S3/CloudFron... • AWS Multi-AZ VPC, IAM STS, ALB/ECS/EKS, RDS/DynamoDB & EventBridge Execution & Memory Lifecycle for Perimeter • Production Hardening & Security: IAM least-privilege OIDC roles, KMS encryption, Security Groups & WAF

Purpose: To understand and apply Perimeter & Threat Defense: AWS Certificate Manager (ACM), AWS WAF, Shield, GuardDuty & Security Hub in real AWS Certified Solutions Architect & C...

What Topic Is Next → Module 7 Capstone (cloudvault-m07-aws-governance-kms-waf) → Next Topic 8.1: Custom Multi-AZ VPC Design: Public, Private App & Isolated Data Subnets, Route Tables, IGW & NAT Gateways

Module 7 Hands-On Capstone Project (100 Marks): cloudvault-m07-aws-governance-kms-waf — Architect, implement, test, and push the production GitHub repository 'cloudvault-m07-aws-governance-kms-waf' (strictly zero dummy scaffolding) demonstrating end-to-end mastery of Module 7:...

MODULE 8 OF 22 • STAGE 2 • 21 LIVE + LAB HOURS • 4 TOPICS (32 SUBTOPICS) • 1 CAPSTONE PROJECT (100 MARKS)

Enterprise AWS Networking: Multi-AZ VPCs, Subnets, Firewalls & Hybrid Connectivity

Beginner-to-expert real-repository module covering Enterprise AWS Networking: Multi-AZ VPCs, Subnets, Firewalls & Hybrid Connectivity with supervised live coding, ≥90% MockAttempt AI Viva Gates, and production GitHub PR verification.

Objectives: ✓ Custom Multi-AZ VPC Design: Public, Private App & Isolated Data Subnets, Route Tables, IGW & NAT Gateways — Purpose: Build production 3-tier cloud networks where backend servers and databases cannot be reached from the internet. • ✓ Defense-in-Depth Firewalls: Stateful Security Groups, Stateless NACLs, AWS Network Firewall & VPC Flow Logs — Purpose: Enforce least-privilege east-west traffic rules and audit rejected packets using VPC Flow Logs. • ✓

Private Service Access: Gateway & Interface VPC Endpoints (AWS PrivateLink) Without NAT Hairpinning — Purpose: Cut NAT Gateway data-processing bills and keep S3, ECR, KMS, and Secrets traffic 100% off the public internet. • ✓ Multi-VPC & Hybrid Cloud Networking: VPC Peering, AWS Transit Gateway, Site-to-Site IPsec VPN & Direct Connect — Purpose: Interconnect dozens of enterprise VPCs and on-premises data centers through a hub-and-spoke backbone.

8.1 Custom Multi-AZ VPC Design: Public, Private App & Isolated Data Subnets, Route Tables, IGW & NAT Gateways [90 mins • Assignment (100M) • Hands-On Lab (50M) • 2 Mock Sets • 2 AI Vivas]

Subtopics Covered: Input Validation, Edge • Modular Clean • Idiomatic AWSM Implementation • AWS Multi • Runnable Code Implementation (HCL) • Idiomatic AWSM Implementation: Well-Architected IaC (Terraform), private subnets, auto-scaling & S3/CloudFron... • AWS Multi-AZ VPC, IAM STS, ALB/ECS/EKS, RDS/DynamoDB & EventBridge Execution & Memory Lifecycle for Custom Multi-AZ VPC Design • Production Hardening & Security: IAM least-privilege OIDC roles, KMS encryption, Security Groups & WAF

Purpose: To understand and apply Custom Multi-AZ VPC Design: Public, Private App & Isolated Data Subnets, Route Tables, IGW & NAT Gateways in real AWS Certified Solutions Architec...

What Topic Is Next → Next Topic 8.2: Defense-in-Depth Firewalls: Stateful Security Groups, Stateless NACLs, AWS Network Firewall & VPC Flow Logs

8.2 Defense-in-Depth Firewalls: Stateful Security Groups, Stateless NACLs, AWS Network Firewall & VPC Flow Logs [90 mins • Assignment (100M) • Hands-On Lab (50M) • 2 Mock Sets • 2 AI Vivas]

Subtopics Covered: Input Validation, Edge • Modular Clean • Idiomatic AWSM Implementation • AWS Multi • Runnable Code Implementation (HCL) • Idiomatic AWSM Implementation: Well-Architected IaC (Terraform), private subnets, auto-scaling & S3/CloudFron... • AWS Multi-AZ VPC, IAM STS, ALB/ECS/EKS, RDS/DynamoDB & EventBridge Execution & Memory Lifecycle for Defense-in-Depth Firewalls • Production Hardening & Security: IAM least-privilege OIDC roles, KMS encryption, Security Groups & WAF

Purpose: To understand and apply Defense-in-Depth Firewalls: Stateful Security Groups, Stateless NACLs, AWS Network Firewall & VPC Flow Logs in real AWS Certified Solutions Archit...

What Topic Is Next → Next Topic 8.3: Private Service Access: Gateway & Interface VPC Endpoints (AWS PrivateLink) Without NAT Hairpinning

8.3 Private Service Access: Gateway & Interface VPC Endpoints (AWS PrivateLink) Without NAT Hairpinning [90 mins • Assignment (100M) • Hands-On Lab (50M) • 2 Mock Sets • 2 AI Vivas]

Subtopics Covered: Input Validation, Edge • Modular Clean • Idiomatic AWSM Implementation • AWS Multi • Runnable Code Implementation (HCL) • Idiomatic AWSM Implementation: Well-Architected IaC (Terraform), private subnets, auto-scaling & S3/CloudFron... • AWS Multi-AZ VPC, IAM STS, ALB/ECS/EKS, RDS/DynamoDB & EventBridge Execution & Memory Lifecycle for Private Service Access • Production Hardening & Security: IAM least-privilege OIDC roles, KMS encryption, Security Groups & WAF

Purpose: To understand and apply Private Service Access: Gateway & Interface VPC Endpoints (AWS PrivateLink) Without NAT Hairpinning in real AWS Certified Solutions Architect & Cl...

What Topic Is Next → Next Topic 8.4: Multi-VPC & Hybrid Cloud Networking: VPC Peering, AWS Transit Gateway, Site-to-Site IPsec VPN & Direct Connect

8.4 Multi-VPC & Hybrid Cloud Networking: VPC Peering, AWS Transit Gateway, Site-to-Site IPsec VPN & Direct Connect [90 mins • Assignment (100M) • Hands-On Lab (50M) • 2 Mock Sets • 2 AI Vivas]

Subtopics Covered: Input Validation, Edge • Modular Clean • Idiomatic AWSM Implementation • AWS Multi • Runnable Code Implementation (HCL) • Idiomatic AWSM Implementation: Well-Architected IaC (Terraform), private subnets, auto-scaling & S3/CloudFron... • AWS Multi-AZ VPC, IAM STS, ALB/ECS/EKS, RDS/DynamoDB & EventBridge Execution & Memory Lifecycle for Multi-VPC • Production Hardening & Security: IAM least-privilege OIDC roles, KMS encryption, Security Groups & WAF

Purpose: To understand and apply Multi-VPC & Hybrid Cloud Networking: VPC Peering, AWS Transit Gateway, Site-to-Site IPsec VPN & Direct Connect in real AWS Certified Solutions Arc...

What Topic Is Next → Module 8 Capstone (cloudvault-m08-aws-vpc-hybrid-network) → Next Topic 9.1: EC2 Instance Families, Nitro Architecture, Golden AMIs, UserData Bootstrapping & IMDSv2 Security

Module 8 Hands-On Capstone Project (100 Marks): cloudvault-m08-aws-vpc-hybrid-network — Architect, implement, test, and push the production GitHub repository 'cloudvault-m08-aws-vpc-hybrid-network' (strictly zero dummy scaffolding) demonstrating end-to-end mastery of Module 8:...

MODULE 9 OF 22 • STAGE 2 • 21 LIVE + LAB HOURS • 4 TOPICS (32 SUBTOPICS) • 1 CAPSTONE PROJECT (100 MARKS)

Elastic Compute (EC2), Block / Shared Storage (EBS, EFS), ALB & Auto Scaling

Beginner-to-expert real-repository module covering Elastic Compute (EC2), Block / Shared Storage (EBS, EFS), ALB & Auto Scaling with supervised live coding, ≥90% MockAttempt AI Viva Gates, and production GitHub PR verification.

Objectives: ✓ EC2 Instance Families, Nitro Architecture, Golden AMIs, UserData Bootstrapping & IMDSv2 Security — Purpose: Choose compute- vs memory-optimized instances and block SSRF metadata theft by enforcing IMDSv2. • ✓ EC2 Purchasing Strategies: On-Demand, Savings Plans, Reserved Instances & Fault-Tolerant Spot Fleets — Purpose: Reduce compute cloud spend by up to 70% while maintaining strict availability SLAs. • ✓ Cloud Block & File Storage: EBS Volume Types (gp3, io2), Snapshot Lifecycle Manager, Amazon EFS & FSx — Purpose: Match storage IOPS and throughput to transactional workloads vs shared multi-AZ POSIX file systems. • ✓ Application Load Balancer (ALB) vs Network Load Balancer (NLB), Target Health Checks & Auto Scaling Groups — Purpose: Distribute HTTPS traffic across Availability Zones and scale EC2 capacity automatically on demand spikes.

9.1 EC2 Instance Families, Nitro Architecture, Golden AMIs, UserData Bootstrapping & IMDSv2 Security [90 mins • Assignment (100M) • Hands-On Lab (50M) • 2 Mock Sets • 2 AI Vivas]

Subtopics Covered: Input Validation, Edge • Modular Clean • Idiomatic AWSM Implementation • AWS Multi • Runnable Code Implementation (HCL) • Idiomatic AWSM Implementation: Well-Architected IaC (Terraform), private subnets, auto-scaling & S3/CloudFron... • AWS Multi-AZ VPC, IAM STS, ALB/ECS/EKS, RDS/DynamoDB & EventBridge Execution & Memory Lifecycle for EC2 Instance Families • Production Hardening & Security: IAM least-privilege OIDC roles, KMS encryption, Security Groups & WAF

Purpose: To understand and apply EC2 Instance Families, Nitro Architecture, Golden AMIs, UserData Bootstrapping & IMDSv2 Security in real AWS Certified Solutions Architect & Cloud...

What Topic Is Next → Next Topic 9.2: EC2 Purchasing Strategies: On-Demand, Savings Plans, Reserved Instances & Fault-Tolerant Spot Fleets

9.2 EC2 Purchasing Strategies: On-Demand, Savings Plans, Reserved Instances & Fault-Tolerant Spot Fleets [90 mins • Assignment (100M) • Hands-On Lab (50M) • 2 Mock Sets • 2 AI Vivas]

Subtopics Covered: Input Validation, Edge • Modular Clean • Idiomatic AWSM Implementation • AWS Multi • Runnable Code Implementation (HCL) • Idiomatic AWSM Implementation: Well-Architected IaC (Terraform), private subnets, auto-scaling & S3/CloudFron... • AWS Multi-AZ VPC, IAM STS, ALB/ECS/EKS, RDS/DynamoDB & EventBridge Execution & Memory Lifecycle for EC2 Purchasing Strategies • Production Hardening & Security: IAM least-privilege OIDC roles, KMS encryption, Security Groups & WAF

Purpose: To understand and apply EC2 Purchasing Strategies: On-Demand, Savings Plans, Reserved Instances & Fault-Tolerant Spot Fleets in real AWS Certified Solutions Architect & C...

What Topic Is Next → Next Topic 9.3: Cloud Block & File Storage: EBS Volume Types (gp3, io2), Snapshot Lifecycle Manager, Amazon EFS & FSx

9.3 Cloud Block & File Storage: EBS Volume Types (gp3, io2), Snapshot Lifecycle Manager, Amazon EFS & FSx [90 mins • Assignment (100M) • Hands-On Lab (50M) • 2 Mock Sets • 2 AI Vivas]

Subtopics Covered: Input Validation, Edge • Modular Clean • Idiomatic AWSM Implementation • AWS Multi • Runnable Code Implementation (HCL) • Idiomatic AWSM Implementation: Well-Architected IaC (Terraform), private subnets, auto-scaling & S3/CloudFron... • AWS Multi-AZ VPC, IAM STS, ALB/ECS/EKS, RDS/DynamoDB & EventBridge Execution & Memory Lifecycle for Cloud Block • Production Hardening & Security: IAM least-privilege OIDC roles, KMS encryption, Security Groups & WAF

Purpose: To understand and apply Cloud Block & File Storage: EBS Volume Types (gp3, io2), Snapshot Lifecycle Manager, Amazon EFS & FSx in real AWS Certified Solutions Architect &...

What Topic Is Next → Next Topic 9.4: Application Load Balancer (ALB) vs Network Load Balancer (NLB), Target Health Checks & Auto Scaling Groups

9.4 Application Load Balancer (ALB) vs Network Load Balancer (NLB), Target Health Checks & Auto Scaling Groups [90 mins • Assignment (100M) • Hands-On Lab (50M) • 2 Mock Sets • 2 AI Vivas]

Subtopics Covered: Input Validation, Edge • Modular Clean • Idiomatic AWSM Implementation • AWS Multi • Runnable Code Implementation (HCL) • Idiomatic AWSM Implementation: Well-Architected IaC (Terraform), private subnets, auto-scaling & S3/CloudFron... • AWS Multi-AZ VPC, IAM STS, ALB/ECS/EKS, RDS/DynamoDB & EventBridge Execution & Memory Lifecycle for Application Load Balancer (ALB) vs Network Load Bala... • Production Hardening & Security: IAM least-privilege OIDC roles, KMS encryption, Security Groups & WAF

Purpose: To understand and apply Application Load Balancer (ALB) vs Network Load Balancer (NLB), Target Health Checks & Auto Scaling Groups in real AWS Certified Solutions Archite...

What Topic Is Next → Module 9 Capstone (cloudvault-m09-ec2-storage-autoscaling) → Next Topic 10.1: Amazon S3 Architecture: 11-Nines Durability, Strong Read-After-Write Consistency, Versioning & Object Lock

Module 9 Hands-On Capstone Project (100 Marks): cloudvault-m09-ec2-storage-autoscaling — Architect, implement, test, and push the production GitHub repository 'cloudvault-m09-ec2-storage-autoscaling' (strictly zero dummy scaffolding) demonstrating end-to-end mastery of Module 9:...

MODULE 10 OF 22 • STAGE 2 • 21 LIVE + LAB HOURS • 4 TOPICS (32 SUBTOPICS) • 1 CAPSTONE PROJECT (100 MARKS)

Amazon S3 Object Storage, Lifecycle Tiering, CloudFront CDN & Route 53 DNS

Beginner-to-expert real-repository module covering Amazon S3 Object Storage, Lifecycle Tiering, CloudFront CDN & Route 53 DNS with supervised live coding, ≥90% MockAttempt AI Viva Gates, and production GitHub PR verification.

Objectives: ✓ Amazon S3 Architecture: 11-Nines Durability, Strong Read-After-Write Consistency, Versioning & Object Lock — Purpose: Store petabytes of enterprise backups, media, and compliance archives with WORM immutability. • ✓ S3 Storage Classes (Standard, Intelligent-Tiering, Glacier) & Automated Lifecycle Transition Policies — Purpose: Optimize long-term storage bills automatically based on real object access frequency. • ✓ S3 Security: Block Public Access, Bucket Policies, KMS Encryption, Presigned URLs & Cross-Region Replication — Purpose: Allow secure direct browser uploads via short-lived presigned URLs without exposing public buckets. • ✓ Global Edge Delivery: Amazon CloudFront CDN (OAC), Edge Functions & Route 53 Routing Policies (Latency/Failover) — Purpose: Serve global users in <20ms and fail over DNS automatically when a primary regional endpoint degrades.

10.1 Amazon S3 Architecture: 11-Nines Durability, Strong Read-After-Write Consistency, Versioning & Object Lock [90 mins • Assignment (100M) • Hands-On Lab (50M) • 2 Mock Sets • 2 AI Vivas]

Subtopics Covered: Input Validation, Edge • Modular Clean • Idiomatic AWSM Implementation • AWS Multi • Runnable Code Implementation (HCL) • Idiomatic AWSM Implementation: Well-Architected IaC (Terraform), private subnets, auto-scaling & S3/CloudFron... • AWS Multi-AZ VPC, IAM STS, ALB/ECS/EKS, RDS/DynamoDB & EventBridge Execution & Memory Lifecycle for Amazon S3 Architecture • Production Hardening & Security: IAM least-privilege OIDC roles, KMS encryption, Security Groups & WAF

Purpose: To understand and apply Amazon S3 Architecture: 11-Nines Durability, Strong Read-After-Write Consistency, Versioning & Object Lock in real AWS Certified Solutions Archite...

What Topic Is Next → Next Topic 10.2: S3 Storage Classes (Standard, Intelligent-Tiering, Glacier) & Automated Lifecycle Transition Policies

10.2 S3 Storage Classes (Standard, Intelligent-Tiering, Glacier) & Automated Lifecycle Transition Policies [90 mins • Assignment (100M) • Hands-On Lab (50M) • 2 Mock Sets • 2 AI Vivas]

Subtopics Covered: Input Validation, Edge • Modular Clean • Idiomatic AWSM Implementation • AWS Multi • Runnable Code Implementation (HCL) • Idiomatic AWSM Implementation: Well-Architected IaC (Terraform), private subnets, auto-scaling & S3/CloudFron... • AWS Multi-AZ VPC, IAM STS, ALB/ECS/EKS, RDS/DynamoDB & EventBridge Execution & Memory Lifecycle for S3 Storage Classes (Standard, Intelligent-Tiering, G... • Production Hardening & Security: IAM least-privilege OIDC roles, KMS encryption, Security Groups & WAF

Purpose: To understand and apply S3 Storage Classes (Standard, Intelligent-Tiering, Glacier) & Automated Lifecycle Transition Policies in real AWS Certified Solutions Architect &...

What Topic Is Next → Next Topic 10.3: S3 Security: Block Public Access, Bucket Policies, KMS Encryption, Presigned URLs & Cross-Region Replication

10.3 S3 Security: Block Public Access, Bucket Policies, KMS Encryption, Presigned URLs & Cross-Region Replication [90 mins • Assignment (100M) • Hands-On Lab (50M) • 2 Mock Sets • 2 AI Vivas]

Subtopics Covered: Input Validation, Edge • Modular Clean • Idiomatic AWSM Implementation • AWS Multi • Runnable Code Implementation (HCL) • Idiomatic AWSM Implementation: Well-Architected IaC (Terraform), private subnets, auto-scaling & S3/CloudFron... • AWS Multi-AZ VPC, IAM STS, ALB/ECS/EKS, RDS/DynamoDB & EventBridge Execution & Memory Lifecycle for S3 Security: Block Public Access • Production Hardening & Security: IAM least-privilege OIDC roles, KMS encryption, Security Groups & WAF

Purpose: To understand and apply S3 Security: Block Public Access, Bucket Policies, KMS Encryption, Presigned URLs & Cross-Region Replication in real AWS Certified Solutions Archi...

What Topic Is Next → Next Topic 10.4: Global Edge Delivery: Amazon CloudFront CDN (OAC), Edge Functions & Route 53 Routing Policies (Latency/Failover)

10.4 Global Edge Delivery: Amazon CloudFront CDN (OAC), Edge Functions & Route 53 Routing Policies (Latency/Failover) [90 mins • Assignment (100M) • Hands-On Lab (50M) • 2 Mock Sets • 2 AI Vivas]

Subtopics Covered: Input Validation, Edge • Modular Clean • Idiomatic AWSM Implementation • AWS Multi • Runnable Code Implementation (HCL) • Idiomatic AWSM Implementation: Well-Architected IaC (Terraform), private subnets, auto-scaling & S3/CloudFron... • AWS Multi-AZ VPC, IAM STS, ALB/ECS/EKS, RDS/DynamoDB & EventBridge Execution & Memory Lifecycle for Global Edge Delivery • Production Hardening & Security: IAM least-privilege OIDC roles, KMS encryption, Security Groups & WAF

Purpose: To understand and apply Global Edge Delivery: Amazon CloudFront CDN (OAC), Edge Functions & Route 53 Routing Policies (Latency/Failover) in real AWS Certified Solutions A...

What Topic Is Next → Module 10 Capstone (cloudvault-m10-s3-cloudfront-route53) → Next Topic 11.1: Relational Databases & SQL From Scratch: Tables, Keys, Normalization, JOINs, Indexes & ACID Transactions

Module 10 Hands-On Capstone Project (100 Marks): cloudvault-m10-s3-cloudfront-route53 — Architect, implement, test, and push the production GitHub repository 'cloudvault-m10-s3-cloudfront-route53' (strictly zero dummy scaffolding) demonstrating end-to-end mastery of Module 10:...

MODULE 11 OF 22 • STAGE 2 • 21 LIVE + LAB HOURS • 4 TOPICS (32 SUBTOPICS) • 1 CAPSTONE PROJECT (100 MARKS)

Relational Databases & SQL From Scratch to Amazon RDS & Aurora Multi-AZ

Beginner-to-expert real-repository module covering Relational Databases & SQL From Scratch to Amazon RDS & Aurora Multi-AZ with supervised live coding, ≥90% MockAttempt AI Viva Gates, and production GitHub PR verification.

Objectives: ✓ Relational Databases & SQL From Scratch: Tables, Keys, Normalization, JOINs, Indexes & ACID Transactions — Purpose: Learn core SQL querying and schema fundamentals thoroughly before administering managed cloud databases. • ✓ Amazon RDS (PostgreSQL / MySQL): Multi-AZ Synchronous Standby Failover vs Asynchronous Read Replicas — Purpose: Distinguish high-availability automatic failover (<60s) from horizontal read-traffic scaling. • ✓ Amazon Aurora Architecture: 6-Copy Quorum Shared Storage, Aurora Serverless v2 & Aurora Global Database — Purpose: Achieve 5x MySQL / 3x PostgreSQL cloud throughput with sub-second cross-region replication. • ✓ RDS Proxy Connection Pooling, Parameter Groups, KMS Encryption & Point-in-Time Recovery (PITR) Drills — Purpose: Prevent Lambda/microservice connection storms from exhausting database memory and test live restores.

11.1 Relational Databases & SQL From Scratch: Tables, Keys, Normalization, JOINs, Indexes & ACID Transactions [90 mins • Assignment (100M) • Hands-On Lab (50M) • 2 Mock Sets • 2 AI Vivas]

Subtopics Covered: Input Validation, Edge • Modular Clean • Idiomatic AWSM Implementation • AWS Multi • Runnable Code Implementation (HCL) • Idiomatic AWSM Implementation: Well-Architected IaC (Terraform), private subnets, auto-scaling & S3/CloudFron... • AWS Multi-AZ VPC, IAM STS, ALB/ECS/EKS, RDS/DynamoDB & EventBridge Execution & Memory Lifecycle for Relational Databases • Production Hardening & Security: IAM least-privilege OIDC roles, KMS encryption, Security Groups & WAF

Purpose: To understand and apply Relational Databases & SQL From Scratch: Tables, Keys, Normalization, JOINs, Indexes & ACID Transactions in real AWS Certified Solutions Architect...

What Topic Is Next → Next Topic 11.2: Amazon RDS (PostgreSQL / MySQL): Multi-AZ Synchronous Standby Failover vs Asynchronous Read Replicas

11.2 Amazon RDS (PostgreSQL / MySQL): Multi-AZ Synchronous Standby Failover vs Asynchronous Read Replicas [90 mins • Assignment (100M) • Hands-On Lab (50M) • 2 Mock Sets • 2 AI Vivas]

Subtopics Covered: Input Validation, Edge • Modular Clean • Idiomatic AWSM Implementation • AWS Multi • Runnable Code Implementation (HCL) • Idiomatic AWSM Implementation: Well-Architected IaC (Terraform), private subnets, auto-scaling & S3/CloudFron... • AWS Multi-AZ VPC, IAM STS, ALB/ECS/EKS, RDS/DynamoDB & EventBridge Execution & Memory Lifecycle for Amazon RDS (PostgreSQL / MySQL) • Production Hardening & Security: IAM least-privilege OIDC roles, KMS encryption, Security Groups & WAF

Purpose: To understand and apply Amazon RDS (PostgreSQL / MySQL): Multi-AZ Synchronous Standby Failover vs Asynchronous Read Replicas in real AWS Certified Solutions Architect & C...

What Topic Is Next → Next Topic 11.3: Amazon Aurora Architecture: 6-Copy Quorum Shared Storage, Aurora Serverless v2 & Aurora Global Database

11.3 Amazon Aurora Architecture: 6-Copy Quorum Shared Storage, Aurora Serverless v2 & Aurora Global Database [90 mins • Assignment (100M) • Hands-On Lab (50M) • 2 Mock Sets • 2 AI Vivas]

Subtopics Covered: Input Validation, Edge • Modular Clean • Idiomatic AWSM Implementation • AWS Multi • Runnable Code Implementation (HCL) • Idiomatic AWSM Implementation: Well-Architected IaC (Terraform), private subnets, auto-scaling & S3/CloudFron... • AWS Multi-AZ VPC, IAM STS, ALB/ECS/EKS, RDS/DynamoDB & EventBridge Execution & Memory Lifecycle for Amazon Aurora Architecture • Production Hardening & Security: IAM least-privilege OIDC roles, KMS encryption, Security Groups & WAF

Purpose: To understand and apply Amazon Aurora Architecture: 6-Copy Quorum Shared Storage, Aurora Serverless v2 & Aurora Global Database in real AWS Certified Solutions Architect...

What Topic Is Next → Next Topic 11.4: RDS Proxy Connection Pooling, Parameter Groups, KMS Encryption & Point-in-Time Recovery (PITR) Drills

11.4 RDS Proxy Connection Pooling, Parameter Groups, KMS Encryption & Point-in-Time Recovery (PITR) Drills [90 mins • Assignment (100M) • Hands-On Lab (50M) • 2 Mock Sets • 2 AI Vivas]

Subtopics Covered: Input Validation, Edge • Modular Clean • Idiomatic AWSM Implementation • AWS Multi • Runnable Code Implementation (HCL) • Idiomatic AWSM Implementation: Well-Architected IaC (Terraform), private subnets, auto-scaling & S3/CloudFron... • AWS Multi-AZ VPC, IAM STS, ALB/ECS/EKS, RDS/DynamoDB & EventBridge Execution & Memory Lifecycle for RDS Proxy Connection Pooling • Production Hardening & Security: IAM least-privilege OIDC roles, KMS encryption, Security Groups & WAF

Purpose: To understand and apply RDS Proxy Connection Pooling, Parameter Groups, KMS Encryption & Point-in-Time Recovery (PITR) Drills in real AWS Certified Solutions Architect &...

What Topic Is Next → Module 11 Capstone (cloudvault-m11-sql-rds-aurora-ha) → Next Topic 12.1: Amazon DynamoDB From Scratch: Partition & Sort Keys, RCUs/WCUs vs On-Demand & Single-Table Modeling

Module 11 Hands-On Capstone Project (100 Marks): cloudvault-m11-sql-rds-aurora-ha — Architect, implement, test, and push the production GitHub repository 'cloudvault-m11-sql-rds-aurora-ha' (strictly zero dummy scaffolding) demonstrating end-to-end mastery of Module 11: Rela...

MODULE 12 OF 22 • STAGE 2 • 21 LIVE + LAB HOURS • 4 TOPICS (32 SUBTOPICS) • 1 CAPSTONE PROJECT (100 MARKS)

NoSQL, Caching & Cloud Analytics: DynamoDB, ElastiCache Redis & Data Lakes

Beginner-to-expert real-repository module covering NoSQL, Caching & Cloud Analytics: DynamoDB, ElastiCache Redis & Data Lakes with supervised live coding, ≥90% MockAttempt AI Viva Gates, and production GitHub PR verification.

Objectives: ✓ Amazon DynamoDB From Scratch: Partition & Sort Keys, RCUs/WCUs vs On-Demand & Single-Table Modeling — Purpose: Design millisecond-latency serverless tables that scale seamlessly to millions of requests per second. • ✓ DynamoDB Secondary Indexes (GSI / LSI), Conditional Writes, Transactions, Streams, TTL & Global Tables — Purpose: Build global active-active shopping carts, session stores, and change-data-capture event triggers. • ✓ In-Memory Acceleration with Amazon ElastiCache (Redis) & MemoryDB: Cache-Aside, TTL & Cluster Failover — Purpose: Offload 90% of repetitive database reads into sub-millisecond Multi-AZ Redis clusters. • ✓ AWS Data & Analytics Architecture: S3 Lakehouse, AWS Glue, Amazon Athena Serverless SQL, Redshift & OpenSearch — Purpose: Choose the right analytical and search engine for SaaS dashboards, log search, and SAA-C03 scenarios.

12.1 Amazon DynamoDB From Scratch: Partition & Sort Keys, RCUs/WCUs vs On-Demand & Single-Table Modeling [90 mins • Assignment (100M) • Hands-On Lab (50M) • 2 Mock Sets • 2 AI Vivas]

Subtopics Covered: Input Validation, Edge • Modular Clean • Idiomatic AWSM Implementation • AWS Multi • Runnable Code Implementation (HCL) • Idiomatic AWSM Implementation: Well-Architected IaC (Terraform), private subnets, auto-scaling & S3/CloudFron... • AWS Multi-AZ VPC, IAM STS, ALB/ECS/EKS, RDS/DynamoDB & EventBridge Execution & Memory Lifecycle for Amazon DynamoDB From Scratch • Production Hardening & Security: IAM least-privilege OIDC roles, KMS encryption, Security Groups & WAF

Purpose: To understand and apply Amazon DynamoDB From Scratch: Partition & Sort Keys, RCUs/WCUs vs On-Demand & Single-Table Modeling in real AWS Certified Solutions Architect & Cl...

What Topic Is Next → Next Topic 12.2: DynamoDB Secondary Indexes (GSI / LSI), Conditional Writes, Transactions, Streams, TTL & Global Tables

12.2 DynamoDB Secondary Indexes (GSI / LSI), Conditional Writes, Transactions, Streams, TTL & Global Tables [90 mins • Assignment (100M) • Hands-On Lab (50M) • 2 Mock Sets • 2 AI Vivas]

Subtopics Covered: Input Validation, Edge • Modular Clean • Idiomatic AWSM Implementation • AWS Multi • Runnable Code Implementation (HCL) • Idiomatic AWSM Implementation: Well-Architected IaC (Terraform), private subnets, auto-scaling & S3/CloudFron... • AWS Multi-AZ VPC, IAM STS, ALB/ECS/EKS, RDS/DynamoDB & EventBridge Execution & Memory Lifecycle for DynamoDB Secondary Indexes (GSI / LSI) • Production Hardening & Security: IAM least-privilege OIDC roles, KMS encryption, Security Groups & WAF

Purpose: To understand and apply DynamoDB Secondary Indexes (GSI / LSI), Conditional Writes, Transactions, Streams, TTL & Global Tables in real AWS Certified Solutions Architect &...

What Topic Is Next → Next Topic 12.3: In-Memory Acceleration with Amazon ElastiCache (Redis) & MemoryDB: Cache-Aside, TTL & Cluster Failover

12.3 In-Memory Acceleration with Amazon ElastiCache (Redis) & MemoryDB: Cache-Aside, TTL & Cluster Failover [90 mins • Assignment (100M) • Hands-On Lab (50M) • 2 Mock Sets • 2 AI Vivas]

Subtopics Covered: Input Validation, Edge • Modular Clean • Idiomatic AWSM Implementation • AWS Multi • Runnable Code Implementation (HCL) • Idiomatic AWSM Implementation: Well-Architected IaC (Terraform), private subnets, auto-scaling & S3/CloudFron... • AWS Multi-AZ VPC, IAM STS, ALB/ECS/EKS, RDS/DynamoDB & EventBridge Execution & Memory Lifecycle for In-Memory Acceleration with Amazon ElastiCache (Redi... • Production Hardening & Security: IAM least-privilege OIDC roles, KMS encryption, Security Groups & WAF

Purpose: To understand and apply In-Memory Acceleration with Amazon ElastiCache (Redis) & MemoryDB: Cache-Aside, TTL & Cluster Failover in real AWS Certified Solutions Architect &...

What Topic Is Next → Next Topic 12.4: AWS Data & Analytics Architecture: S3 Lakehouse, AWS Glue, Amazon Athena Serverless SQL, Redshift & OpenSearch

12.4 AWS Data & Analytics Architecture: S3 Lakehouse, AWS Glue, Amazon Athena Serverless SQL, Redshift & OpenSearch [90 mins • Assignment (100M) • Hands-On Lab (50M) • 2 Mock Sets • 2 AI Vivas]

Subtopics Covered: Input Validation, Edge • Modular Clean • Idiomatic AWSM Implementation • AWS Multi • Runnable Code Implementation (HCL) • Idiomatic AWSM Implementation: Well-Architected IaC (Terraform), private subnets, auto-scaling & S3/CloudFron... • AWS Multi-AZ VPC, IAM STS, ALB/ECS/EKS, RDS/DynamoDB & EventBridge Execution & Memory Lifecycle for AWS Data • Production Hardening & Security: IAM least-privilege OIDC roles, KMS encryption, Security Groups & WAF

Purpose: To understand and apply AWS Data & Analytics Architecture: S3 Lakehouse, AWS Glue, Amazon Athena Serverless SQL, Redshift & OpenSearch in real AWS Certified Solutions Arc...

What Topic Is Next → Module 12 Capstone (cloudvault-m12-dynamodb-redis-lakehouse) → Next Topic 13.1: AWS Lambda Internals: Execution Environments, Cold Starts, SnapStart, Layers, VPC Attachment & IAM Roles

Module 12 Hands-On Capstone Project (100 Marks): cloudvault-m12-dynamodb-redis-lakehouse — Architect, implement, test, and push the production GitHub repository 'cloudvault-m12-dynamodb-redis-lakehouse' (strictly zero dummy scaffolding) demonstrating end-to-end mastery of Module 1...

MODULE 13 OF 22 • STAGE 3 • 21 LIVE + LAB HOURS • 4 TOPICS (32 SUBTOPICS) • 1 CAPSTONE PROJECT (100 MARKS)

Serverless Cloud Architecture: AWS Lambda, API Gateway & Step Functions

Beginner-to-expert real-repository module covering Serverless Cloud Architecture: AWS Lambda, API Gateway & Step Functions with supervised live coding, ≥90% MockAttempt AI Viva Gates, and production GitHub PR verification.

Objectives: ✓ AWS Lambda Internals: Execution Environments, Cold Starts, SnapStart, Layers, VPC Attachment & IAM Roles — Purpose: Write event-driven serverless functions with minimal cold-start latency and tight per-function permissions. • ✓ Amazon API Gateway: REST vs HTTP vs WebSocket APIs, Cognito / Lambda Authorizers, Caching & Throttling — Purpose: Expose secure, rate-limited HTTPS APIs without managing a single EC2 instance or load balancer. • ✓ Workflow Orchestration with AWS Step Functions: Standard vs Express Workflows, Retries & Saga Compensation — Purpose: Coordinate multi-step payment, KYC, and media-processing workflows with visual state audit trails. • ✓ Serverless Production Best Practices: Idempotency, Reserved Concurrency, DLQs & AWS X-Ray Distributed Tracing — Purpose: Ensure retries never duplicate business transactions and trace latency across serverless hops.

13.1 AWS Lambda Internals: Execution Environments, Cold Starts, SnapStart, Layers, VPC Attachment & IAM Roles [90 mins • Assignment (100M) • Hands-On Lab (50M) • 2 Mock Sets • 2 AI Vivas]

Subtopics Covered: Input Validation, Edge • Modular Clean • Idiomatic AWSM Implementation • AWS Multi • Runnable Code Implementation (HCL) • Idiomatic AWSM Implementation: Well-Architected IaC (Terraform), private subnets, auto-scaling & S3/CloudFron... • AWS Multi-AZ VPC, IAM STS, ALB/ECS/EKS, RDS/DynamoDB & EventBridge Execution & Memory Lifecycle for AWS Lambda Internals • Production Hardening & Security: IAM least-privilege OIDC roles, KMS encryption, Security Groups & WAF

Purpose: To understand and apply AWS Lambda Internals: Execution Environments, Cold Starts, SnapStart, Layers, VPC Attachment & IAM Roles in real AWS Certified Solutions Architect...

What Topic Is Next → Next Topic 13.2: Amazon API Gateway: REST vs HTTP vs WebSocket APIs, Cognito / Lambda Authorizers, Caching & Throttling

13.2 Amazon API Gateway: REST vs HTTP vs WebSocket APIs, Cognito / Lambda Authorizers, Caching & Throttling [90 mins • Assignment (100M) • Hands-On Lab (50M) • 2 Mock Sets • 2 AI Vivas]

Subtopics Covered: Input Validation, Edge • Modular Clean • Idiomatic AWSM Implementation • AWS Multi • Runnable Code Implementation (HCL) • Idiomatic AWSM Implementation: Well-Architected IaC (Terraform), private subnets, auto-scaling & S3/CloudFron... • AWS Multi-AZ VPC, IAM STS, ALB/ECS/EKS, RDS/DynamoDB & EventBridge Execution & Memory Lifecycle for Amazon API Gateway • Production Hardening & Security: IAM least-privilege OIDC roles, KMS encryption, Security Groups & WAF

Purpose: To understand and apply Amazon API Gateway: REST vs HTTP vs WebSocket APIs, Cognito / Lambda Authorizers, Caching & Throttling in real AWS Certified Solutions Architect &...

What Topic Is Next → Next Topic 13.3: Workflow Orchestration with AWS Step Functions: Standard vs Express Workflows, Retries & Saga Compensation

13.3 Workflow Orchestration with AWS Step Functions: Standard vs Express Workflows, Retries & Saga Compensation [90 mins • Assignment (100M) • Hands-On Lab (50M) • 2 Mock Sets • 2 AI Vivas]

Subtopics Covered: Input Validation, Edge • Modular Clean • Idiomatic AWSM Implementation • AWS Multi • Runnable Code Implementation (HCL) • Idiomatic AWSM Implementation: Well-Architected IaC (Terraform), private subnets, auto-scaling & S3/CloudFron... • AWS Multi-AZ VPC, IAM STS, ALB/ECS/EKS, RDS/DynamoDB & EventBridge Execution & Memory Lifecycle for Workflow Orchestration with AWS Step Functions • Production Hardening & Security: IAM least-privilege OIDC roles, KMS encryption, Security Groups & WAF

Purpose: To understand and apply Workflow Orchestration with AWS Step Functions: Standard vs Express Workflows, Retries & Saga Compensation in real AWS Certified Solutions Archite...

What Topic Is Next → Next Topic 13.4: Serverless Production Best Practices: Idempotency, Reserved Concurrency, DLQs & AWS X-Ray Distributed Tracing

13.4 Serverless Production Best Practices: Idempotency, Reserved Concurrency, DLQs & AWS X-Ray Distributed Tracing [90 mins • Assignment (100M) • Hands-On Lab (50M) • 2 Mock Sets • 2 AI Vivas]

Subtopics Covered: Input Validation, Edge • Modular Clean • Idiomatic AWSM Implementation • AWS Multi • Runnable Code Implementation (HCL) • Idiomatic AWSM Implementation: Well-Architected IaC (Terraform), private subnets, auto-scaling & S3/CloudFron... • AWS Multi-AZ VPC, IAM STS, ALB/ECS/EKS, RDS/DynamoDB & EventBridge Execution & Memory Lifecycle for Serverless Production Best Practices • Production Hardening & Security: IAM least-privilege OIDC roles, KMS encryption, Security Groups & WAF

Purpose: To understand and apply Serverless Production Best Practices: Idempotency, Reserved Concurrency, DLQs & AWS X-Ray Distributed Tracing in real AWS Certified Solutions Arch...

What Topic Is Next → Module 13 Capstone (cloudvault-m13-serverless-lambda-stepfn) → Next Topic 14.1: Loose Coupling Architecture & Amazon SQS: Standard vs FIFO Queues, Long Polling, Visibility Timeout & DLQs

Module 13 Hands-On Capstone Project (100 Marks): cloudvault-m13-serverless-lambda-stepfn — Architect, implement, test, and push the production GitHub repository 'cloudvault-m13-serverless-lambda-stepfn' (strictly zero dummy scaffolding) demonstrating end-to-end mastery of Module 1...

MODULE 14 OF 22 • STAGE 3 • 21 LIVE + LAB HOURS • 4 TOPICS (32 SUBTOPICS) • 1 CAPSTONE PROJECT (100 MARKS)

Decoupled Event-Driven Cloud Systems: SQS, SNS, EventBridge & Kinesis

Beginner-to-expert real-repository module covering Decoupled Event-Driven Cloud Systems: SQS, SNS, EventBridge & Kinesis with supervised live coding, ≥90% MockAttempt AI Viva Gates, and production GitHub PR verification.

Objectives: ✓ Loose Coupling Architecture & Amazon SQS: Standard vs FIFO Queues, Long Polling, Visibility Timeout & DLQs — Purpose: Buffer flash-sale traffic spikes gracefully so downstream workers never crash under sudden load. • ✓ Pub/Sub Fan-Out with Amazon SNS: Topic Subscriptions, Message Attribute Filtering & SQS Fan-Out Pattern — Purpose: Broadcast a single OrderPlaced event cleanly to billing, analytics, warehouse, and email queues in parallel. • ✓ Serverless Event Mesh with Amazon EventBridge: Custom Event Buses, Schema Registry, Archive/Replay & Schedules — Purpose: Route SaaS and microservice events declaratively and replay archived events after bug fixes. • ✓ Real-Time Streaming Ingestion: Amazon Kinesis Data Streams, Data Firehose to S3/Redshift & Amazon MSK (Kafka) — Purpose: Compare queue, event-bus, and high-throughput stream architectures accurately in interviews and production.

14.1 Loose Coupling Architecture & Amazon SQS: Standard vs FIFO Queues, Long Polling, Visibility Timeout & DLQs [90 mins • Assignment (100M) • Hands-On Lab (50M) • 2 Mock Sets • 2 AI Vivas]

Subtopics Covered: Input Validation, Edge • Modular Clean • Idiomatic AWSM Implementation • AWS Multi • Runnable Code Implementation (HCL) • Idiomatic AWSM Implementation: Well-Architected IaC (Terraform), private subnets, auto-scaling & S3/CloudFron... • AWS Multi-AZ VPC, IAM STS, ALB/ECS/EKS, RDS/DynamoDB & EventBridge Execution & Memory Lifecycle for Loose Coupling Architecture • Production Hardening & Security: IAM least-privilege OIDC roles, KMS encryption, Security Groups & WAF

Purpose: To understand and apply Loose Coupling Architecture & Amazon SQS: Standard vs FIFO Queues, Long Polling, Visibility Timeout & DLQs in real AWS Certified Solutions Archite...

What Topic Is Next → Next Topic 14.2: Pub/Sub Fan-Out with Amazon SNS: Topic Subscriptions, Message Attribute Filtering & SQS Fan-Out Pattern

14.2 Pub/Sub Fan-Out with Amazon SNS: Topic Subscriptions, Message Attribute Filtering & SQS Fan-Out Pattern [90 mins • Assignment (100M) • Hands-On Lab (50M) • 2 Mock Sets • 2 AI Vivas]

Subtopics Covered: Input Validation, Edge • Modular Clean • Idiomatic AWSM Implementation • AWS Multi • Runnable Code Implementation (HCL) • Idiomatic AWSM Implementation: Well-Architected IaC (Terraform), private subnets, auto-scaling & S3/CloudFron... • AWS Multi-AZ VPC, IAM STS, ALB/ECS/EKS, RDS/DynamoDB & EventBridge Execution & Memory Lifecycle for Pub/Sub Fan-Out with Amazon SNS • Production Hardening & Security: IAM least-privilege OIDC roles, KMS encryption, Security Groups & WAF

Purpose: To understand and apply Pub/Sub Fan-Out with Amazon SNS: Topic Subscriptions, Message Attribute Filtering & SQS Fan-Out Pattern in real AWS Certified Solutions Architect...

What Topic Is Next → Next Topic 14.3: Serverless Event Mesh with Amazon EventBridge: Custom Event Buses, Schema Registry, Archive/Replay & Schedules

14.3 Serverless Event Mesh with Amazon EventBridge: Custom Event Buses, Schema Registry, Archive/Replay & Schedules [90 mins • Assignment (100M) • Hands-On Lab (50M) • 2 Mock Sets • 2 AI Vivas]

Subtopics Covered: Input Validation, Edge • Modular Clean • Idiomatic AWSM Implementation • AWS Multi • Runnable Code Implementation (HCL) • Idiomatic AWSM Implementation: Well-Architected IaC (Terraform), private subnets, auto-scaling & S3/CloudFron... • AWS Multi-AZ VPC, IAM STS, ALB/ECS/EKS, RDS/DynamoDB & EventBridge Execution & Memory Lifecycle for Serverless Event Mesh with Amazon EventBridge • Production Hardening & Security: IAM least-privilege OIDC roles, KMS encryption, Security Groups & WAF

Purpose: To understand and apply Serverless Event Mesh with Amazon EventBridge: Custom Event Buses, Schema Registry, Archive/Replay & Schedules in real AWS Certified Solutions Arc...

What Topic Is Next → Next Topic 14.4: Real-Time Streaming Ingestion: Amazon Kinesis Data Streams, Data Firehose to S3/Redshift & Amazon MSK (Kafka)

14.4 Real-Time Streaming Ingestion: Amazon Kinesis Data Streams, Data Firehose to S3/Redshift & Amazon MSK (Kafka) [90 mins • Assignment (100M) • Hands-On Lab (50M) • 2 Mock Sets • 2 AI Vivas]

Subtopics Covered: Input Validation, Edge • Modular Clean • Idiomatic AWSM Implementation • AWS Multi • Runnable Code Implementation (HCL) • Idiomatic AWSM Implementation: Well-Architected IaC (Terraform), private subnets, auto-scaling & S3/CloudFron... • AWS Multi-AZ VPC, IAM STS, ALB/ECS/EKS, RDS/DynamoDB & EventBridge Execution & Memory Lifecycle for Real-Time Streaming Ingestion • Production Hardening & Security: IAM least-privilege OIDC roles, KMS encryption, Security Groups & WAF

Purpose: To understand and apply Real-Time Streaming Ingestion: Amazon Kinesis Data Streams, Data Firehose to S3/Redshift & Amazon MSK (Kafka) in real AWS Certified Solutions Arch...

What Topic Is Next → Module 14 Capstone (cloudvault-m14-sqs-sns-eventbridge) → Next Topic 15.1: Docker From Scratch: Images vs Containers, Multi-Stage Dockerfiles, Non-Root Security & Docker Compose

Module 14 Hands-On Capstone Project (100 Marks): cloudvault-m14-sqs-sns-eventbridge — Architect, implement, test, and push the production GitHub repository 'cloudvault-m14-sqs-sns-eventbridge' (strictly zero dummy scaffolding) demonstrating end-to-end mastery of Module 14: De...

MODULE 15 OF 22 • STAGE 3 • 21 LIVE + LAB HOURS • 4 TOPICS (32 SUBTOPICS) • 1 CAPSTONE PROJECT (100 MARKS)

Docker Containerization From Scratch, Amazon ECR & Amazon ECS Fargate

Beginner-to-expert real-repository module covering Docker Containerization From Scratch, Amazon ECR & Amazon ECS Fargate with supervised live coding, ≥90% MockAttempt AI Viva Gates, and production GitHub PR verification.

Objectives: ✓ Docker From Scratch: Images vs Containers, Multi-Stage Dockerfiles, Non-Root Security & Docker Compose — Purpose: Containerize Python/Node/Java applications cleanly and verify multi-container stacks locally. • ✓ Amazon Elastic Container Registry (ECR): Private Repositories, Enhanced CVE Image Scanning & Lifecycle Rules — Purpose: Store immutable tagged container artifacts with automated vulnerability detection on push. • ✓ Amazon ECS Architecture: Clusters, Task Definitions, EC2 vs Serverless AWS Fargate, Task IAM Roles & Secrets — Purpose: Run production containers on AWS Fargate without patching host OS kernels or managing cluster nodes. • ✓ ECS Service Auto Scaling, ALB Path/Host Routing & Zero-Downtime Blue/Green Deployments with CodeDeploy — Purpose: Roll out new container versions safely with automatic health-check verification and instant rollback.

15.1 Docker From Scratch: Images vs Containers, Multi-Stage Dockerfiles, Non-Root Security & Docker Compose [90 mins • Assignment (100M) • Hands-On Lab (50M) • 2 Mock Sets • 2 AI Vivas]

Subtopics Covered: Input Validation, Edge • Modular Clean • Idiomatic AWSM Implementation • AWS Multi • Runnable Code Implementation (HCL) • Idiomatic AWSM Implementation: Well-Architected IaC (Terraform), private subnets, auto-scaling & S3/CloudFron... • AWS Multi-AZ VPC, IAM STS, ALB/ECS/EKS, RDS/DynamoDB & EventBridge Execution & Memory Lifecycle for Docker From Scratch • Production Hardening & Security: IAM least-privilege OIDC roles, KMS encryption, Security Groups & WAF

Purpose: To understand and apply Docker From Scratch: Images vs Containers, Multi-Stage Dockerfiles, Non-Root Security & Docker Compose in real AWS Certified Solutions Architect &...

What Topic Is Next → Next Topic 15.2: Amazon Elastic Container Registry (ECR): Private Repositories, Enhanced CVE Image Scanning & Lifecycle Rules

15.2 Amazon Elastic Container Registry (ECR): Private Repositories, Enhanced CVE Image Scanning & Lifecycle Rules [90 mins • Assignment (100M) • Hands-On Lab (50M) • 2 Mock Sets • 2 AI Vivas]

Subtopics Covered: Input Validation, Edge • Modular Clean • Idiomatic AWSM Implementation • AWS Multi • Runnable Code Implementation (HCL) • Idiomatic AWSM Implementation: Well-Architected IaC (Terraform), private subnets, auto-scaling & S3/CloudFron... • AWS Multi-AZ VPC, IAM STS, ALB/ECS/EKS, RDS/DynamoDB & EventBridge Execution & Memory Lifecycle for Amazon Elastic Container Registry (ECR) • Production Hardening & Security: IAM least-privilege OIDC roles, KMS encryption, Security Groups & WAF

Purpose: To understand and apply Amazon Elastic Container Registry (ECR): Private Repositories, Enhanced CVE Image Scanning & Lifecycle Rules in real AWS Certified Solutions Archi...

What Topic Is Next → Next Topic 15.3: Amazon ECS Architecture: Clusters, Task Definitions, EC2 vs Serverless AWS Fargate, Task IAM Roles & Secrets

15.3 Amazon ECS Architecture: Clusters, Task Definitions, EC2 vs Serverless AWS Fargate, Task IAM Roles & Secrets [90 mins • Assignment (100M) • Hands-On Lab (50M) • 2 Mock Sets • 2 AI Vivas]

Subtopics Covered: Input Validation, Edge • Modular Clean • Idiomatic AWSM Implementation • AWS Multi • Runnable Code Implementation (HCL) • Idiomatic AWSM Implementation: Well-Architected IaC (Terraform), private subnets, auto-scaling & S3/CloudFron... • AWS Multi-AZ VPC, IAM STS, ALB/ECS/EKS, RDS/DynamoDB & EventBridge Execution & Memory Lifecycle for Amazon ECS Architecture • Production Hardening & Security: IAM least-privilege OIDC roles, KMS encryption, Security Groups & WAF

Purpose: To understand and apply Amazon ECS Architecture: Clusters, Task Definitions, EC2 vs Serverless AWS Fargate, Task IAM Roles & Secrets in real AWS Certified Solutions Archi...

What Topic Is Next → Next Topic 15.4: ECS Service Auto Scaling, ALB Path/Host Routing & Zero-Downtime Blue/Green Deployments with CodeDeploy

15.4 ECS Service Auto Scaling, ALB Path/Host Routing & Zero-Downtime Blue/Green Deployments with CodeDeploy [90 mins • Assignment (100M) • Hands-On Lab (50M) • 2 Mock Sets • 2 AI Vivas]

Subtopics Covered: Input Validation, Edge • Modular Clean • Idiomatic AWSM Implementation • AWS Multi • Runnable Code Implementation (HCL) • Idiomatic AWSM Implementation: Well-Architected IaC (Terraform), private subnets, auto-scaling & S3/CloudFron... • AWS Multi-AZ VPC, IAM STS, ALB/ECS/EKS, RDS/DynamoDB & EventBridge Execution & Memory Lifecycle for ECS Service Auto Scaling • Production Hardening & Security: IAM least-privilege OIDC roles, KMS encryption, Security Groups & WAF

Purpose: To understand and apply ECS Service Auto Scaling, ALB Path/Host Routing & Zero-Downtime Blue/Green Deployments with CodeDeploy in real AWS Certified Solutions Architect &...

What Topic Is Next → Module 15 Capstone (cloudvault-m15-docker-ecr-ecs-fargate) → Next Topic 16.1: Kubernetes From Scratch: Control Plane vs Worker Nodes, Pods, Deployments, Services, ConfigMaps & Namespaces

Module 15 Hands-On Capstone Project (100 Marks): cloudvault-m15-docker-ecr-ecs-fargate — Architect, implement, test, and push the production GitHub repository 'cloudvault-m15-docker-ecr-ecs-fargate' (strictly zero dummy scaffolding) demonstrating end-to-end mastery of Module 15:...

MODULE 16 OF 22 • STAGE 3 • 21 LIVE + LAB HOURS • 4 TOPICS (32 SUBTOPICS) • 1 CAPSTONE PROJECT (100 MARKS)

Kubernetes Foundations & Production Amazon EKS Architecture

Beginner-to-expert real-repository module covering Kubernetes Foundations & Production Amazon EKS Architecture with supervised live coding, ≥90% MockAttempt AI Viva Gates, and production GitHub PR verification.

Objectives: ✓ Kubernetes From Scratch: Control Plane vs Worker Nodes, Pods, Deployments, Services, ConfigMaps & Namespaces — Purpose: Master core kubectl workflows and declarative Kubernetes manifests step-by-step. • ✓ Amazon EKS Architecture: Managed Control Plane, Managed Node Groups, EKS Pod Identity / IRSA & VPC CNI — Purpose: Grant fine-grained AWS IAM permissions to individual Kubernetes pods without node-wide credential sharing. • ✓ EKS Ingress & Storage: AWS Load Balancer Controller (ALB/NLB), EBS/EFS CSI Drivers & External Secrets — Purpose: Expose Kubernetes services over ACM-backed HTTPS ALBs and mount persistent encrypted cloud volumes. • ✓ Autoscaling & Packaging on EKS: HorizontalPodAutoscaler (HPA), Karpenter Node Provisioning & Helm Charts — Purpose: Scale pods and right-sized EC2/Spot nodes in seconds while packaging repeatable releases via Helm.

16.1 Kubernetes From Scratch: Control Plane vs Worker Nodes, Pods, Deployments, Services, ConfigMaps & Namespaces [90 mins • Assignment (100M) • Hands-On Lab (50M) • 2 Mock Sets • 2 AI Vivas]

Subtopics Covered: Input Validation, Edge • Modular Clean • Idiomatic AWSM Implementation • AWS Multi • Runnable Code Implementation (HCL) • Idiomatic AWSM Implementation: Well-Architected IaC (Terraform), private subnets, auto-scaling & S3/CloudFron... • AWS Multi-AZ VPC, IAM STS, ALB/ECS/EKS, RDS/DynamoDB & EventBridge Execution & Memory Lifecycle for Kubernetes From Scratch • Production Hardening & Security: IAM least-privilege OIDC roles, KMS encryption, Security Groups & WAF

Purpose: To understand and apply Kubernetes From Scratch: Control Plane vs Worker Nodes, Pods, Deployments, Services, ConfigMaps & Namespaces in real AWS Certified Solutions Archi...

What Topic Is Next → Next Topic 16.2: Amazon EKS Architecture: Managed Control Plane, Managed Node Groups, EKS Pod Identity / IRSA & VPC CNI

16.2 Amazon EKS Architecture: Managed Control Plane, Managed Node Groups, EKS Pod Identity / IRSA & VPC CNI [90 mins • Assignment (100M) • Hands-On Lab (50M) • 2 Mock Sets • 2 AI Vivas]

Subtopics Covered: Input Validation, Edge • Modular Clean • Idiomatic AWSM Implementation • AWS Multi • Runnable Code Implementation (HCL) • Idiomatic AWSM Implementation: Well-Architected IaC (Terraform), private subnets, auto-scaling & S3/CloudFron... • AWS Multi-AZ VPC, IAM STS, ALB/ECS/EKS, RDS/DynamoDB &

EventBridge Execution & Memory Lifecycle for Amazon EKS Architecture • Production Hardening & Security: IAM least-privilege OIDC roles, KMS encryption, Security Groups & WAF

Purpose: To understand and apply Amazon EKS Architecture: Managed Control Plane, Managed Node Groups, EKS Pod Identity / IRSA & VPC CNI in real AWS Certified Solutions Architect &...

What Topic Is Next → Next Topic 16.3: EKS Ingress & Storage: AWS Load Balancer Controller (ALB/NLB), EBS/EFS CSI Drivers & External Secrets

16.3 EKS Ingress & Storage: AWS Load Balancer Controller (ALB/NLB), EBS/EFS CSI Drivers & External Secrets [90 mins • Assignment (100M) • Hands-On Lab (50M) • 2 Mock Sets • 2 AI Vivas]

Subtopics Covered: Input Validation, Edge • Modular Clean • Idiomatic AWSM Implementation • AWS Multi • Runnable Code Implementation (HCL) • Idiomatic AWSM Implementation: Well-Architected IaC (Terraform), private subnets, auto-scaling & S3/CloudFron... • AWS Multi-AZ VPC, IAM STS, ALB/ECS/EKS, RDS/DynamoDB & EventBridge Execution & Memory Lifecycle for EKS Ingress • Production Hardening & Security: IAM least-privilege OIDC roles, KMS encryption, Security Groups & WAF

Purpose: To understand and apply EKS Ingress & Storage: AWS Load Balancer Controller (ALB/NLB), EBS/EFS CSI Drivers & External Secrets in real AWS Certified Solutions Architect &...

What Topic Is Next → Next Topic 16.4: Autoscaling & Packaging on EKS: HorizontalPodAutoscaler (HPA), Karpenter Node Provisioning & Helm Charts

16.4 Autoscaling & Packaging on EKS: HorizontalPodAutoscaler (HPA), Karpenter Node Provisioning & Helm Charts [90 mins • Assignment (100M) • Hands-On Lab (50M) • 2 Mock Sets • 2 AI Vivas]

Subtopics Covered: Input Validation, Edge • Modular Clean • Idiomatic AWSM Implementation • AWS Multi • Runnable Code Implementation (HCL) • Idiomatic AWSM Implementation: Well-Architected IaC (Terraform), private subnets, auto-scaling & S3/CloudFron... • AWS Multi-AZ VPC, IAM STS, ALB/ECS/EKS, RDS/DynamoDB & EventBridge Execution & Memory Lifecycle for Autoscaling • Production Hardening & Security: IAM least-privilege OIDC roles, KMS encryption, Security Groups & WAF

Purpose: To understand and apply Autoscaling & Packaging on EKS: HorizontalPodAutoscaler (HPA), Karpenter Node Provisioning & Helm Charts in real AWS Certified Solutions Architect...

What Topic Is Next → Module 16 Capstone (cloudvault-m16-kubernetes-amazon-eks) → Next Topic 17.1: Infrastructure as Code From Scratch: Declarative HCL Syntax, Providers, Resources, Variables, Outputs & Locals

Module 16 Hands-On Capstone Project (100 Marks): cloudvault-m16-kubernetes-amazon-eks — Architect, implement, test, and push the production GitHub repository 'cloudvault-m16-kubernetes-amazon-eks' (strictly zero dummy scaffolding) demonstrating end-to-end mastery of Module 16:...

MODULE 17 OF 22 • STAGE 3 • 21 LIVE + LAB HOURS • 4 TOPICS (32 SUBTOPICS) • 1 CAPSTONE PROJECT (100 MARKS)

Terraform Infrastructure as Code (IaC) & AWS CloudFormation Automation

Beginner-to-expert real-repository module covering Terraform Infrastructure as Code (IaC) & AWS CloudFormation Automation with supervised live coding, ≥90% MockAttempt AI Viva Gates, and production GitHub PR verification.

Objectives: ✓ Infrastructure as Code From Scratch: Declarative HCL Syntax, Providers, Resources, Variables, Outputs & Locals — Purpose: Replace error-prone manual console clicking with peer-reviewed, repeatable Terraform code. • ✓ Terraform State Architecture: Remote S3 Backend, State Locking, Encryption, Workspaces & State Import/Move — Purpose: Collaborate safely across cloud engineering teams without corrupting or exposing infrastructure state. • ✓ Composable Terraform Modules for Multi-AZ VPC, ALB, RDS Multi-AZ, S3/CloudFront & EKS Environments — Purpose: Author DRY, versioned Terraform modules reusable across dev, staging, and production accounts. • ✓ AWS CloudFormation / AWS CDK Essentials, Drift Detection & Policy-as-Code Scanning (Checkov / tflint) — Purpose: Block misconfigured public buckets or open 0.0.0.0/0 SSH rules automatically before terraform apply.

17.1 Infrastructure as Code From Scratch: Declarative HCL Syntax, Providers, Resources, Variables, Outputs & Locals [90 mins • Assignment (100M) • Hands-On Lab (50M) • 2 Mock Sets • 2 AI Vivas]

Subtopics Covered: Input Validation, Edge • Modular Clean • Idiomatic AWSM Implementation • AWS Multi • Runnable Code Implementation (HCL) • Idiomatic AWSM Implementation: Well-Architected IaC (Terraform), private subnets, auto-scaling & S3/CloudFron... • AWS Multi-AZ VPC, IAM STS, ALB/ECS/EKS, RDS/DynamoDB & EventBridge Execution & Memory Lifecycle for Infrastructure as Code From Scratch • Production Hardening & Security: IAM least-privilege OIDC roles, KMS encryption, Security Groups & WAF

Purpose: To understand and apply Infrastructure as Code From Scratch: Declarative HCL Syntax, Providers, Resources, Variables, Outputs & Locals in real AWS Certified Solutions Arc...

What Topic Is Next → Next Topic 17.2: Terraform State Architecture: Remote S3 Backend, State Locking, Encryption, Workspaces & State Import/Move

17.2 Terraform State Architecture: Remote S3 Backend, State Locking, Encryption, Workspaces & State Import/Move [90 mins • Assignment (100M) • Hands-On Lab (50M) • 2 Mock Sets • 2 AI Vivas]

Subtopics Covered: Input Validation, Edge • Modular Clean • Idiomatic AWSM Implementation • AWS Multi • Runnable Code Implementation (HCL) • Idiomatic AWSM Implementation: Well-Architected IaC (Terraform), private subnets, auto-scaling & S3/CloudFron... • AWS Multi-AZ VPC, IAM STS, ALB/ECS/EKS, RDS/DynamoDB & EventBridge Execution & Memory Lifecycle for Terraform State Architecture • Production Hardening & Security: IAM least-privilege OIDC roles, KMS encryption, Security Groups & WAF

Purpose: To understand and apply Terraform State Architecture: Remote S3 Backend, State Locking, Encryption, Workspaces & State Import/Move in real AWS Certified Solutions Archite...

What Topic Is Next → Next Topic 17.3: Composable Terraform Modules for Multi-AZ VPC, ALB, RDS Multi-AZ, S3/CloudFront & EKS Environments

17.3 Composable Terraform Modules for Multi-AZ VPC, ALB, RDS Multi-AZ, S3/CloudFront & EKS Environments [90 mins • Assignment (100M) • Hands-On Lab (50M) • 2 Mock Sets • 2 AI Vivas]

Subtopics Covered: Input Validation, Edge • Modular Clean • Idiomatic AWSM Implementation • AWS Multi • Runnable Code Implementation (HCL) • Idiomatic AWSM Implementation: Well-Architected IaC (Terraform), private subnets, auto-scaling & S3/CloudFron... • AWS Multi-AZ VPC, IAM STS, ALB/ECS/EKS, RDS/DynamoDB & EventBridge Execution & Memory Lifecycle for Composable Terraform Modules for Multi-AZ VPC • Production Hardening & Security: IAM least-privilege OIDC roles, KMS encryption, Security Groups & WAF

Purpose: To understand and apply Composable Terraform Modules for Multi-AZ VPC, ALB, RDS Multi-AZ, S3/CloudFront & EKS Environments in real AWS Certified Solutions Architect & Clo...

What Topic Is Next → Next Topic 17.4: AWS CloudFormation / AWS CDK Essentials, Drift Detection & Policy-as-Code Scanning (Checkov / tflint)

17.4 AWS CloudFormation / AWS CDK Essentials, Drift Detection & Policy-as-Code Scanning (Checkov / tflint) [90 mins • Assignment (100M) • Hands-On Lab (50M) • 2 Mock Sets • 2 AI Vivas]

Subtopics Covered: Input Validation, Edge • Modular Clean • Idiomatic AWSM Implementation • AWS Multi • Runnable Code Implementation (HCL) • Idiomatic AWSM Implementation: Well-Architected IaC (Terraform), private subnets, auto-scaling & S3/CloudFron... • AWS Multi-AZ VPC, IAM STS, ALB/ECS/EKS, RDS/DynamoDB & EventBridge Execution & Memory Lifecycle for AWS CloudFormation / AWS CDK Essentials • Production Hardening & Security: IAM least-privilege OIDC roles, KMS encryption, Security Groups & WAF

Purpose: To understand and apply AWS CloudFormation / AWS CDK Essentials, Drift Detection & Policy-as-Code Scanning (Checkov / tflint) in real AWS Certified Solutions Architect &...

What Topic Is Next → Module 17 Capstone (cloudvault-m17-terraform-iac-modules) → Next Topic 18.1: CI/CD Architecture & Keyless AWS Authentication via GitHub Actions OpenID Connect (OIDC) Federation

Module 17 Hands-On Capstone Project (100 Marks): cloudvault-m17-terraform-iac-modules — Architect, implement, test, and push the production GitHub repository 'cloudvault-m17-terraform-iac-modules' (strictly zero dummy scaffolding) demonstrating end-to-end mastery of Module 17:...

MODULE 18 OF 22 • STAGE 4 • 21 LIVE + LAB HOURS • 4 TOPICS (32 SUBTOPICS) • 1 CAPSTONE PROJECT (100 MARKS)

Cloud DevSecOps CI/CD Pipelines with GitHub Actions OIDC & AWS Deployment

Beginner-to-expert real-repository module covering Cloud DevSecOps CI/CD Pipelines with GitHub Actions OIDC & AWS Deployment with supervised live coding, ≥90% MockAttempt AI Viva Gates, and production GitHub PR verification.

Objectives: ✓ CI/CD Architecture & Keyless AWS Authentication via GitHub Actions OpenID Connect (OIDC) Federation — Purpose: Deploy from GitHub Actions into AWS using short-lived OIDC IAM roles with zero stored AWS secrets. • ✓ Automated Terraform GitOps Pipelines: PR Format/Validate, Security Scan, Plan Comments & Gated Prod Apply — Purpose: Review exact infrastructure diffs on every pull request before applying changes to production. • ✓ Container Application CI/CD: Automated Tests, Trivy Vulnerability Gate, ECR Push & Rolling ECS/EKS Deploy — Purpose: Ship verified application builds from Git commit to HTTPS production in under 5 minutes. • ✓ Enterprise Migration & Hybrid Transfer Tools: AWS DMS, DataSync, Snow Family & Application Migration Service — Purpose: Plan minimal-downtime database and server migrations from on-premises data centers into AWS.

18.1 CI/CD Architecture & Keyless AWS Authentication via GitHub Actions OpenID Connect (OIDC) Federation [90 mins • Assignment (100M) • Hands-On Lab (50M) • 2 Mock Sets • 2 AI Vivas]

Subtopics Covered: Input Validation, Edge • Modular Clean • Idiomatic AWSM Implementation • AWS Multi • Runnable Code Implementation (HCL) • Idiomatic AWSM Implementation: Well-Architected IaC (Terraform), private subnets, auto-scaling & S3/CloudFron... • AWS Multi-AZ VPC, IAM STS, ALB/ECS/EKS, RDS/DynamoDB & EventBridge Execution & Memory Lifecycle for CI/CD Architecture • Production Hardening & Security: IAM least-privilege OIDC roles, KMS encryption, Security Groups & WAF

Purpose: To understand and apply CI/CD Architecture & Keyless AWS Authentication via GitHub Actions OpenID Connect (OIDC) Federation in real AWS Certified Solutions Architect & Cl...

What Topic Is Next → Next Topic 18.2: Automated Terraform GitOps Pipelines: PR Format/Validate, Security Scan, Plan Comments & Gated Prod Apply

18.2 Automated Terraform GitOps Pipelines: PR Format/Validate, Security Scan, Plan Comments & Gated Prod Apply [90 mins • Assignment (100M) • Hands-On Lab (50M) • 2 Mock Sets • 2 AI Vivas]

Subtopics Covered: Input Validation, Edge • Modular Clean • Idiomatic AWSM Implementation • AWS Multi • Runnable Code Implementation (HCL) • Idiomatic AWSM Implementation: Well-Architected IaC (Terraform), private subnets, auto-scaling & S3/CloudFron... • AWS Multi-AZ VPC, IAM STS, ALB/ECS/EKS, RDS/DynamoDB & EventBridge Execution & Memory Lifecycle for Automated Terraform GitOps Pipelines • Production Hardening & Security: IAM least-privilege OIDC roles, KMS encryption, Security Groups & WAF

Purpose: To understand and apply Automated Terraform GitOps Pipelines: PR Format/Validate, Security Scan, Plan Comments & Gated Prod Apply in real AWS Certified Solutions Architec...

What Topic Is Next → Next Topic 18.3: Container Application CI/CD: Automated Tests, Trivy Vulnerability Gate, ECR Push & Rolling ECS/EKS Deploy

18.3 Container Application CI/CD: Automated Tests, Trivy Vulnerability Gate, ECR Push & Rolling ECS/EKS Deploy [90 mins • Assignment (100M) • Hands-On Lab (50M) • 2 Mock Sets • 2 AI Vivas]

Subtopics Covered: Input Validation, Edge • Modular Clean • Idiomatic AWSM Implementation • AWS Multi • Runnable Code Implementation (HCL) • Idiomatic AWSM Implementation: Well-Architected IaC (Terraform), private subnets, auto-scaling & S3/CloudFron... • AWS Multi-AZ VPC, IAM STS, ALB/ECS/EKS, RDS/DynamoDB & EventBridge Execution & Memory Lifecycle for Container Application CI/CD • Production Hardening & Security: IAM least-privilege OIDC roles, KMS encryption, Security Groups & WAF

Purpose: To understand and apply Container Application CI/CD: Automated Tests, Trivy Vulnerability Gate, ECR Push & Rolling ECS/EKS Deploy in real AWS Certified Solutions Architec...

What Topic Is Next → Next Topic 18.4: Enterprise Migration & Hybrid Transfer Tools: AWS DMS, DataSync, Snow Family & Application Migration Service

18.4 Enterprise Migration & Hybrid Transfer Tools: AWS DMS, DataSync, Snow Family & Application Migration Service [90 mins • Assignment (100M) • Hands-On Lab (50M) • 2 Mock Sets • 2 AI Vivas]

Subtopics Covered: Input Validation, Edge • Modular Clean • Idiomatic AWSM Implementation • AWS Multi • Runnable Code Implementation (HCL) • Idiomatic AWSM Implementation: Well-Architected IaC (Terraform), private subnets, auto-scaling & S3/CloudFron... • AWS Multi-AZ VPC, IAM STS, ALB/ECS/EKS, RDS/DynamoDB & EventBridge Execution & Memory Lifecycle for Enterprise Migration • Production Hardening & Security: IAM least-privilege OIDC roles, KMS encryption, Security Groups & WAF

Purpose: To understand and apply Enterprise Migration & Hybrid Transfer Tools: AWS DMS, DataSync, Snow Family & Application Migration Service in real AWS Certified Solutions Archi...

What Topic Is Next → Module 18 Capstone (cloudvault-m18-github-actions-devsecops) → Next Topic 19.1: AWS Observability Stack: CloudWatch Metrics, Logs Insights, Composite Alarms, CloudTrail & AWS Config Rules

Module 18 Hands-On Capstone Project (100 Marks): cloudvault-m18-github-actions-devsecops — Architect, implement, test, and push the production GitHub repository 'cloudvault-m18-github-actions-devsecops' (strictly zero dummy scaffolding) demonstrating end-to-end mastery of Module 1...

MODULE 19 OF 22 • STAGE 4 • 21 LIVE + LAB HOURS • 4 TOPICS (32 SUBTOPICS) • 1 CAPSTONE PROJECT (100 MARKS)

CloudWatch Observability, Multi-Region DR, FinOps & AWS SAA-C03 Exam Mastery

Beginner-to-expert real-repository module covering CloudWatch Observability, Multi-Region DR, FinOps & AWS SAA-C03 Exam Mastery with supervised live coding, ≥90% MockAttempt AI Viva Gates, and production GitHub PR verification.

Objectives: ✓ AWS Observability Stack: CloudWatch Metrics, Logs Insights, Composite Alarms, CloudTrail & AWS Config Rules — Purpose: Detect latency spikes, unauthorized API changes, and compliance drift with automated remediation. • ✓ Multi-Region Disaster Recovery (RTO/RPO): Backup & Restore, Pilot Light, Warm Standby & Active-Active — Purpose: Design architecture topologies mapped to exact business recovery-time and recovery-point budgets. • ✓ AWS Well-Architected Framework (All 6 Pillars) & Cloud FinOps Cost Optimization Audits — Purpose: Right-size compute, storage, NAT, and data-transfer costs while raising reliability and security scores. • ✓ AWS Certified Solutions Architect Associate (SAA-C03) Full Scenario Drills & Whiteboard Architecture Defense — Purpose: Deconstruct tricky multi-service scenario questions and articulate trade-offs like a Solutions Architect.

19.1 AWS Observability Stack: CloudWatch Metrics, Logs Insights, Composite Alarms, CloudTrail & AWS Config Rules [90 mins • Assignment (100M) • Hands-On Lab (50M) • 2 Mock Sets • 2 AI Vivas]

Subtopics Covered: Input Validation, Edge • Modular Clean • Idiomatic AWSM Implementation • AWS Multi • Runnable Code Implementation (HCL) • Idiomatic AWSM Implementation: Well-Architected IaC (Terraform), private subnets, auto-scaling & S3/CloudFron... • AWS Multi-AZ VPC, IAM STS, ALB/ECS/EKS, RDS/DynamoDB & EventBridge Execution & Memory Lifecycle for AWS Observability Stack • Production Hardening & Security: IAM least-privilege OIDC roles, KMS encryption, Security Groups & WAF

Purpose: To understand and apply AWS Observability Stack: CloudWatch Metrics, Logs Insights, Composite Alarms, CloudTrail & AWS Config Rules in real AWS Certified Solutions Archit...

What Topic Is Next → Next Topic 19.2: Multi-Region Disaster Recovery (RTO/RPO): Backup & Restore, Pilot Light, Warm Standby & Active-Active

19.2 Multi-Region Disaster Recovery (RTO/RPO): Backup & Restore, Pilot Light, Warm Standby & Active-Active [90 mins • Assignment (100M) • Hands-On Lab (50M) • 2 Mock Sets • 2 AI Vivas]

Subtopics Covered: Input Validation, Edge • Modular Clean • Idiomatic AWSM Implementation • AWS Multi • Runnable Code Implementation (HCL) • Idiomatic AWSM Implementation: Well-Architected IaC (Terraform), private subnets, auto-scaling & S3/CloudFron... • AWS Multi-AZ VPC, IAM STS, ALB/ECS/EKS, RDS/DynamoDB & EventBridge Execution & Memory Lifecycle for Multi-Region Disaster Recovery (RTO/RPO) • Production Hardening & Security: IAM least-privilege OIDC roles, KMS encryption, Security Groups & WAF

Purpose: To understand and apply Multi-Region Disaster Recovery (RTO/RPO): Backup & Restore, Pilot Light, Warm Standby & Active-Active in real AWS Certified Solutions Architect &...

What Topic Is Next → Next Topic 19.3: AWS Well-Architected Framework (All 6 Pillars) & Cloud FinOps Cost Optimization Audits

19.3 AWS Well-Architected Framework (All 6 Pillars) & Cloud FinOps Cost Optimization Audits [90 mins • Assignment (100M) • Hands-On Lab (50M) • 2 Mock Sets • 2 AI Vivas]

Subtopics Covered: Input Validation, Edge • Modular Clean • Idiomatic AWSM Implementation • AWS Multi • Runnable Code Implementation (HCL) • Idiomatic AWSM Implementation: Well-Architected IaC (Terraform), private subnets, auto-scaling & S3/CloudFron... • AWS Multi-AZ VPC, IAM STS, ALB/ECS/EKS, RDS/DynamoDB & EventBridge Execution & Memory Lifecycle for AWS Well-Architected Framework (All 6 Pillars) • Production Hardening & Security: IAM least-privilege OIDC roles, KMS encryption, Security Groups & WAF

Purpose: To understand and apply AWS Well-Architected Framework (All 6 Pillars) & Cloud FinOps Cost Optimization Audits in real AWS Certified Solutions Architect & Cloud Engineeri...

What Topic Is Next → Next Topic 19.4: AWS Certified Solutions Architect Associate (SAA-C03) Full Scenario Drills & Whiteboard Architecture Defense

19.4 AWS Certified Solutions Architect Associate (SAA-C03) Full Scenario Drills & Whiteboard Architecture Defense [90 mins • Assignment (100M) • Hands-On Lab (50M) • 2 Mock Sets • 2 AI Vivas]

Subtopics Covered: Input Validation, Edge • Modular Clean • Idiomatic AWSM Implementation • AWS Multi • Runnable Code Implementation (HCL) • Idiomatic AWSM Implementation: Well-Architected IaC (Terraform), private subnets, auto-scaling & S3/CloudFron... • AWS Multi-AZ VPC, IAM STS, ALB/ECS/EKS, RDS/DynamoDB & EventBridge Execution & Memory Lifecycle for AWS Certified Solutions Architect Associate (SAA-C03... • Production Hardening & Security: IAM least-privilege OIDC roles, KMS encryption, Security Groups & WAF

Purpose: To understand and apply AWS Certified Solutions Architect Associate (SAA-C03) Full Scenario Drills & Whiteboard Architecture Defense in real AWS Certified Solutions Archi...

What Topic Is Next → Module 19 Capstone (cloudvault-m19-observability-dr-saac03) → Next Topic 20.1: End-to-End Delivery of CloudVault Multi-Region FinTech AWS Landing Zone, EKS/ECS & Aurora Platform

Module 19 Hands-On Capstone Project (100 Marks): cloudvault-m19-observability-dr-saac03 — Architect, implement, test, and push the production GitHub repository 'cloudvault-m19-observability-dr-saac03' (strictly zero dummy scaffolding) demonstrating end-to-end mastery of Module 19...

MODULE 20 OF 22 • STAGE 4 • 21 LIVE + LAB HOURS • 4 TOPICS (32 SUBTOPICS) • 1 CAPSTONE PROJECT (100 MARKS)

CloudVault Live Client Production Cutover, Portfolio Defense & ≥90% Placement Sprint

Beginner-to-expert real-repository module covering CloudVault Live Client Production Cutover, Portfolio Defense & ≥90% Placement Sprint with supervised live coding, ≥90% MockAttempt AI Viva Gates, and production GitHub PR verification.

Objectives: ✓ End-to-End Delivery of CloudVault Multi-Region FinTech AWS Landing Zone, EKS/ECS & Aurora Platform — Purpose: Provision VPCs, Transit Gateway, WAF, Aurora Multi-AZ, EKS, and OIDC CI/CD via modular Terraform. • ✓ Simulated AZ / Region Failover GameDay, Security Hub Audit & Live HTTPS Production Cutover — Purpose: Prove RTO/RPO resilience and zero high-severity findings to earn your Verified Internship Letter. • ✓ ATS-Winning AWS Cloud &

DevOps Resume, 20-Repo Terraform/Cloud GitHub Portfolio & Architecture Pitch — Purpose: Present architecture diagrams, Terraform repos, and cost/security audits that win recruiter shortlists. • ✓ Full SAA-C03 Timed Mock Exams, Spoken MockAttempt AI Viva Loops & ≥90% Placement Guarantee Activation — Purpose: Score ≥90% across all topic mocks and AI vivas (unlimited free re-attempts) to unlock 100 job openings in 6 months.

20.1 End-to-End Delivery of CloudVault Multi-Region FinTech AWS Landing Zone, EKS/ECS & Aurora Platform [90 mins • Assignment (100M) • Hands-On Lab (50M) • 2 Mock Sets • 2 AI Vivas]

Subtopics Covered: Input Validation, Edge • Modular Clean • Idiomatic AWSM Implementation • AWS Multi • Runnable Code Implementation (HCL) • Idiomatic AWSM Implementation: Well-Architected IaC (Terraform), private subnets, auto-scaling & S3/CloudFron... • AWS Multi-AZ VPC, IAM STS, ALB/ECS/EKS, RDS/DynamoDB & EventBridge Execution & Memory Lifecycle for End-to-End Delivery of CloudVault Multi-Region FinTe... • Production Hardening & Security: IAM least-privilege OIDC roles, KMS encryption, Security Groups & WAF

Purpose: To understand and apply End-to-End Delivery of CloudVault Multi-Region FinTech AWS Landing Zone, EKS/ECS & Aurora Platform in real AWS Certified Solutions Architect & Clo...

What Topic Is Next → Next Topic 20.2: Simulated AZ / Region Failover GameDay, Security Hub Audit & Live HTTPS Production Cutover

20.2 Simulated AZ / Region Failover GameDay, Security Hub Audit & Live HTTPS Production Cutover [90 mins • Assignment (100M) • Hands-On Lab (50M) • 2 Mock Sets • 2 AI Vivas]

Subtopics Covered: Input Validation, Edge • Modular Clean • Idiomatic AWSM Implementation • AWS Multi • Runnable Code Implementation (HCL) • Idiomatic AWSM Implementation: Well-Architected IaC (Terraform), private subnets, auto-scaling & S3/CloudFron... • AWS Multi-AZ VPC, IAM STS, ALB/ECS/EKS, RDS/DynamoDB & EventBridge Execution & Memory Lifecycle for Simulated AZ / Region Failover GameDay • Production Hardening & Security: IAM least-privilege OIDC roles, KMS encryption, Security Groups & WAF

Purpose: To understand and apply Simulated AZ / Region Failover GameDay, Security Hub Audit & Live HTTPS Production Cutover in real AWS Certified Solutions Architect & Cloud Engin...

What Topic Is Next → Next Topic 20.3: ATS-Winning AWS Cloud & DevOps Resume, 20-Repo Terraform/Cloud GitHub Portfolio & Architecture Pitch

20.3 ATS-Winning AWS Cloud & DevOps Resume, 20-Repo Terraform/Cloud GitHub Portfolio & Architecture Pitch [90 mins • Assignment (100M) • Hands-On Lab (50M) • 2 Mock Sets • 2 AI Vivas]

Subtopics Covered: Input Validation, Edge • Modular Clean • Idiomatic AWSM Implementation • AWS Multi • Runnable Code Implementation (HCL) • Idiomatic AWSM Implementation: Well-Architected IaC (Terraform), private subnets, auto-scaling & S3/CloudFron... • AWS Multi-AZ VPC, IAM STS, ALB/ECS/EKS, RDS/DynamoDB & EventBridge Execution & Memory Lifecycle for ATS-Winning AWS Cloud • Production Hardening & Security: IAM least-privilege OIDC roles, KMS encryption, Security Groups & WAF

Purpose: To understand and apply ATS-Winning AWS Cloud & DevOps Resume, 20-Repo Terraform/Cloud GitHub Portfolio & Architecture Pitch in real AWS Certified Solutions Architect & C...

What Topic Is Next → Next Topic 20.4: Full SAA-C03 Timed Mock Exams, Spoken MockAttempt AI Viva Loops & ≥90% Placement Guarantee Activation

20.4 Full SAA-C03 Timed Mock Exams, Spoken MockAttempt AI Viva Loops & ≥90% Placement Guarantee Activation [90 mins • Assignment (100M) • Hands-On Lab (50M) • 2 Mock Sets • 2 AI Vivas]

Subtopics Covered: Input Validation, Edge • Modular Clean • Idiomatic AWSM Implementation • AWS Multi • Runnable Code Implementation (HCL) • Idiomatic AWSM Implementation: Well-Architected IaC (Terraform), private subnets, auto-scaling & S3/CloudFron... • AWS Multi-AZ VPC, IAM STS, ALB/ECS/EKS, RDS/DynamoDB & EventBridge Execution & Memory Lifecycle for Full SAA-C03 Timed Mock Exams • Production Hardening & Security: IAM least-privilege OIDC roles, KMS encryption, Security Groups & WAF

Purpose: To understand and apply Full SAA-C03 Timed Mock Exams, Spoken MockAttempt AI Viva Loops & ≥90% Placement Guarantee Activation in real AWS Certified Solutions Architect &...

What Topic Is Next → Module 20 Capstone (cloudvault-m20-live-client-production-capstone) → Next Topic 21.1: Modular Terraform IaC, Remote S3/Lock State, Policy-as-Code & Drift Detection

Module 20 Hands-On Capstone Project (100 Marks): cloudvault-m20-live-client-production-capstone — Architect, implement, test, and push the production GitHub repository 'cloudvault-m20-live-client-production-capstone' (strictly zero dummy scaffolding) demonstrating end-to-end mastery of M...

MODULE 21 OF 22 • STAGE 4 • 14 LIVE + LAB HOURS • 3 TOPICS (24 SUBTOPICS) • 1 CAPSTONE PROJECT (100 MARKS)

Enterprise Multi-Account AWS Governance, Terraform Modules & Zero-Trust Security

Self-explanatory list-and-bullet production mastery module covering Enterprise Multi-Account AWS Governance, Terraform Modules & Zero-Trust Security in AWS Certified Solutions Architect & Cloud Engineering Master Program, paired with hands-on labs, capstone repository, Topic Mock Tests, and Spoken MockAttempt AI Viva.

Objectives: ✓ Modular Terraform IaC, Remote S3/Lock State, Policy-as-Code & Drift Detection — Purpose: Provision repeatable multi-AZ AWS infrastructure without manual console configuration drift. • ✓ AWS Organizations, IAM Identity Center, SCP Guardrails, KMS & VPC PrivateLink — Purpose: Architect enterprise security boundaries that pass banking and SaaS compliance audits. • ✓ Event-Driven Serverless & Container Hybrid Patterns (EKS, ECS Fargate, SQS, EventBridge) — Purpose: Select and integrate the right AWS compute & messaging primitives for resilience and cost. • ✓ Build, verify, and document 'Multi-Env Terraform Landing Zone with OIDC CI/CD, KMS, WAF & Private VPC Endpoints' with clean Git commits and edge-case protection. • ✓ Clear 100% of Topic Timed Mock Tests and Spoken Voice + MockAttempt AI Technical Interviews.

21.1 Modular Terraform IaC, Remote S3/Lock State, Policy-as-Code & Drift Detection [65 mins • Assignment (100M) • Hands-On Lab (50M) • 2 Mock Sets • 2 AI Vivas]

Subtopics Covered: Security Hygiene & Data Safety Rules for Modular Terraform IaC, Remote S3/Lock State, Policy • Performance Optimization, Complexity & Latency Impact of Modular Terraform IaC, Remote S3/Lock State, Policy • Live Debugging, Stack • Runnable Code Implementation (HCL) • Hands • Idiomatic AWSM Implementation: Well-Architected IaC (Terraform), private subnets, auto-scaling & S3/CloudFron... • AWS Multi-AZ VPC, IAM STS, ALB/ECS/EKS, RDS/DynamoDB & EventBridge Execution & Memory Lifecycle for Modular Terraform IaC • Production Hardening & Security: IAM least-privilege OIDC roles, KMS encryption, Security Groups & WAF

Purpose: To understand and apply Modular Terraform IaC, Remote S3/Lock State, Policy-as-Code & Drift Detection in real AWS Certified Solutions Architect & Cloud Engineering Master...

What Topic Is Next → Next Topic 21.2: AWS Organizations, IAM Identity Center, SCP Guardrails, KMS & VPC PrivateLink

21.2 AWS Organizations, IAM Identity Center, SCP Guardrails, KMS & VPC PrivateLink [65 mins • Assignment (100M) • Hands-On Lab (50M) • 2 Mock Sets • 2 AI Vivas]

Subtopics Covered: Security Hygiene & Data Safety Rules for AWS Organizations, IAM Identity Center, SCP Guardrails, KMS & VPC PrivateL... • Performance Optimization, Complexity & Latency Impact of AWS Organizations, IAM Identity Center, SCP Guardrails, KM... • Live Debugging, Stack • Runnable Code Implementation (HCL) • Hands • Idiomatic AWSM Implementation: Well-Architected IaC (Terraform), private subnets, auto-scaling & S3/CloudFron... • AWS Multi-AZ VPC, IAM STS, ALB/ECS/EKS, RDS/DynamoDB & EventBridge Execution & Memory Lifecycle for AWS Organizations • Production Hardening & Security: IAM least-privilege OIDC roles, KMS encryption, Security Groups & WAF

Purpose: To understand and apply AWS Organizations, IAM Identity Center, SCP Guardrails, KMS & VPC PrivateLink in real AWS Certified Solutions Architect & Cloud Engineering Master...

What Topic Is Next → Next Topic 21.3: Event-Driven Serverless & Container Hybrid Patterns (EKS, ECS Fargate, SQS, EventBridge)

21.3 Event-Driven Serverless & Container Hybrid Patterns (EKS, ECS Fargate, SQS, EventBridge) [65 mins • Assignment (100M) • Hands-On Lab (50M) • 2 Mock Sets • 2 AI Vivas]

Subtopics Covered: Security Hygiene & Data Safety Rules for Event • Performance Optimization, Complexity & Latency Impact of Event • Live Debugging, Stack • Runnable Code Implementation (HCL) • Hands • Idiomatic AWSM Implementation: Well-Architected IaC (Terraform), private subnets, auto-scaling & S3/CloudFron... • AWS Multi-AZ VPC, IAM STS, ALB/ECS/EKS, RDS/DynamoDB & EventBridge Execution & Memory Lifecycle for Event-Driven Serverless • Production Hardening & Security: IAM least-privilege OIDC roles, KMS encryption, Security Groups & WAF

Purpose: To understand and apply Event-Driven Serverless & Container Hybrid Patterns (EKS, ECS Fargate, SQS, EventBridge) in real AWS Certified Solutions Architect & Cloud Enginee...

What Topic Is Next → Module 21 Capstone (Multi-Env Terraform Landing Zone with OIDC CI/CD, KMS, WAF & Private VPC Endpoints) → Next Topic 22.1: Active-Passive & Active-Active Multi-Region DR with Route 53, Aurora Global & S3 CRR

Module 21 Hands-On Capstone Project (100 Marks): Multi-Env Terraform Landing Zone with OIDC CI/CD, KMS, WAF & Private VPC Endpoints — Architect, implement, test, and document 'Multi-Env Terraform Landing Zone with OIDC CI/CD, KMS, WAF & Private VPC Endpoints' applying every bullet-wise engineering concept from Module 21 (E...

MODULE 22 OF 22 • STAGE 4 • 14 LIVE + LAB HOURS • 3 TOPICS (24 SUBTOPICS) • 1 CAPSTONE PROJECT (100 MARKS)

Multi-Region Disaster Recovery, FinOps Optimization & SAA-C03 / Placement Mastery

Self-explanatory list-and-bullet production mastery module covering Multi-Region Disaster Recovery, FinOps Optimization & SAA-C03 / Placement Mastery in AWS Certified Solutions Architect & Cloud Engineering Master Program, paired with hands-on labs, capstone repository, Topic Mock Tests, and Spoken MockAttempt AI Viva.

Objectives: ✓ Active-Passive & Active-Active Multi-Region DR with Route 53, Aurora Global & S3 CRR — Purpose: Design architectures meeting strict enterprise RTO/RPO SLA commitments. • ✓ AWS FinOps Cost Architecture, Performance Right-Sizing & Well-Architected Reviews — Purpose: Optimize NAT, data-transfer, compute, and storage spend by 35%+ without sacrificing SLA. • ✓ SAA-C03 Full-Blueprint Scenario Defense & Cloud Architect Placement Interviews — Purpose: Solve complex multi-service AWS architecture design prompts confidently in hiring loops. • ✓ Build, verify, and document 'Automated Multi-Region Failover Blueprint, CloudWatch SRE Suite & Cost Governance Repo' with clean Git commits and edge-case protection. • ✓ Clear 100% of Topic Timed Mock Tests and Spoken Voice + MockAttempt AI Technical Interviews.

22.1 Active-Passive & Active-Active Multi-Region DR with Route 53, Aurora Global & S3 CRR [65 mins • Assignment (100M) • Hands-On Lab (50M) • 2 Mock Sets • 2 AI Vivas]

Subtopics Covered: Security Hygiene & Data Safety Rules for Active • Performance Optimization, Complexity & Latency Impact of Active • Live Debugging, Stack • Runnable Code Implementation (HCL) • Hands • Idiomatic AWSM Implementation: Well-Architected IaC (Terraform), private subnets, auto-scaling & S3/CloudFron... • AWS Multi-AZ VPC, IAM STS, ALB/ECS/EKS, RDS/DynamoDB & EventBridge Execution & Memory Lifecycle for Active-Passive • Production Hardening & Security: IAM least-privilege OIDC roles, KMS encryption, Security Groups & WAF

Purpose: To understand and apply Active-Passive & Active-Active Multi-Region DR with Route 53, Aurora Global & S3 CRR in real AWS Certified Solutions Architect & Cloud Engineering...

What Topic Is Next → Next Topic 22.2: AWS FinOps Cost Architecture, Performance Right-Sizing & Well-Architected Reviews

22.2 AWS FinOps Cost Architecture, Performance Right-Sizing & Well-Architected Reviews [65 mins • Assignment (100M) • Hands-On Lab (50M) • 2 Mock Sets • 2 AI Vivas]

Subtopics Covered: Security Hygiene & Data Safety Rules for AWS FinOps Cost Architecture, Performance Right • Performance Optimization, Complexity & Latency Impact of AWS FinOps Cost Architecture, Performance Right • Live Debugging, Stack • Runnable Code Implementation (HCL) • Hands • Idiomatic AWSM Implementation: Well-Architected IaC (Terraform), private subnets, auto-scaling & S3/CloudFron... • AWS Multi-AZ VPC, IAM STS, ALB/ECS/EKS, RDS/DynamoDB & EventBridge Execution & Memory Lifecycle for AWS FinOps Cost Architecture • Production Hardening & Security: IAM least-privilege OIDC roles, KMS encryption, Security Groups & WAF

Purpose: To understand and apply AWS FinOps Cost Architecture, Performance Right-Sizing & Well-Architected Reviews in real AWS Certified Solutions Architect & Cloud Engineering Ma...

What Topic Is Next → Next Topic 22.3: SAA-C03 Full-Blueprint Scenario Defense & Cloud Architect Placement Interviews

22.3 SAA-C03 Full-Blueprint Scenario Defense & Cloud Architect Placement Interviews [65 mins • Assignment (100M) • Hands-On Lab (50M) • 2 Mock Sets • 2 AI Vivas]

Subtopics Covered: Security Hygiene & Data Safety Rules for SAA • Performance Optimization, Complexity & Latency Impact of SAA • Live Debugging, Stack • Runnable Code Implementation (HCL) • Hands • Idiomatic AWSM Implementation: Well-Architected IaC (Terraform), private subnets, auto-scaling & S3/CloudFron... •

AWS Multi-AZ VPC, IAM STS, ALB/ECS/EKS, RDS/DynamoDB & EventBridge Execution & Memory Lifecycle for SAA-C03 Full-Blueprint Scenario Defense • Production Hardening & Security: IAM least-privilege OIDC roles, KMS encryption, Security Groups & WAF

Purpose: To understand and apply SAA-C03 Full-Blueprint Scenario Defense & Cloud Architect Placement Interviews in real AWS Certified Solutions Architect & Cloud Engineering Maste...

What Topic Is Next → Module 22 Capstone → End-of-Course Live Client Project: CloudVault Multi-Region Active-Active AWS FinTech Landing Zone & EKS Platform

Module 22 Hands-On Capstone Project (100 Marks): Automated Multi-Region Failover Blueprint, CloudWatch SRE Suite & Cost Governance Repo — Architect, implement, test, and document 'Automated Multi-Region Failover Blueprint, CloudWatch SRE Suite & Cost Governance Repo' applying every bullet-wise engineering concept from Module 2...

3. LIVE CLIENT PRODUCTION PROJECT & CAREER SCOPE

End-of-Course Live Client Production Project + Official Internship Confirmation Letter

Project: CloudVault Multi-Region Active-Active AWS FinTech Landing Zone & EKS Platform • **Confirmed Role:** AWS Solutions Architect & Terraform Cloud Engineering Resident

Domain & Production Infra: Regulated FinTech & Enterprise Cloud Migration Client (AWS Multi-AZ VPC + Transit Gateway + ALB + EKS/ECS + Aurora + Terraform + OIDC CI/CD)

- Designed and provisioned modular Terraform IaC for Multi-AZ VPCs, private subnets, IAM OIDC roles, KMS, and AWS WAF.
- Architected highly available ECS/EKS compute tiers, Aurora Multi-AZ failover, DynamoDB streams, and CloudFront TLS edge.
- Engineered event-driven SQS/SNS/EventBridge pipelines, automated DR failover runbooks, and FinOps cost guardrails.
- Completed Well-Architected security/reliability audits and live production cutover with SAA-C03 readiness.

Target Job Roles: AWS Cloud Engineer, Associate Solutions Architect (AWS), Cloud Infrastructure & Terraform Engineer, Cloud DevOps & Platform Engineer

Realistic Annual CTC Scope: **Placement-Guaranteed Cloud Engineer (0–1 Yr):** ₹6.0 LPA – ₹13.0 LPA **AWS Solutions Architect / Cloud DevOps (1–3 Yrs):** ₹14.0 LPA – ₹27.0 LPA **Principal Cloud Solutions Architect (3–6+ Yrs):** ₹28.0 LPA – ₹55.0+ LPA

Optional Worthwhile Global Certifications (100% Exam-Success Mentorship Available): **AWS Certified Solutions Architect – Associate (SAA-C03):** ₹9.5 LPA – ₹22.0 LPA (#1 Mandatory Cloud Filter) • **HashiCorp Certified: Terraform Associate (003) (TA-003):** ₹12.0 LPA – ₹27.0 LPA (2× Interview Callbacks) • **AWS Certified Security – Specialty (SCS-C02):** ₹16.0 LPA – ₹36.0 LPA (High-Scarcity Specialty)

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