

AWS Cloud Solution Architect Practical Manual

AWS CLOUD SOLUTION ARCHITECT — PRACTICAL LAB MANUAL

PART 1 — CORE AWS FOUNDATIONS

1. Create and Configure AWS Account (Billing Alert, IAM Admin User, MFA)
2. IAM: Users, Groups, Roles, CLI Access
3. S3: Buckets, Versioning, Lifecycle, Static Hosting
4. EC2: Launch, SSH, Install Website, Create AMI
5. EBS: Create Volume, Attach/Mount, Snapshots
6. Elastic IP + Security Groups Setup
7. Load Balancer (ALB) with EC2 Targets
8. Auto Scaling Group with ALB Integration

PART 2 — NETWORKING (VPC)

9. Create Custom VPC from Scratch
10. Public & Private Subnets Architecture
11. NAT Gateway Configuration
12. Bastion Host Setup
13. VPC Peering
14. Site-to-Site VPN (StrongSwan)
15. Transit Gateway
16. NACL vs Security Groups Practical
17. CloudFront CDN + S3
18. Route 53 Domain Hosting & DNS Records

PART 3 — DATABASES

19. RDS MySQL Multi-AZ Deployment

20. DynamoDB Setup (Query/Scan)

21. ElastiCache Redis Cluster

22. Aurora Cluster Deployment

23. Backup & Restore Lab

PART 4 — SERVERLESS

24. Lambda Basics

25. API Gateway + Lambda REST API

26. S3[®] Lambda Trigger

27. SNS + Lambda Notifications

28. SQS Queue Lab

29. EventBridge Scheduling

30. Serverless Web Application (Full Stack)

PART 5 — CONTAINERS

31. ECR: Push Docker Image

32. ECS Fargate App Deployment

33. ECS + ALB Load Balanced App

34. EKS Kubernetes Cluster

35. Blue/Green Deployment (CodeDeploy)

PART 6 — DEVOPS FOR ARCHITECTS

36. CodePipeline CI/CD Implementation

37. CloudFormation Full Stack Infra

38. Terraform VPC Deployment

39. CloudWatch Metrics, Logs, Alarms

40. AWS Backup + Disaster Recovery

41. IAM Identity Center Multi-Account Setup

COMPLETION OF THESE 41 LABS = FULL AWS CLOUD SOLUTION ARCHITECT
PRACTICAL