

AWS Exam Cheat Sheet Cheat Sheet by DiaVedu25 via cheatography.com/214308/cs/47004/

1. AWS Cloud Computing

Definition: On-demand IT resources (compute, storage, DB) over the Internet, pay-as-you-go.

5 Characteristics (NIST model):

- ▶ On-Demand Self-Service → provision instantly.
- ▶ Broad Network Access → access via devices/APIs.
- ▶ Resource Pooling → multi-tenant, shared.
- ▶ Rapid Elasticity → scale up/down.
- ▶ Measured Service → pay per use.

Benefits of AWS:

▶ Agility;	Faster innovation, deploy in minutes.
► Cost savings:	Handle spikes, avoid overprovisioning.
▶ Global reach:	OPEX model, Reserved/Spot instances.
▶ Scalability:	Deploy in multiple regions/AZs.
▶ Security:	IAM, encryption, compliance standards.
▶ Innovation:	MI_IoT_serverless_analytics

Limitations + Mitigation:

Compliance:

Regulations (GDPR, HIPAA) \rightarrow use AWS Artifact, regional data residency.

Latency:

 ${\sf Distance} \ {\sf issues} \ {\scriptstyle\rightarrow} \ {\sf use} \ {\sf CloudFront}, \ {\sf Edge} \ {\sf Locations}, \ {\sf Local} \ {\sf Zones}.$

Vendor lock-in:

Hard to migrate → use hybrid/multi-cloud strategies.

2. AWS Networking & Security **U**

VPC = isolated virtual network.

- ▶ Subnets → Public (Internet GW) / Private.
- ▶ Route Tables → traffic rules.
- ▶ Security Groups (SGs) → instance firewall (stateful, allow only).
- ▶ NACLs → subnet firewall (stateless, allow/deny).

Connectivity Options:

- ▶ VPN (encrypted tunnel)
- ▶ Direct Connect (dedicated private line)
- ▶ Hybrid Cloud = on-prem + AWS

6. Compute Services 🖵		
EC2	Resizable VMs	
Lambda	Serverless compute, pay per request	
Elastic Beanstalk	PaaS for app deployment	
ECS/EKS	Containers	

7. Storage Services 🕰

Service	Туре	Use Case
EBS	Block	Attach to EC2
S3	Object	General storage
EFS	File	Shared, scalable
Glacier	Archival	Backups, compliance

9. Cloud Architecture Design 🚠

- Trusted Advisor → recommends on cost, performance, security.
- High Availability → deploy across AZs & Regions.
- Reliability → backups, failover, replication.

3. AWS Architectures 🙈

Core Services:

- ▶ EC2 = scalable VMs
- ▶ S3 = object storage (11 9's durability)
- ▶ Glacier = archival storage

Optimisation:

- ▶ Right-size EC2, Auto Scaling
- ▶ Reserved Instances, Spot Instances
- ▶ Elastic Load Balancing

Well-Architected Framework → 5 pillars:

- 1. Operational Excellence
- 2. Security
- 3. Reliability
- 4. Performance Efficiency
- 5. Cost Optimisation

4. Automation & Serverless [

- CloudFormation = Infrastructure as Code (IaC).
- Lambda = serverless, event-driven, stateless.
- API Gateway = expose Lambda as APIs.
- Monitoring: CloudWatch (metrics), X-Ray (tracing).



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5. Identity & Access Management (IAM) &

IAM Components: Users, Groups, Roles, Policies.

Risks: *:* permissions, long-lived keys.

Mitigation: IAM Access Analyser, CloudTrail audits.

Best Practices: MFA, Rotate keys, Avoid root account,

Cross-account roles

Principle: Least Privilege (grant minimum required).

8. Database Services

- •RDS (SQL, managed) → backups, scaling.
- •Aurora → high-perf managed DB.
- •DynamoDB → NoSQL, serverless, key-value.
- •Redshift → analytics/data warehouse.

SQL vs NoSQL:

- •SQL = structured, ACID, relational.
- •NoSQL = schema-less, horizontal scaling.

10. Scalability & Monitoring হ

- Elastic Load Balancing (ELB) → distributes traffic.
- Auto Scaling → adds/removes EC2 instances.
- CloudWatch → monitors metrics in real-time.



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