AWS Database & Analytics – Quick Exam Cheat Sheet

RDS (Relational Database Service)

- Managed relational DB (MySQL, PostgreSQL, MariaDB, Oracle, SQL Server)
- Multi-AZ = High Availability (automatic failover)
- Read Replicas = Read scaling
- Automated backups + snapshots
- Storage Auto Scaling supported

Aurora

- MySQL & PostgreSQL compatible
- Up to 5x MySQL performance
- Aurora Serverless = auto scaling + pause/resume
- Aurora Global Database = cross-region read scaling
- Separates compute and storage

DynamoDB

- Fully managed NoSQL (key-value)
- Single-digit millisecond latency
- On-Demand mode = automatic scaling
- Provisioned mode = capacity planning
- Global Tables = multi-region active-active

Redshift

- Data warehousing (OLAP)
- Petabyte-scale analytics
- Columnar storage
- Best for BI & reporting
- RA3 nodes separate compute & storage

Athena

- Serverless SQL on S3
- Pay per query
- No infrastructure management
- Best for occasional analytics workloads

EMR

- Big data processing (Hadoop, Spark)
- Cluster-based
- Auto-termination reduces cost
- Best for heavy batch workloads

Glue

- Serverless ETL
- Data Catalog
- Transforms raw S3 data
- Works with Athena & Redshift

Kinesis

- Real-time streaming ingestion
- Used for IoT, logs, clickstream
- Integrates with Lambda, S3, Redshift
- Near real-time analytics

QuickSight

- Business Intelligence dashboards
- Visualization & reporting
- Connects to Redshift, Athena, RDS
- Serverless & scalable