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Detailed guide for the **AWS Certified Database – Specialty (DBS-C01)** exam.

This is one of the most comprehensive AWS specialty certifications and covers **relational, non-relational, in-memory, graph, and migration services** on AWS.

🏆 AWS Certified Database – Specialty (DBS-C01) — Full Breakdown

Exam Overview

Detail	Info
Level	Specialty
Duration	180 minutes
Format	65 questions (multiple-choice & multiple-response)
Cost	$300
Passing Score	~750/1000
Delivery	Pearson VUE or PSI (online or test center)

🧠 Exam Domains & Weightage

Domain	Weight	Key Topics
1. Workload-Specific Database Design	**26%**	• Choose the right database (relational, NoSQL, in-memory, time series, graph) • Design schemas, primary keys, partition keys • High availability and disaster recovery patterns
2. Deployment & Migration	**20%**	• AWS DMS (homogeneous/heterogeneous migration) • SCT (Schema Conversion Tool) • Migration strategies (lift & shift vs replatform) • Replication & cutover planning
3. Management & Operations	**18%**	• Backup/restore strategies (snapshots, PITR) • Monitoring (CloudWatch, Performance Insights) • Scaling (vertical vs horizontal) • Patching, updates, maintenance windows
4. Monitoring & Troubleshooting	**18%**	• Diagnose performance issues (slow queries, deadlocks) • Optimize IOPS, throughput, buffer/cache hit ratio • Query performance tuning • Replication lag, failover troubleshooting
5. Database Security	**18%**	• IAM authentication, database authentication (Kerberos, LDAP) • Encryption at rest (KMS) & in transit (TLS) • Fine-grained access control • Compliance (HIPAA, PCI-DSS)

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🔑 Core AWS Services to Know

Relational Databases

- **Amazon RDS** (MySQL, PostgreSQL, Oracle, SQL Server, MariaDB)
  - Multi-AZ failover, Read Replicas, Backups, Parameter Groups
- **Amazon Aurora** (MySQL & PostgreSQL compatible)
  - Aurora Serverless v1 & v2, Global Database, Backtrack, Performance Insights

NoSQL & Specialized Databases

- **Amazon DynamoDB** (partition keys, GSIs, LSIs, DAX caching, Streams)
- **Amazon DocumentDB** (MongoDB compatibility)
- **Amazon Keyspaces** (for Apache Cassandra)
- **Amazon Neptune** (graph database: Gremlin, SPARQL)
- **Amazon Timestream** (time-series workloads)
- **Amazon QLDB** (ledger database, cryptographic verification)

Migration & Hybrid Tools

- **AWS DMS** (Continuous replication, CDC, Migration tasks)
- **AWS SCT** (Schema conversion)
- **Snowball/Snowcone** (large offline migrations)

Caching & Acceleration

- **Amazon ElastiCache** (Redis vs Memcached, Cluster Mode Enabled, failover)
- **Amazon MemoryDB** (for Redis)

Security & Networking

- **AWS KMS** (customer-managed CMKs)
- **Secrets Manager / Parameter Store**
- **VPC Peering, Security Groups, Subnetting** for DB isolation

Monitoring & Performance

- **CloudWatch metrics**
- **Enhanced Monitoring**
- **Performance Insights**
- **Slow query logs** & OS-level metrics

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🗓️ **Suggested 7-Day Study Plan**

Day	Topics	Hands-On Labs
Day 1 – Database Fundamentals & RDS	• RDS engines, Multi-AZ, Read Replicas • Backups, snapshots, parameter & option groups	🔧 Deploy RDS MySQL + Read Replica, failover test, snapshot restore
Day 2 – Aurora Deep Dive	• Aurora architecture, storage, Serverless v1/v2 • Global Database, Backtrack, Performance Insights	🔧 Create Aurora cluster, scale up/down, enable Performance Insights
Day 3 – NoSQL Workloads	• DynamoDB (partitions, GSIs, DAX) • DocumentDB, Keyspaces • Timestream, QLDB, Neptune basics	🔧 Build DynamoDB table w/ GSI, enable Streams, test DAX caching
Day 4 – Migration & Hybrid	• DMS tasks, SCT conversions • Migration strategies (rehost, replatform)	🔧 Perform a DMS homogeneous migration from RDS MySQL → Aurora
Day 5 – Security & IAM	• Encryption (at rest/in transit) • Database authentication, IAM auth • Secrets Manager rotation	🔧 Enable IAM auth for RDS, rotate password using Secrets Manager
Day 6 – Monitoring & Troubleshooting	• CloudWatch, Performance Insights • Query tuning, deadlocks • Replication lag troubleshooting	🔧 Analyze slow query logs, use Performance Insights to optimize
Day 7 – Review & Practice Exams	• AWS Whitepapers: RDS, Aurora, DynamoDB Best Practices • FAQs for each service • 2 full practice exams (Tutorials Dojo/A Cloud Guru)	🔧 Focus on weak areas & retake missed practice questions

🎯 **Tips for Success**

- **Know Trade-offs** — e.g., RDS vs Aurora vs DynamoDB, Multi-AZ vs Read Replica, DAX vs ElastiCache.
- **Practice SQL & NoSQL Design** — expect schema design and partition key choice questions.
- **Understand Migration Cutover** — downtime minimization strategies, CDC, replication monitoring.
- **Review Pricing Models** — Aurora I/O, DynamoDB On-Demand vs Provisioned, ElastiCache node costs.
- **Do Hands-on Labs** — real-world scenarios help more than just reading.

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7-Day Study Checklist for the **AWS Certified Database – Specialty (DBS-C01)** exam.

This is designed as a **structured plan** with theory + hands-on labs + review sessions so you're fully ready in one week.

🗓️ **AWS Certified Database – Specialty (DBS-C01) — 7-Day Study Checklist**

Day	Topics to Cover (Deep Dive)	Hands-On / Labs	Status ✅
Day 1 – Core Relational Databases	• RDS: MySQL, PostgreSQL, Oracle, SQL Server, MariaDB • Multi-AZ failover, Read Replicas • Automated backups, Snapshots, PITR • Parameter Groups, Option Groups	🔧 Launch RDS MySQL with Multi-AZ 🔧 Create Read Replica and simulate failover 🔧 Take snapshot & restore into a new instance	☐
Day 2 – Aurora & Advanced RDS	• Aurora Architecture (shared storage) • Aurora Global Database, Backtrack • Aurora Serverless v1/v2 scaling • Performance Insights, Query Plan Analysis	🔧 Deploy Aurora cluster with 2 readers + 1 writer 🔧 Test Aurora Global Database with simulated failover 🔧 Enable Performance Insights and analyze slow queries	☐
Day 3 – NoSQL, Caching & Specialized Databases	• DynamoDB: Partitions, GSIs, LSIs, DAX • DocumentDB, Keyspaces • Timestream (time-series), QLDB (ledger), Neptune (graph) • ElastiCache (Redis vs Memcached), MemoryDB	🔧 Create DynamoDB table, add GSI, enable Streams 🔧 Configure DAX cluster for caching 🔧 Deploy ElastiCache Redis and test failover 🔧 Spin up Neptune cluster & run sample Gremlin queries	☐
Day 4 – Migration & Hybrid Connectivity	• AWS DMS (full load + CDC replication) • SCT (Schema Conversion Tool) • Migration Strategies: Rehost, Replatform, Refactor • Cutover planning, downtime minimization	🔧 Perform homogeneous migration RDS → Aurora with DMS 🔧 Test CDC by modifying source data and validating sync 🔧 Convert on-prem schema using SCT and review output	☐
Day 5 – Security & Compliance	• Encryption at rest (KMS), in-transit (TLS) • IAM database authentication • Secrets Manager & automatic rotation • VPC isolation, SGs, NACLs for DBs • Regulatory compliance (HIPAA, PCI-DSS)	🔧 Enable IAM auth for RDS instance 🔧 Rotate DB credentials using Secrets Manager 🔧 Configure RDS in private subnet with SG rules	☐
Day 6 – Monitoring & Troubleshooting	• CloudWatch Metrics, Enhanced Monitoring • Performance Insights, OS-level metrics • Deadlocks, slow query logs, replication lag • Scaling & tuning (IOPS, cache hit ratio, connection pools)	🔧 Enable Enhanced Monitoring on RDS 🔧 Simulate query with poor index and tune 🔧 Analyze CloudWatch logs for replication latency	☐

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Day	Topics to Cover (Deep Dive)	Hands-On / Labs	Status ✅
Day 7 – Review & Mock Exams	• Review AWS Whitepapers: Database Migration, RDS Best Practices, DynamoDB Design • FAQs for RDS, Aurora, DynamoDB, DMS • 2 full-length practice exams (AWS Official, Tutorials Dojo, Whizlabs) • Review weak areas and retry missed practice questions	🔧 Revisit missed lab exercises 🔧 Draw architecture diagrams for multi-region HA and migration flows	☐

📝 **Pro Tips for Exam Day**

- **Focus on service selection questions** — many scenarios ask “which database is best” for a given workload.
- **Understand trade-offs** — Aurora vs RDS, DAX vs ElastiCache, DynamoDB vs DocumentDB.
- **Memorize migration flows** — DMS task creation steps, replication types, SCT conversions.
- **Know performance tuning knobs** — read replica usage, partition key choice, connection pooling.
- **Practice pricing** — DynamoDB on-demand vs provisioned, Aurora storage vs I/O costs.