

# Right-Sizing Amazon RDS for SQL Server

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Experienced senior database administrator and IT leader with a demonstrated history of effectively managing all facets of large-scale SQL databases. This includes installation, performance tuning and optimization, upgrades, updates, capacity planning, and security management. My expertise encompasses T-SQL, PowerShell, and Security Management.



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# About Datavail

## Expertise



### Databases

- Windows Workloads
- Open-Source Workloads
- Oracle Workloads



### Data Integration & Analytics

## Experience



16+ Years  
Database Services



10+ Years Cloud  
Experience



100+ Cloud SAs  
and Engineers

## Outcome



700+  
Customers

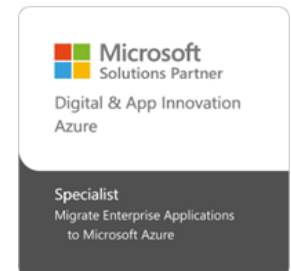


200,000+  
Databases  
Managed



150+ Cloud  
Migrations

## Partnerships



# Introduction to Amazon RDS

- What is Amazon RDS?
  - Managed relational database service provided by AWS.
  - Supports multiple database engines: MySQL, PostgreSQL, SQL Server, Oracle, MariaDB.
- Importance of Right-Sizing
  - Ensures optimal performance.
  - Reduces costs by avoiding over-provisioning.

# Understanding Instance Types

- Instance Classes
  - General Purpose (e.g., db.t3, db.m5): Balanced compute and memory.
  - Memory Optimized (e.g., db.r5): High memory for performance.
  - Burstable Performance Instances: Cost-effective for variable workloads.
  - Storage Optimized
- Choosing the Right Class
  - Align with application needs (CPU, memory, IOPS).

# Understanding Your Database Workload (Key Metrics for Right-sizing)

- CPU Utilization
- Memory Utilization
- Disk I/O and Latency
- Database Connections
- Latency
- Replication Lag (for replicas)

# Tools for Monitoring and Assessment

- AWS CloudWatch
  - Set up alarms for key metrics (CPU, memory, disk I/O).
- AWS Trusted Advisor
  - Provides insights and recommendations for optimization.
- Performance Insights
  - Helps analyze database load and identifies bottlenecks.

# Right-Sizing Process

1. Gather Historical Data
  - Analyze metrics over a suitable period (e.g., weeks/months).
2. Evaluate Performance Trends
  - Identify peaks and troughs in usage.
3. Determine Workload Requirements
  - Understand the nature of your application workload.
4. Make Adjustments
  - Scale up or down based on analysis.

# Cost Considerations

- Instance Pricing Models
  - On-Demand vs. Reserved Instances vs. Spot Instances.
- Cost of Over-Provisioning
  - Highlight potential savings from right-sizing.
- Use Case Scenarios
  - Example: A test environment vs. production workload.

# Best Practices for Right-Sizing Amazon RDS for SQL Server

- Regular Monitoring
  - Continuously track performance metrics.
- Adjust Based on Workload Changes
  - Reassess after major application updates or seasonal changes.
- Automate Scaling
  - Use RDS Auto Scaling where applicable.

## Summary of Key Points

- Right-sizing RDS is essential for achieving a balance between cost and performance.
- Selecting the right instance class is very important to ensure the RDS instance can handle your application's demands.
- Utilize monitoring tools and metrics for regular assessment.
- Right-sizing your Amazon RDS instances is a continuous process.

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to us



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# Thank you

Stop by Datavail Booth #304 for fun swag and to continue the Amazon RDS discussion.

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