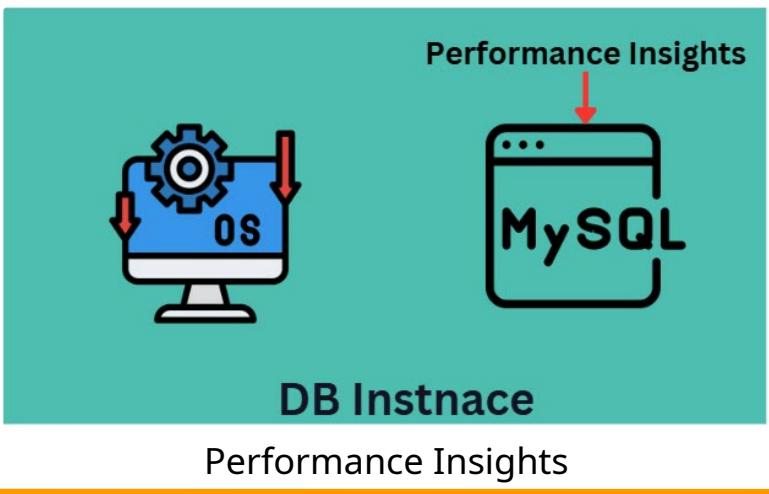


1



1 Introduction

1 Performance Insights is a tool in AWS RDS that helps you see how well your database is working.

- 1 Database Load (Average Active Sessions)
- 2 Top SQL Queries
- 3 Wait Events
- 4 User Sessions
- 5 Historical Load Analysis
- 6 Query Performance Metrics
- 7 Long-running Queries
- 8 Load by Query Type

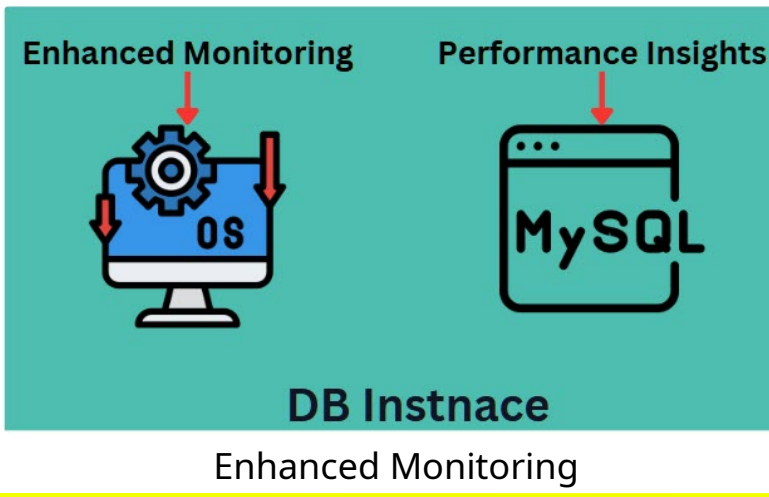
2 Tasks and performance metrics you can monitor with Performance Insights are

- 3 Troubleshooting and optimizing SQL query performance and understanding the load patterns within the database
- 4 It gives simple charts and information to help you understand what's happening inside your database

2 Retention period

- 1 The retention period in Performance Insights refers to the length of time that AWS keeps the performance data collected from your database.
- 2 This determines how far back you can view and analyze historical performance data
- 3 Free Tier By default, Performance Insights keeps your database performance data for 7 days without any additional charges
- 4 Extended Retention
  - 1 If you enable long-term retention within Performance Insights you can keep the data for up to 2 years.
  - 2 This extended retention incurs additional charges based on the amount of data stored

2



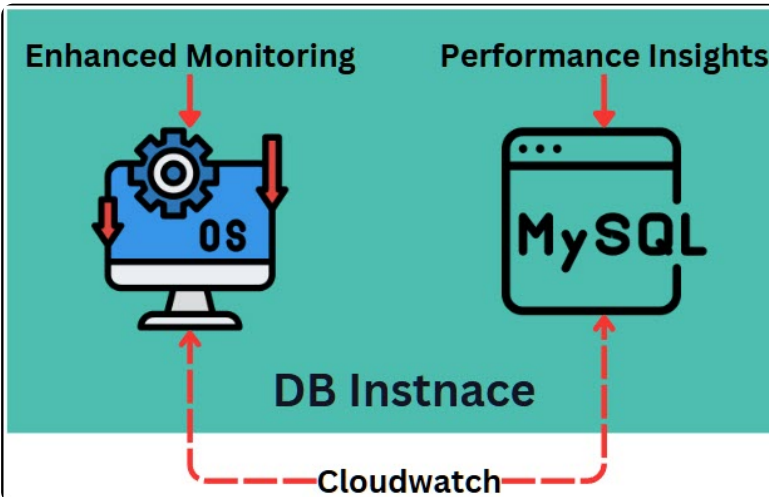
1 Introduction

- 1 Enhanced Monitoring in AWS RDS provides real-time, detailed metrics about the operating system (OS) hosting your RDS database instances
- 2 It offers a deeper level of insight into the system's performance compared to the standard CloudWatch metrics.
- 3 This helps you understand and optimize your database's performance more effectively

2 Key Features

- 1 OS-Level Metrics Provides detailed metrics such as
  - 1 CPU usage (per core)
  - 2 Memory usage
  - 3 Disk I/O
  - 4 File system usage
  - 5 Network throughput
- 2 Real-Time Monitoring Offers real-time updates as frequently as every 1 second
- 3 Integration with CloudWatch Logs Enhanced Monitoring data is published to Amazon CloudWatch Logs, where you can view, store, and analyze it further.
- 4 Customizable Monitoring Levels You can choose the level of detail and frequency for the Enhanced Monitoring data, adjusting it based on your specific needs and how much detail you want
- 5 Performance Troubleshooting Provides insights into the health and load of your RDS instance by displaying details such as:
  - 1 CPU utilization by individual cores and processes
  - 2 Disk read/write IOPS

3



1 CloudWatch provides a unified platform to monitor all aspects of your RDS instance, combining data from the database engine and OS

- 2 It adds powerful features like
  - 1 Setting alarms
  - 2 Automating responses
  - 3 Tracking logs
- 3 Giving you complete visibility and control over your database's performance

4

Performance Insight Vs Enhanced Monitoring Vs CloudWatch Monitoring

1 Performance Insights

- 1 Focus Database engine performance
- 2 Monitoring Level Detailed (in-depth query and wait statistics)
- 3 Metrics Database load, query performance
- 4 Log Integration N/A
- 5 Alarms and Automation N/A
- 6 Use Case Analyzing slow queries and bottlenecks in high-traffic databases to optimize performance
- 7 Charges Free for first 7 days per month, then paid

2 Enhanced Monitoring

- 1 Focus Operating system (OS) metrics
- 2 Monitoring Level Detailed (1-second intervals)
- 3 Metrics OS-level metrics (CPU, RAM, disk I/O)
- 4 Log Integration N/A
- 5 Alarms and Automation N/A
- 6 Use Case Provides real-time OS metrics every second, ideal for critical applications that need instant monitoring and quick issue detection.
- 5 Charges Paid, depending on instance size

3 CloudWatch

- 1 Focus Overall RDS instance monitoring
- 2 Monitoring Level Basic (5-min interval) and Detailed (1-min)
- 3 Metrics CPU, memory, storage, I/O, logs
- 4 Log Integration Supports logs (e.g., error, audit)
- 5 Alarms and Automation Custom alarms and automated responses
- 6 Use Case Monitors OS metrics like CPU and memory every 1 to 5 minutes, suitable for tracking trends and setting up automated actions.
- 7 Charges Free for basic (5-min interval), paid for detailed (1-min), custom metrics, and logs