Overview of Amazon RDS for Db2

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Agenda

- Why do you need managed databases?
- Deep dive into Amazon RDS for Db2
- How Db2 is built for RDS?
- Recent launches
- Key takeaways

Amazon Relational Database Service RDS

SET UP, OPERATE AND SCALE A RELATIONAL DATABASE IN THE CLOUD WITH JUST A FEW CLICKS

14+ years of operational expertise, security best practices, and innovation

Remove inefficient administrative tasks with managed databases

High availability and durability with Amazon RDS Multi-AZ

Build and scale with the database of your choice

Self managing databases is time consuming, complex, and expensive

Hardware & software installation, configuration, patching, backups

Performance and high availability issues

Capacity planning and scaling

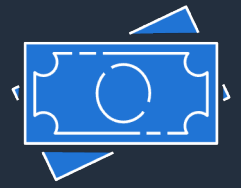
Security and compliance

Introducing Amazon RDS for Db2

RUN FULLY-MANAGED IBM Db2 DATABASES ON AWS

Increase efficiency

Focus on innovation



Reduce costs

Automates undifferentiated Db2 tasks, such as provisioning, backups, patching, and monitoring

Easily migrate existing IBM Db2 databases

Launch Db2 Version 11.5 databases in minutes and enable high availability with RDS Multi-AZ deployment

Bring your own IBM software licenses, supporting Standard and Advanced Editions

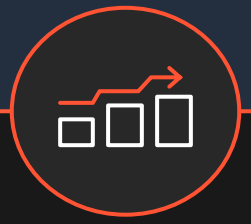
Supports transactional, mixed and analytics workloads, including Oracle compatibility

Overview of Amazon RDS for Db2

Easy to administer

- Create database with few clicks in few mins
- No infrastructure provisioning, software installation, or patching
- Built-in monitoring

Performant and scalable

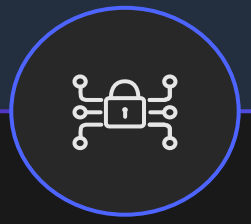


- Power your database with push-button compute scalability
- Auto scale your storage

Available and durable

- Achieve high availability with Amazon RDS Multi-AZ deployments
- Automated backup, snapshots, and failover

Secure and compliant



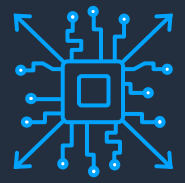
- Protect data with encryption at rest and in transit
- Achieve compliance with key industry compliance programs

Based on IDC Study-39% lower database operation costs

Performant and scalable

Scale down to control costs

- As little as 2 vCPU, 2 GiB of RAM
- Stop an instance for up to 7 days



Scale compute to handle increased load

- Up to 128 vCPU and 4TB of RAM

Scale storage for larger data sets

- Quickly scale EBS storage up to 64TB
- Up to 4,000 MB/s and 256,000 IOPS
- No downtime for storage scaling

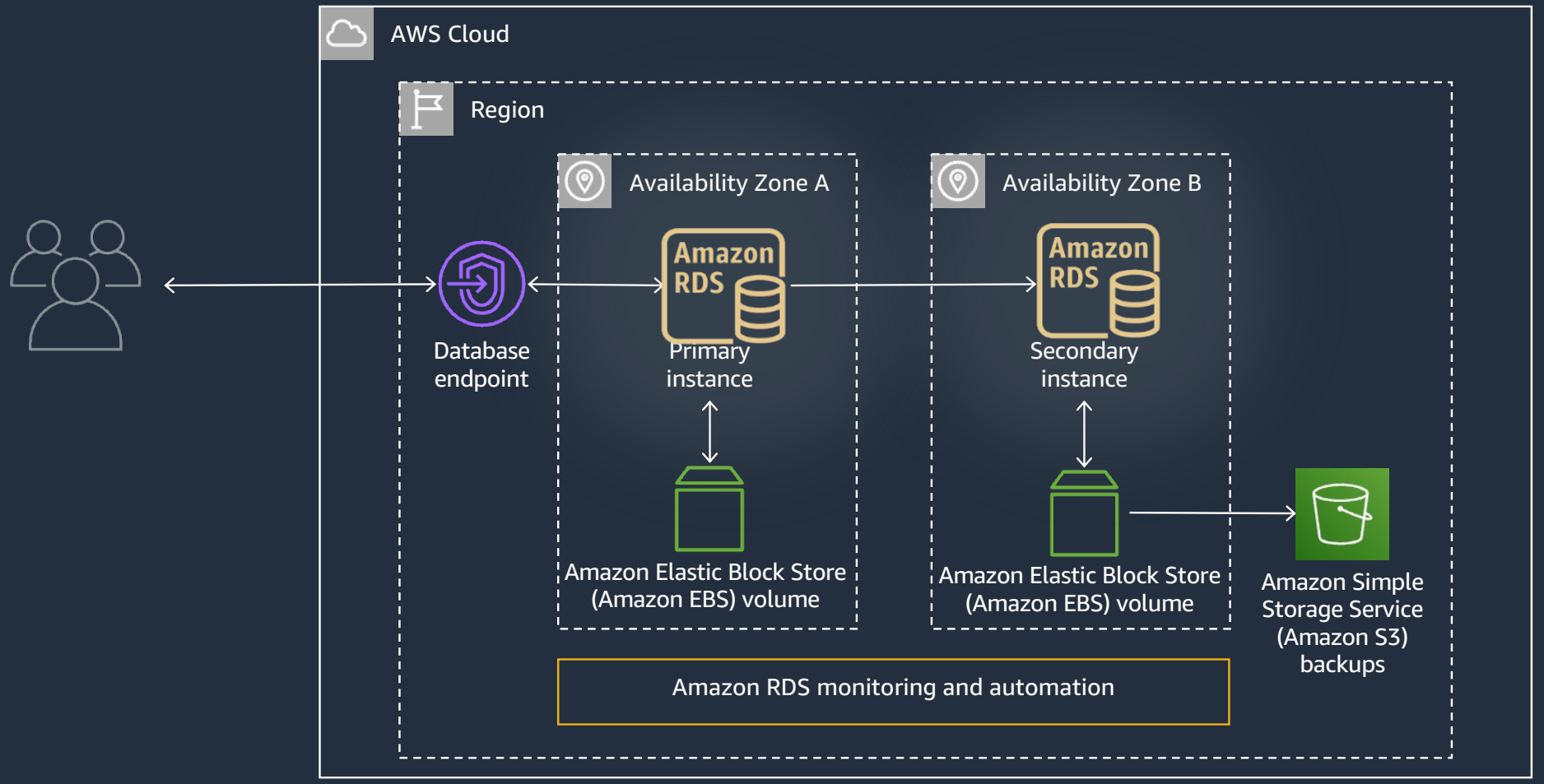
RDS for Db2 – High Availability (MAZ)

- Amazon RDS Multi-AZ deployments provide enhanced availability and durability for Database (DB) Instances
- When enabled, Amazon RDS
  - automatically creates a primary DB Instance
  - synchronously replicates the data to a standby instance
- In a Multi-AZ setup, secondary instance is launched in a different Availability Zone
- Each AZ runs on its own physically distinct, independent infrastructure, and is engineered to be highly reliable

RDS for Db2 – High Availability (MAZ)

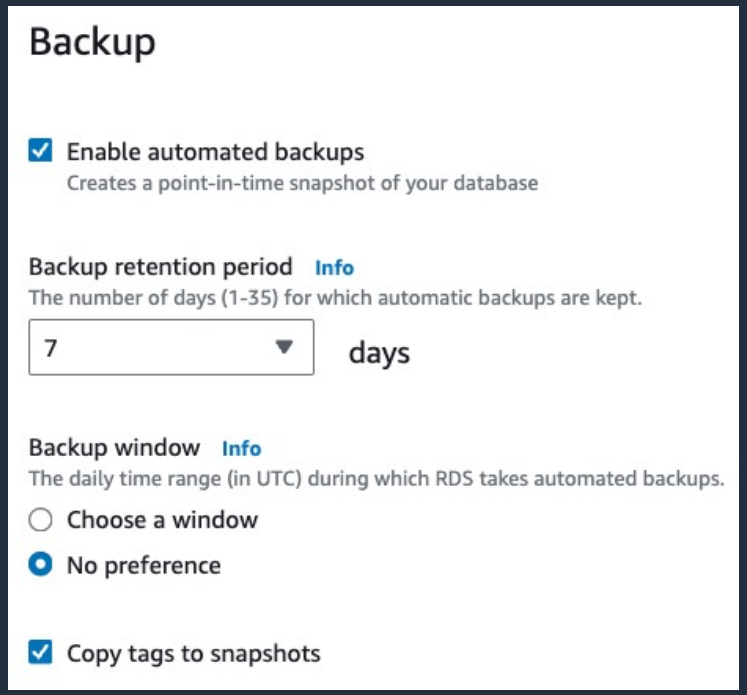
- Amazon RDS automatically performs a failover in the event of any of the following:
  - Loss of availability in primary Availability Zone
  - Loss of network connectivity to primary
  - Compute unit failure on primary
  - Storage failure on primary
  - Detects infrastructure issues, not database engine problems
- Failover initiated by automation or through the Amazon RDS API
- Redirection to the new primary instance is provided through DNS
- Since the endpoint for your DB Instance remains the same after a failover, your application can resume database operation without the need for manual intervention

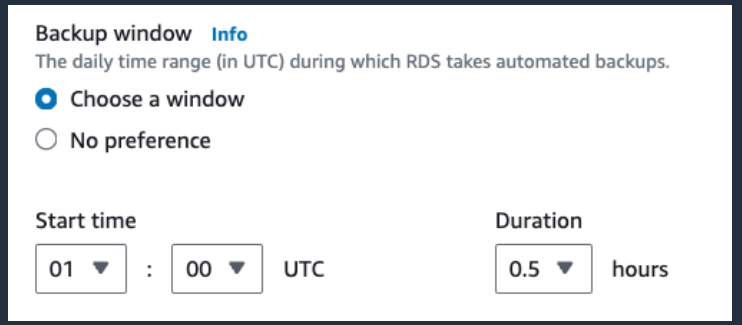
Available and durable



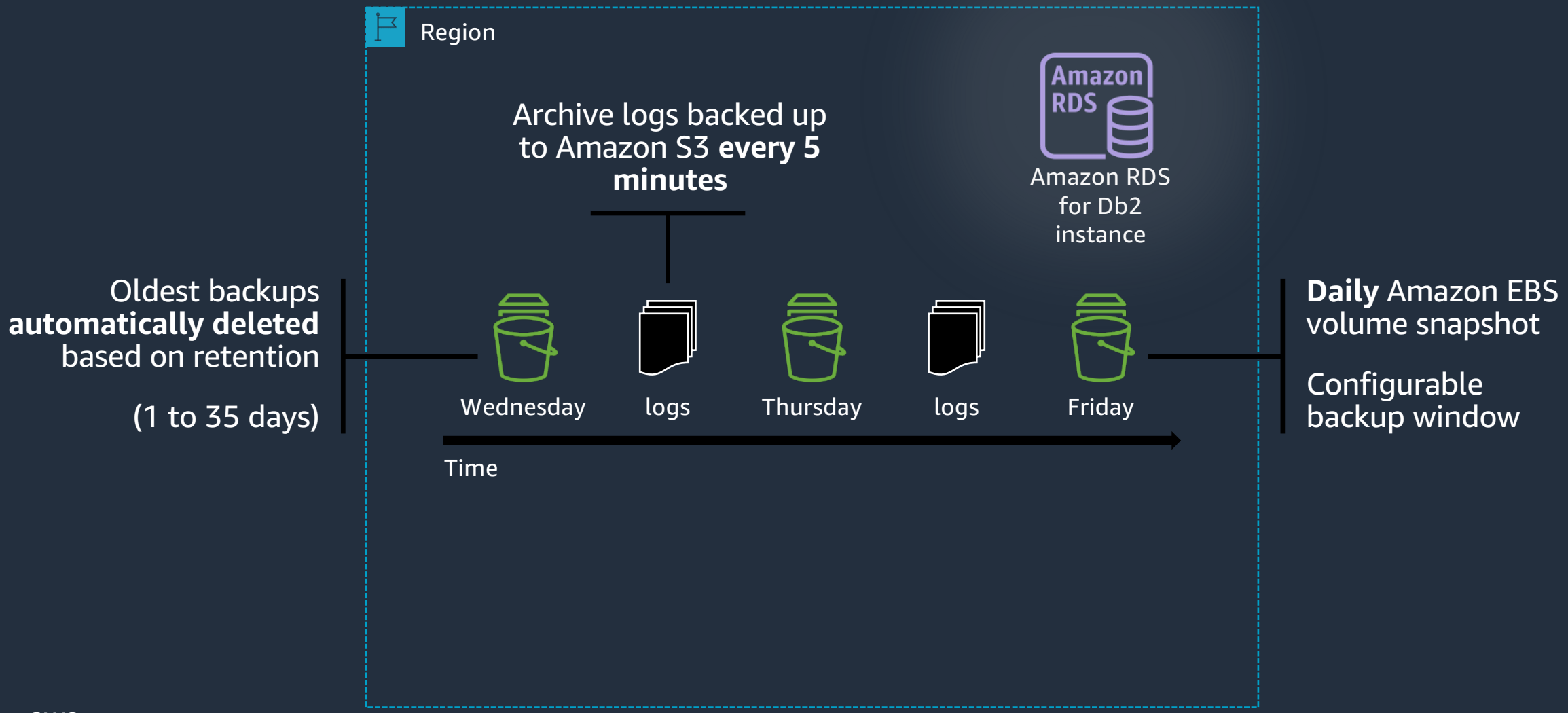
Amazon RDS for Db2 – Working with Backups

- Automated backups - Enabled with backup retention period to a positive non-zero value
- Automated backups occur daily during the preferred backup window
- If you don't specify a preferred backup window when you create the DB instance, Amazon RDS assigns a default 30-minute backup window
- This window is selected at random from an 8-hour block of time for each AWS Region





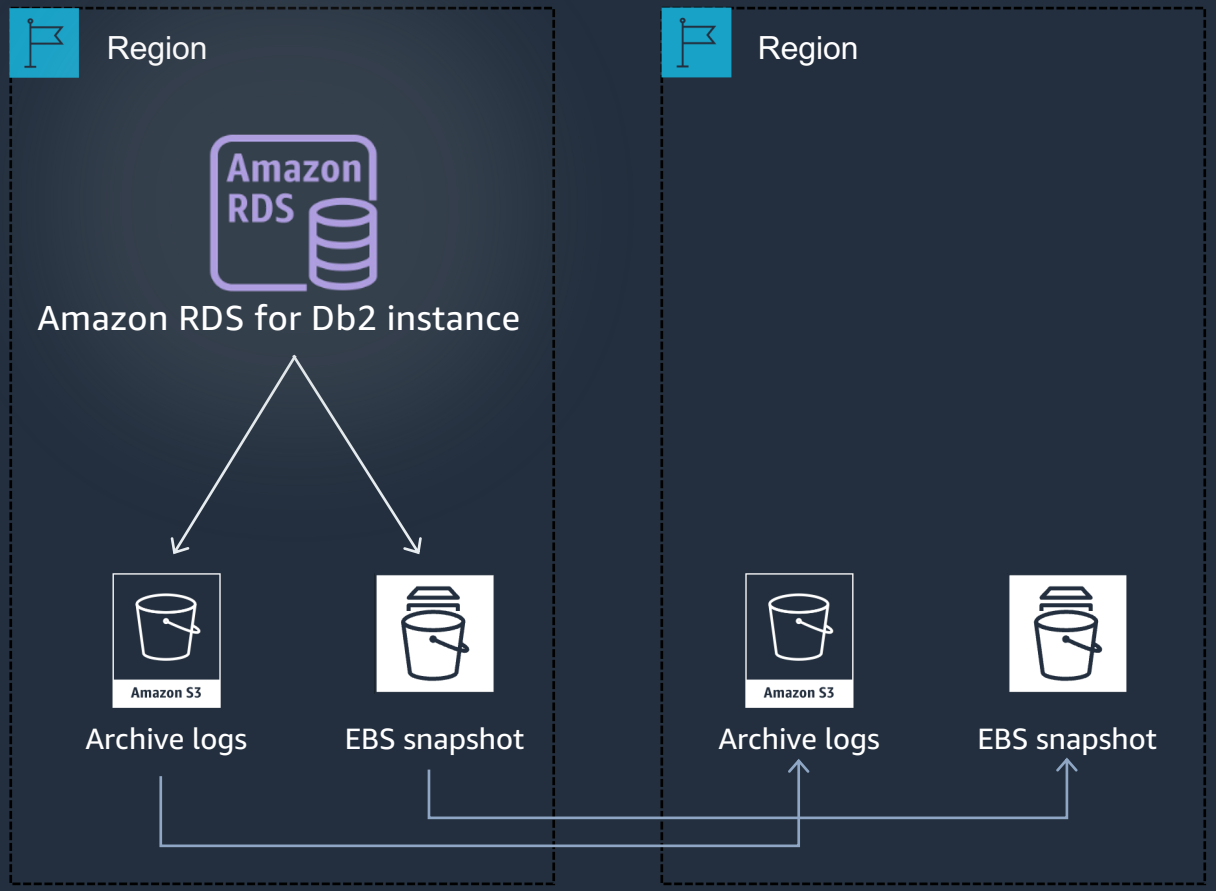
Amazon RDS automated **backups**



Disaster Recovery with Cross-Region Automated Backups

Cross-Region Key Aspects

- Automated snapshots and archive logs replicated to target region as soon as available in source region
- Specify independent recovery window for replicated backup region
- Enables Point In Time Recovery (PiTR) in second region for mission-critical databases



Secure and compliant

- Network security with Amazon Virtual Private Cloud (VPC)
- Resource access permissions with AWS Identity and Access Management (IAM) provides resource-level role permission controls
- Data encryption at rest using AWS KMS and TLS v2 protection for data in transit
- Authenticate with Db2 local users and Amazon Managed Active Directory with Kerberos
- Certified with HIPAA, PCI, SOC, and other standard programs.

Licensing & Pricing with RDS for Db2

USE WHAT YOU NEED, PAY FOR WHAT YOU USE

RDS PRICING MODEL

Only pay for what you use

- Flexibility to provision exactly what you need
- Storage can scale automatically
- Scale up and down compute as needed
- RDS decouples storage and compute, and they are charged individually

AWS MARKETPLACE LICENSE

Pay-as-you-go licensing

- Pay an hourly rate for on-demand licenses to help with dev, test, prod or migration needs
- Use this option for seasonal or bursty workloads to avoid the cost of overprovisioning
- Explore disaster recovery testing and database validation exercises
- Get started on RDS for Db2 instantly without an existing license

BRING YOUR OWN LICENSE (BYOL)

Use existing Db2 database licenses

- Db2 Standard and Advanced edition
- Make use of the Db2's sub-capacity licensing policy in RDS
- Continue to use your active IBM support account, and you contact IBM directly for Db2 service requests
- If you have an AWS Support account with case support, contact AWS for RDS service requests

Migration options for RDS for Db2

AWS Database Migration Service (DMS)

- From Db2 on EC2 or from on-premises
- Support for full load & Change Data Capture (CDC)

Native Db2 tools

- From full offline backup from v11.1 and 11.5 from x86 Linux
- From full online backup (from S3) and roll forward of logs from x86 Linux
- Data movement utilities such as Export, Import, Load, Ingest and db2move
- Migration with IBM Q Replication
- IBM Db2 Database Migration Tool to migrate from AIX, Windows and z/OS using native tools, with mainframe support

How Db2 is built for Amazon RDS?

- IBM + AWS close engineering & product collaboration to ensure the **best possible customer experience**
- Db2 11.5.9 version released for Amazon RDS launch
- Numerous improvements to Db2 including:
  - Product updates to take advantage of AWS-native services
  - Performance enhancements for backup/restore to S3
  - Security enhancements that comply with rigorous IBM & AWS standards
- Joint migration tooling to ensure a smooth transition from on-premises to Amazon RDS
- Multi-year commitment to keep enhancing the platform

IBM applications on AWS with RDS for Db2

Through close collaboration with AWS, we're proud to certify several IBM apps as ready **RDS for Db2**

And many more coming soon, including Maximo, FileNet, Infosphere Data Replication.

This is an expanding list, stay tuned.

- **IBM OpenPages**
  An integrated governance, risk, and compliance platform
- **IBM watsonx.data**
  A brand-new fit-for-purpose data store built on an open data lakehouse architecture to scale AI workloads
- **IBM Cognos Analytics**
  An integrated business intelligence platform
- **IBM Sterling Order Management**
  Omnichannel order fulfillment platform built for sustainability

RDS for Db2 2024 Feature Releases

04/25/2024
Amazon RDS for Db2 introduces hourly licensing from IBM through AWS Marketplace

04/25/2024
Local time zone support for Amazon RDS for Db2

03/20/2024
AWS License Manager now allows you to track IBM Db2 licenses on Amazon Relational Database Service (RDS)

03/11/2024
Amazon RDS for Db2 expands support for M6i and R6i in additional AWS Regions

03/11/2024
Amazon RDS for Db2 expands support for X2iedn instances in additional regions

03/06/2024
Amazon RDS now supports io2 Block Express for consistent sub-millisecond latency and 99.999% durability

02/15/2024
Amazon RDS for Db2 now supports audit logging

01/29/2024
Amazon RDS for Db2 now supports EBCDIC collation sequence

01/19/2024
Amazon RDS for Db2 now supports Cross-Region Automated Backups

01/11/2024
Amazon RDS for Db2 now supports up to 5,000 database users

As of May'24

Key takeaways

- Simplify database management with Amazon RDS for Db2
- Run business critical transactional, operational, and analytical workloads in a single, fully managed Db2 database
- Connect to other AWS or IBM services, such as a data warehouse, to scale your analytics and ML/AI workloads
- Get started today - aws.amazon.com/rds/db2

RDS for Db2 Resources

- AWS News Blog
- Service page
- Technical Documentation for RDS Db2
- Db2 Migration Tooling