Amazon RDS for Oracle New Features

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NoCOUG 2020 Winter Conference: Amazon RDS for Oracle Boot Camp

Agenda

Features launched in 2019

Managed High Availability

Managed Scalability

Managed Disaster Recovery

Managed Backups and Recovery

Security: Authentication with Kerberos and Active Directory

Q & A

Features Launched in 2019

Value Proposition	Q4-2018	Q1-2019	Q2-2019	Q3-2019	Q4-2019
Compatibility	• 2018 October PSU • Oracle Database 12.2	• 2019 January PSU/RU	• 2019 April PSU/RU	• 2019 July PSU/RU • Support for Oracle Database 18c	• 2019 October PSU/RU • Support for Oracle Database 19c
Instance launches and deprecations	• Support for M5, R5 instance families	• T3 instance type	• Z1d instance type - faster clock speeds	• Deprecation of M3 and R3 instance types (in progress) • Extended regional support for X1/X1e	• Deprecation of T2 instance type (Stopped new Creates) • Extended regional support for Z1d
Feature launches	• JVM Support • Support for extended data types • SQLT Version 12.2.180331	• SQLT 12.2.180725 • APEX 18.1, 18.2	• APEX 19.1	• OEM Agent 13cR3	• OEM Agent emctl commands • OEM Agent using SSL
Manageability and security	• Performance Insights • Stop and Start of Multi-AZ DB Instances	• Data Ingress/Egress with Amazon S3 integration	• PI Counter metrics • Storage autoscaling	• Kerberos/Active Directory	• PI SQL-level metrics
Performance, scalability, & availability	• Increased the Maximum storage from 16 TiB to 32TiB	• Data Guard In-Region Read Replicas	• 80K PIOPS & 64 TiB max storage size		• Data Guard X-Region Read Replicas

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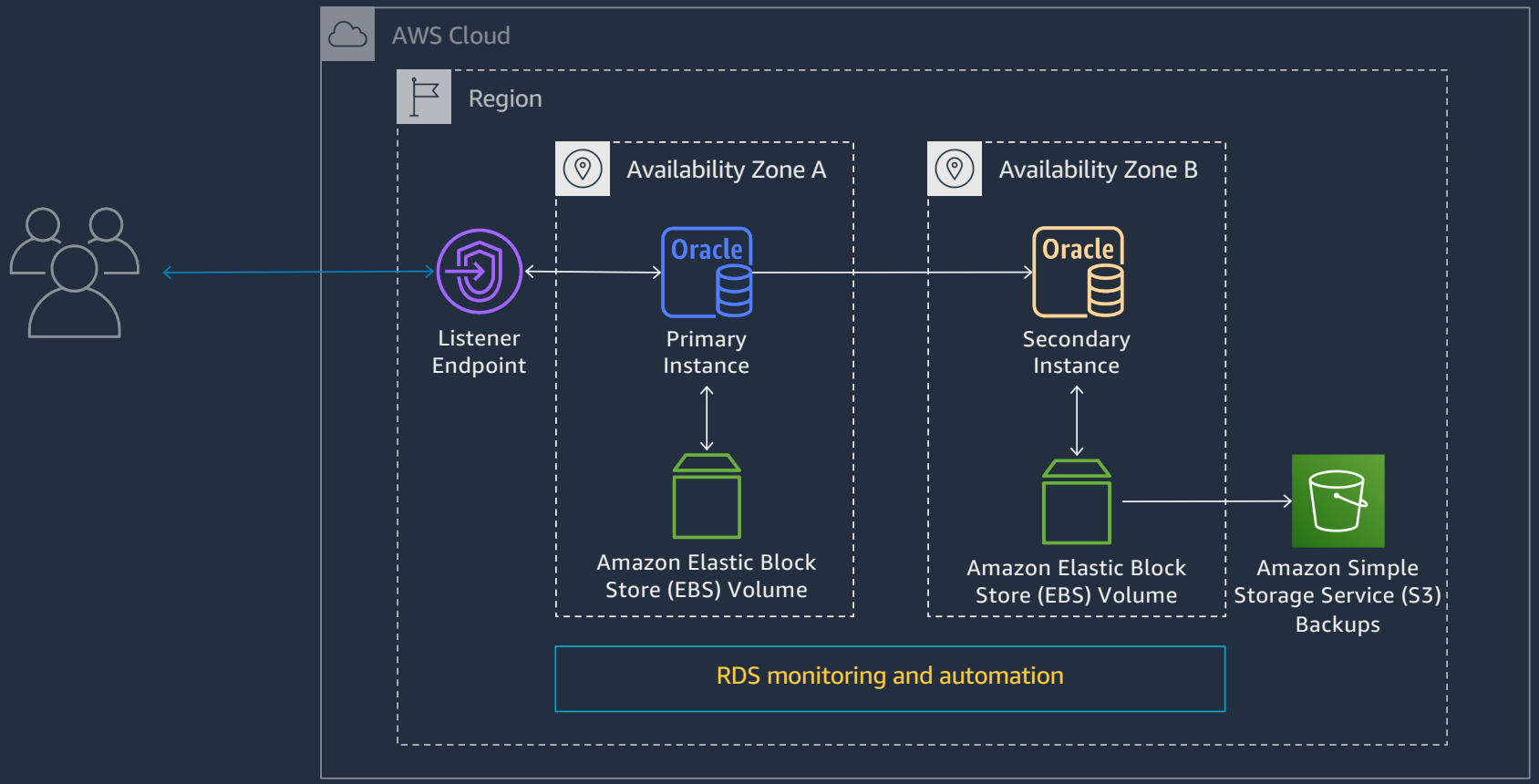
Managed High Availability with Amazon RDS Multi-AZ



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Managed High Availability with Amazon RDS Multi-AZ

Best Practices

- Use Multi-AZ for mission critical workloads
- Deploy symmetric application configuration across AZs
  - No “fail back” double-outage
- Connection pools need to reconnect
  - Make sure connection pools do not cache Domain Name System (DNS)
- Test performance
  - Synchronous replication will add latency to writes
- Test application resilience → RebootDBInstance + ForceFailover

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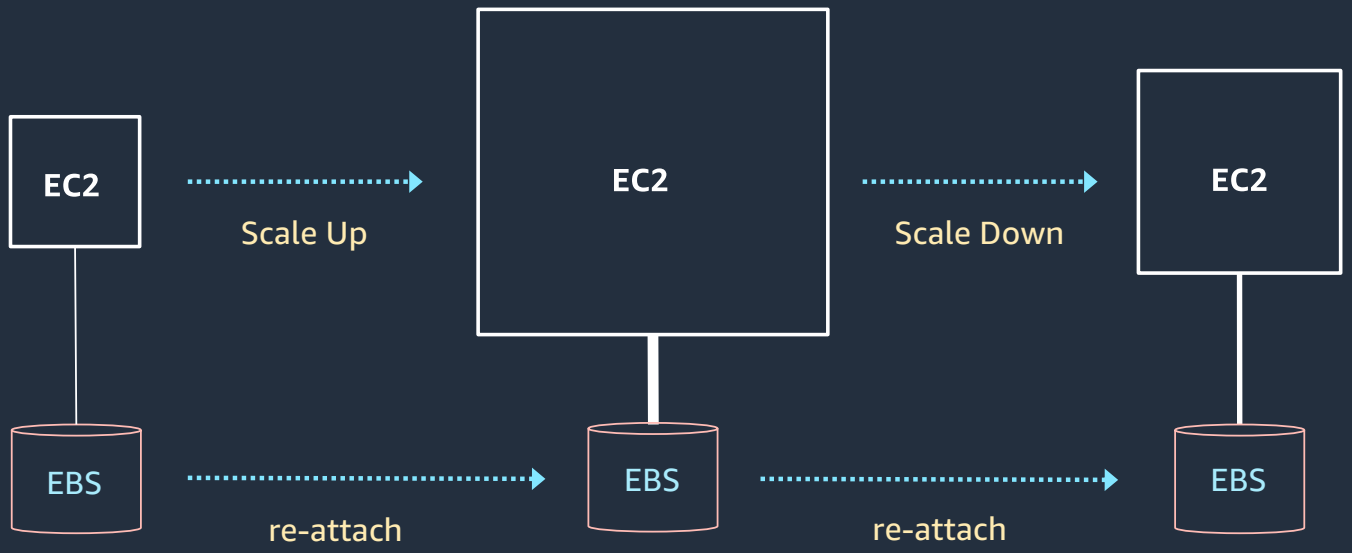
Managed Scalability - Compute

- Scale compute & memory vertically up or down



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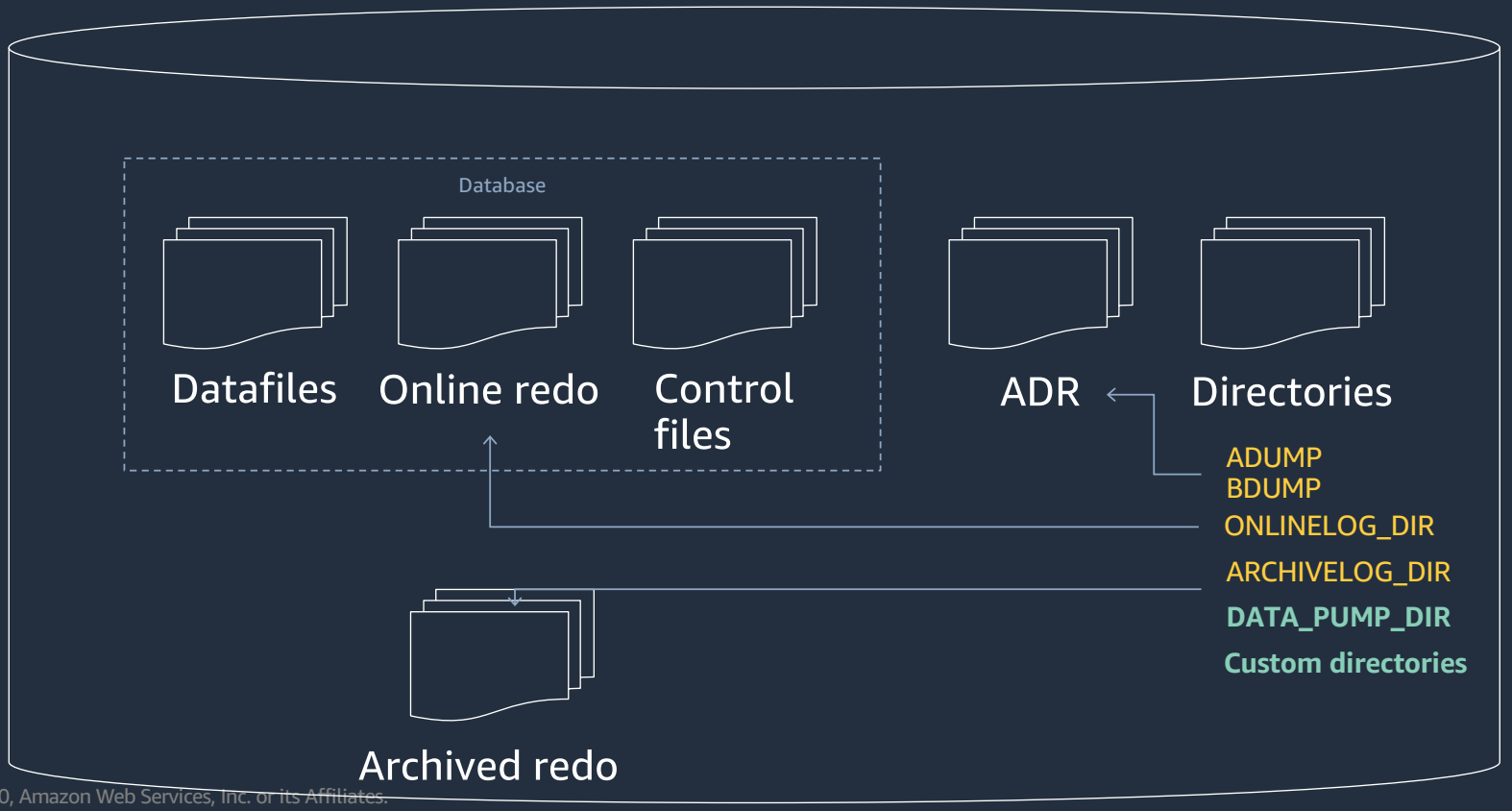
Managed Scalability - Storage

- Online scaling of storage size, changing storage type (gp2, io1) or IOPS (io1), and auto-scaling



MAZ Secondary

EBS Snapshot

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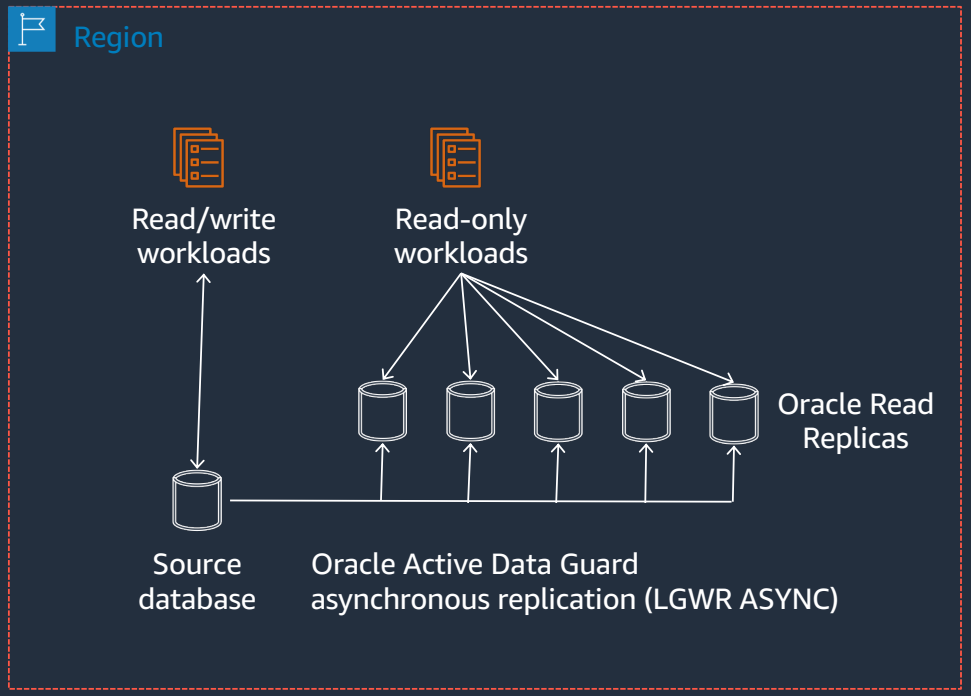
Managed Scalability: In-Region Read Replicas

- Benefits
  - Relieve pressure on source database with additional read capacity
  - Scale your read workload
  - Promote a replica to a new stand-alone database
- Create up to 5 replicas per source database
- Managed Active Data Guard, requires bring your own license (BYOL)
- Database upgrades occur on replicas after source
- Replicas can be Multi-AZ



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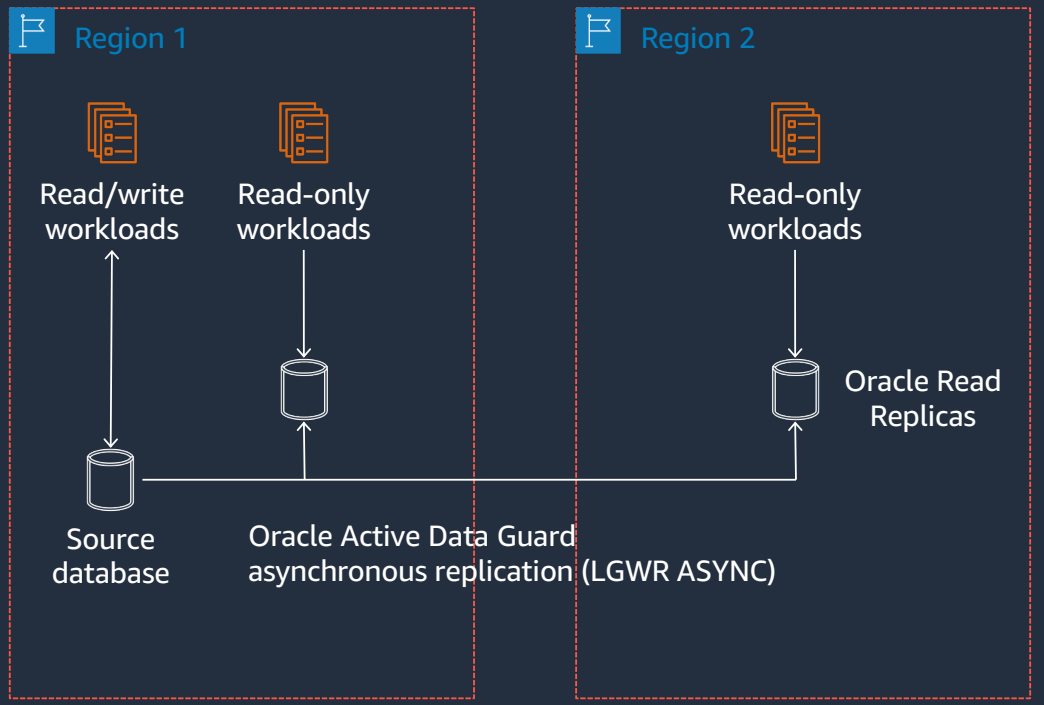
Managed Disaster Recovery: Cross-Region Read Replicas

- Benefits
  - To bring data closer to the users
  - A standby database in the event of disaster
- Create up to 5 replicas per source database
- Managed Active Data Guard, requires BYOL
- Database upgrades occur on replicas after source
- Replicas can be Multi-AZ



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Backups, Snapshots, and Point-in-time restore

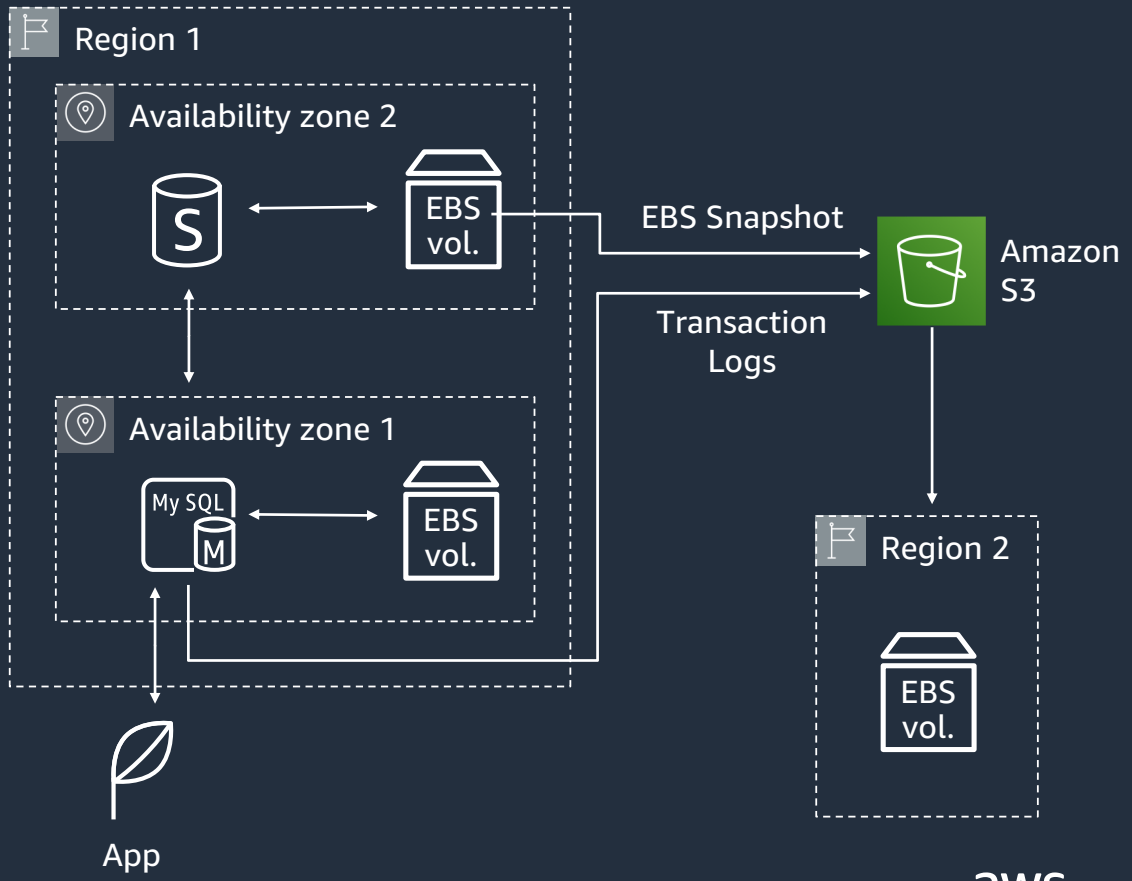
Two options—automated backups and manual snapshots

Amazon EBS snapshots stored in Amazon S3

Transaction logs stored every 5 minutes in Amazon S3 to support Point-in-time restore

No performance penalty for backups

Snapshots can be copied across regions or shared with other accounts



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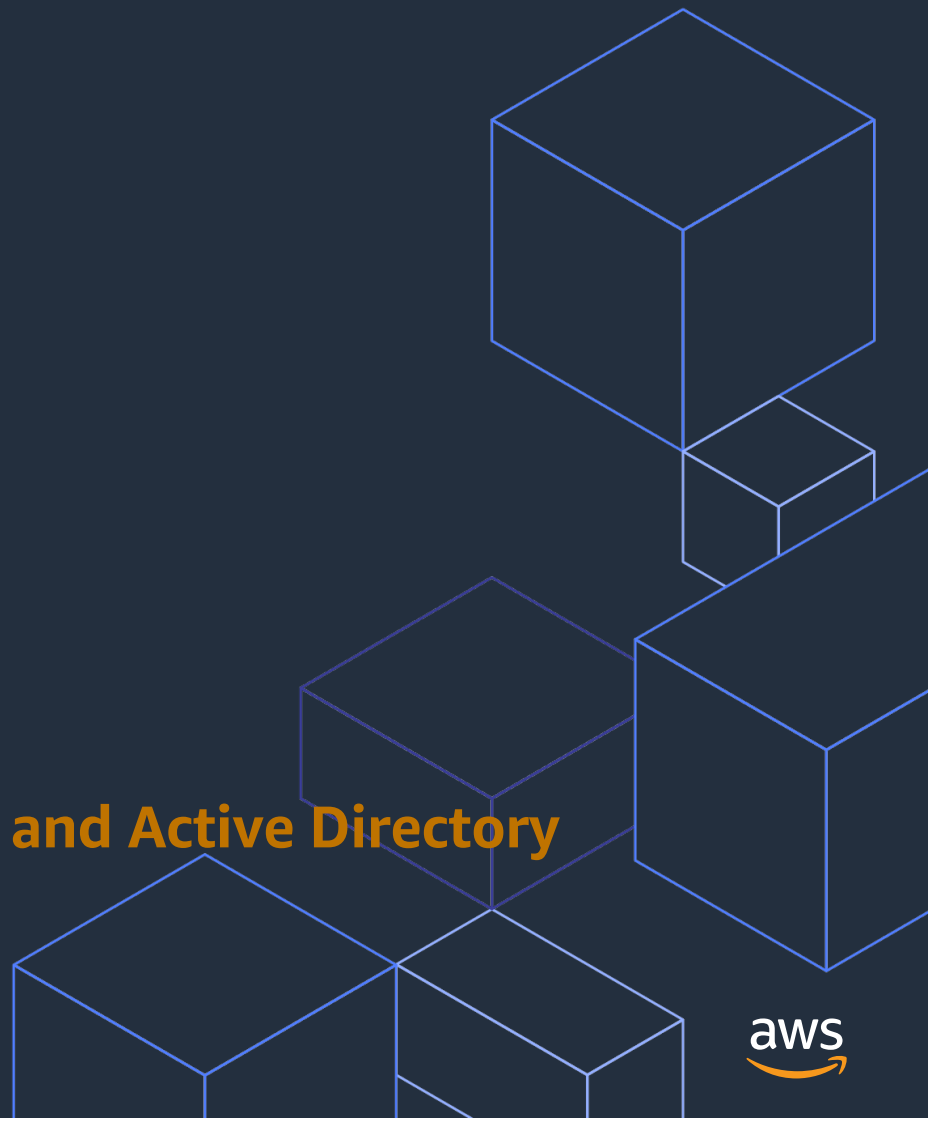

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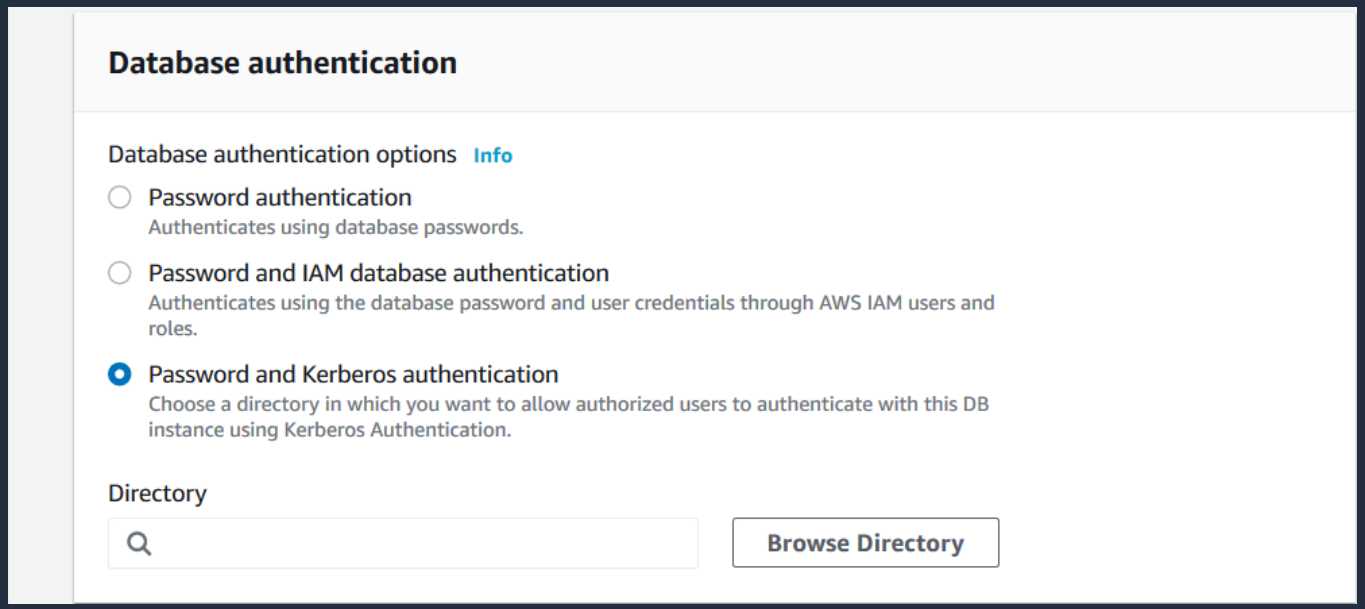
Authentication with Kerberos and Active Directory



- Single Sign-on for your database
- Centrally managed authentication
- Credentials stored in AWS Directory Service for AD or on-premises AD

- Easy to manage, saves time and effort
- Use the same AD for Different VPC
- Allows instances to join AD owned by different accounts

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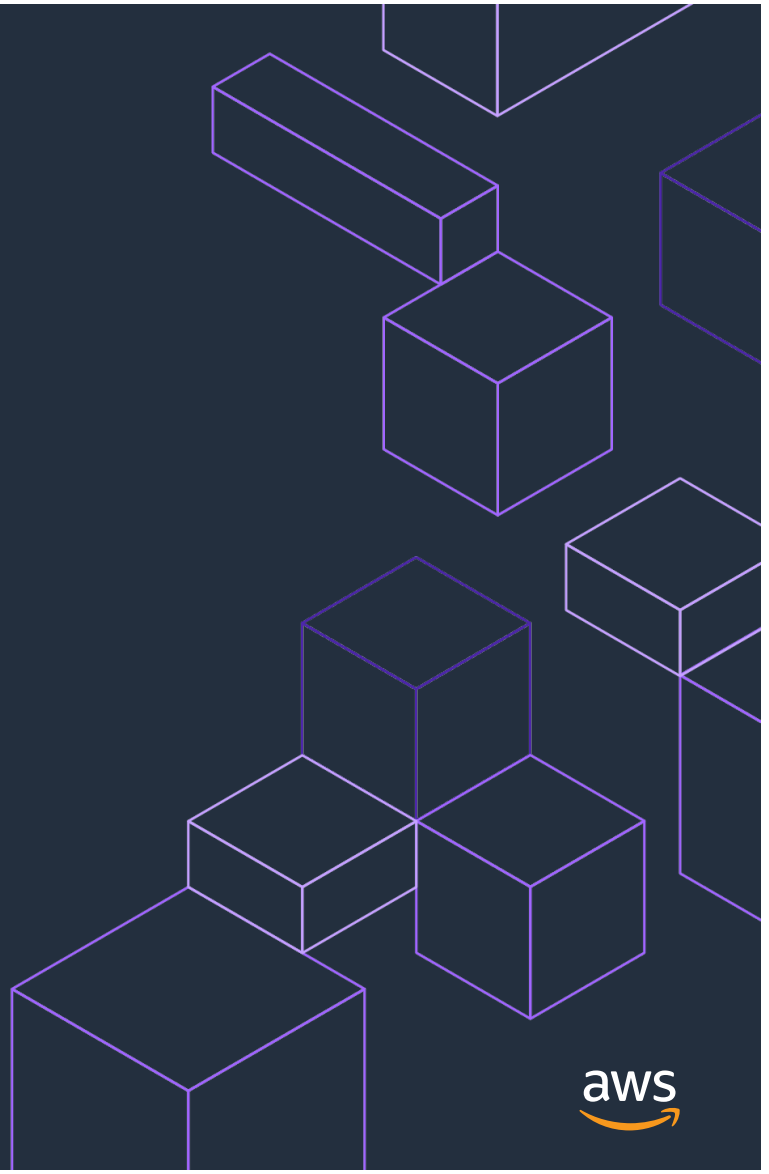
Q&A

Dallas Willet and Amit Grover



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