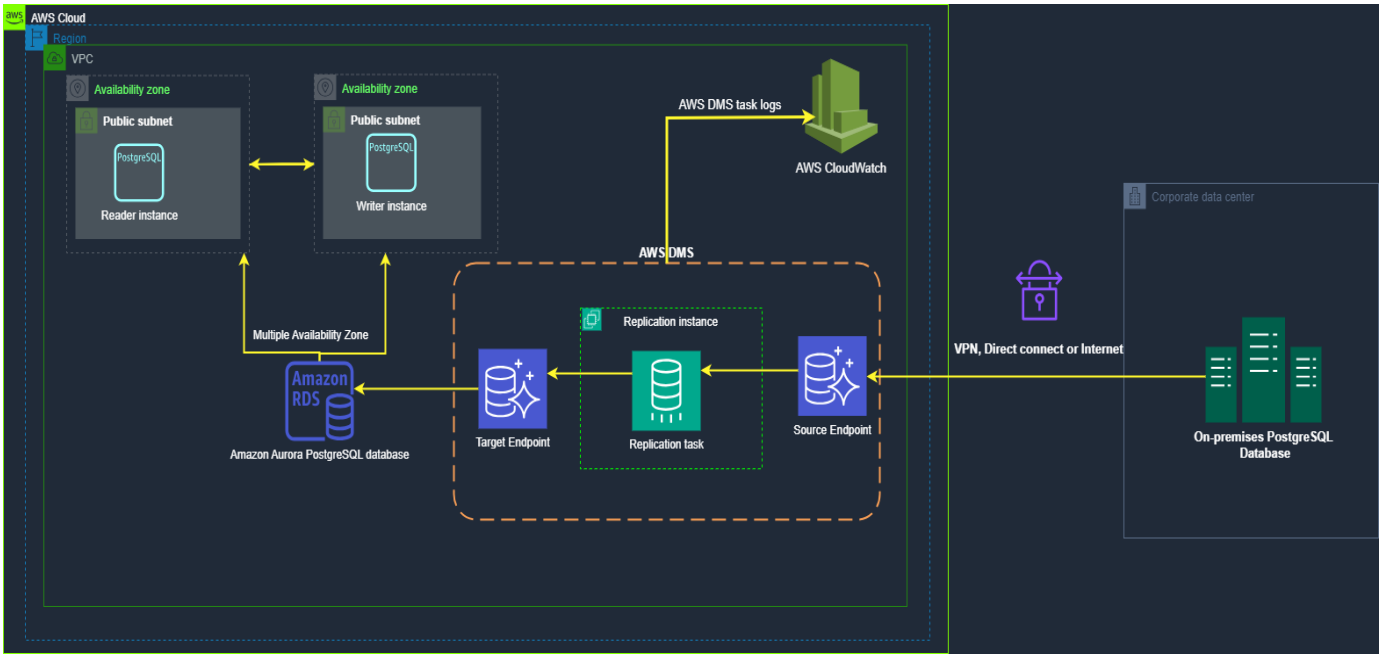
AWS Well-Architected Framework for Seamless Database Migration from PostgreSQL to PostgreSQL Aurora

1. **Operational Excellence:**
    - Maintain comprehensive documentation for the migration process, including the migration plan, test cases, and post-migration procedures
    - Ensure that the database migration strategy is well-designed, taking into account the specific requirements and constraints of PostgreSQL and Aurora.
2. **Security:**
    - Implement strong access controls and authentication mechanisms to protect sensitive data.
    - Encryption of data at rest and in transit during the migration process to maintain the highest level of data security.
    - Enable auditing and logging features to monitor and track any suspicious activities during the migration.
3. **Reliability:**
    - Ensure high availability of both source and target databases during the migration process to minimize downtime.
    - Establish backup and recovery procedures to safeguard data integrity and availability.
4. **Performance Efficiency:**
    - Optimize the database schema, queries, and indexes for better performance on Aurora.
    - Configure the target Aurora instance appropriately to handle the workload efficiently.
5. **Cost Optimization:**
    - Right-size Aurora instance to meet the performance requirements while minimizing costs.
    - Continuously monitor the cost of running the migration and optimize resources as needed to reduce unnecessary expenses

Lab architecture reference



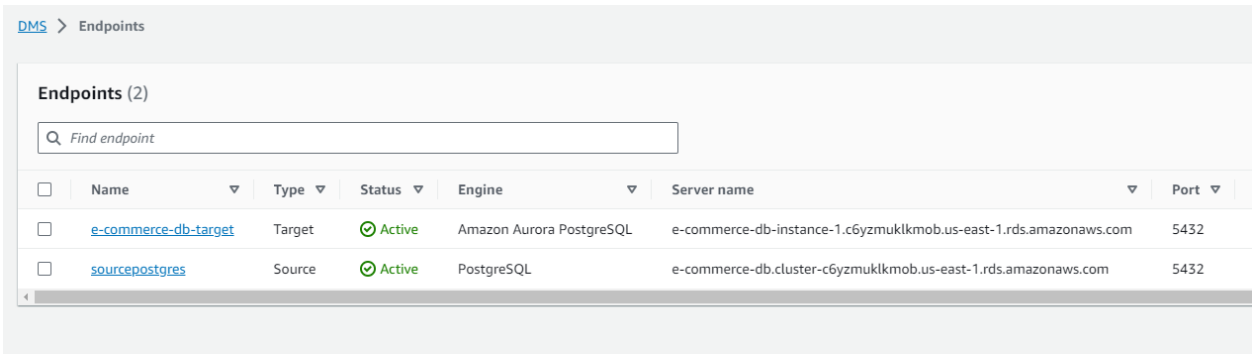
Database:

PostgreSQL database --> Aurora PostgreSQL

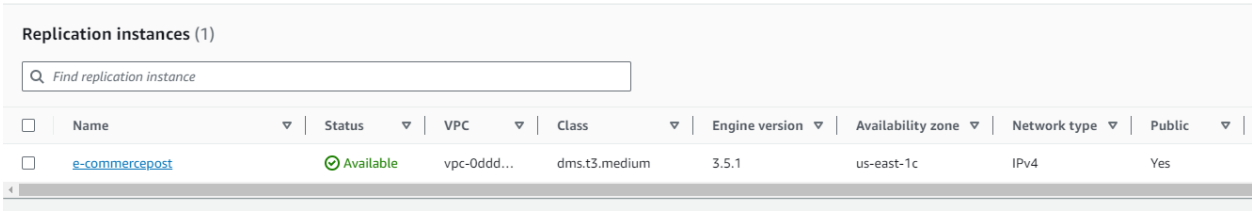
2. Configure DMS

- Replication Network
- Launch replication instance
- Endpoint for source & target

Create target and Source endpoint database



Create replication network

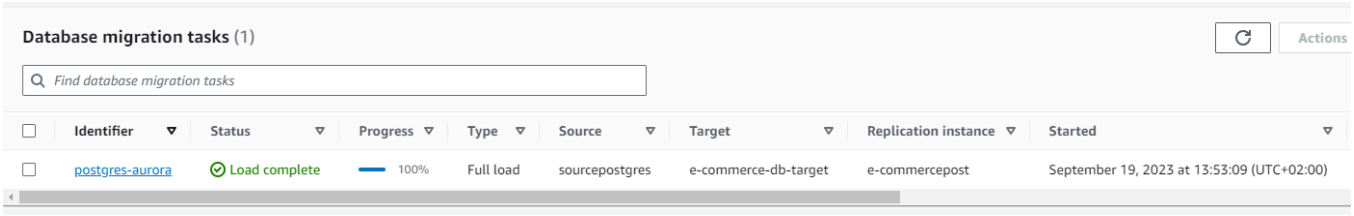


Replication instances (1)

Find replication instance

Name	Status	VPC	Class	Engine version	Availability zone	Network type	Public
e-commercepost	Available	vpc-0ddd...	dms.t3.medium	3.5.1	us-east-1c	IPv4	Yes

Launch replication network



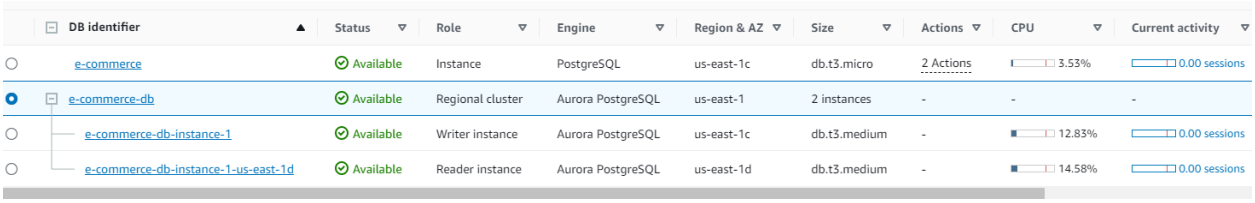
Database migration tasks (1)

Actions

Find database migration tasks

Identifier	Status	Progress	Type	Source	Target	Replication instance	Started
postgres-aurora	Load complete	100%	Full load	sourcepostgres	e-commerce-db-target	e-commercepost	September 19, 2023 at 13:53:09 (UTC+02:00)

Aurora PostgreSQL instance



DB identifier	Status	Role	Engine	Region & AZ	Size	Actions	CPU	Current activity
e-commerce	Available	Instance	PostgreSQL	us-east-1c	db.t3.micro	2 Actions	3.53%	0.00 sessions
e-commerce-db	Available	Regional cluster	Aurora PostgreSQL	us-east-1	2 instances	-	-	-
e-commerce-db-instance-1	Available	Writer instance	Aurora PostgreSQL	us-east-1c	db.t3.medium	-	12.83%	0.00 sessions
e-commerce-db-instance-1-us-east-1d	Available	Reader instance	Aurora PostgreSQL	us-east-1d	db.t3.medium	-	14.58%	0.00 sessions