AWS Databases

Today's Takeaways

▶ Introduction to Database

▶ Amazon RDS

▶ MySQL Workbench

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WAY TO REINVENT YOURSELF

1 Introduction to Database

Introduction to Database

What is Database?

Introduction to Database
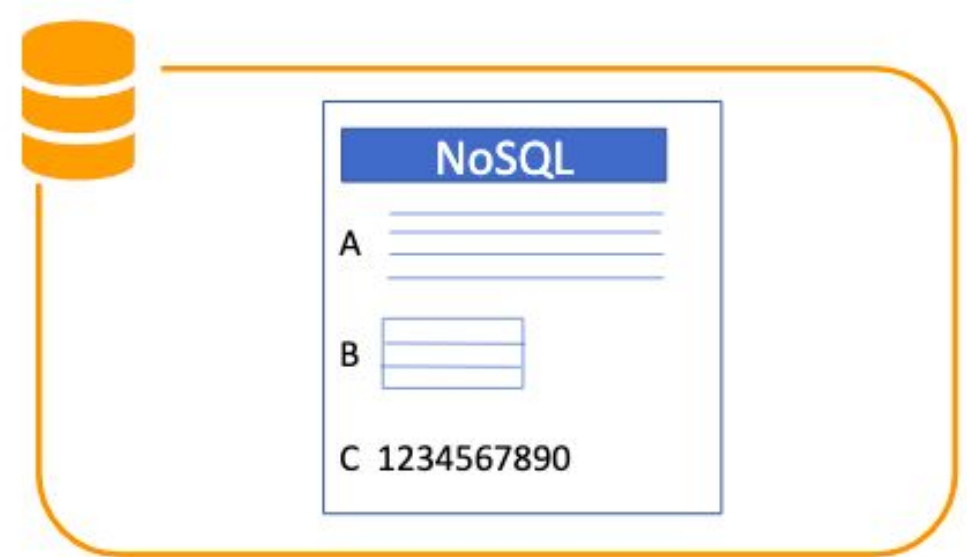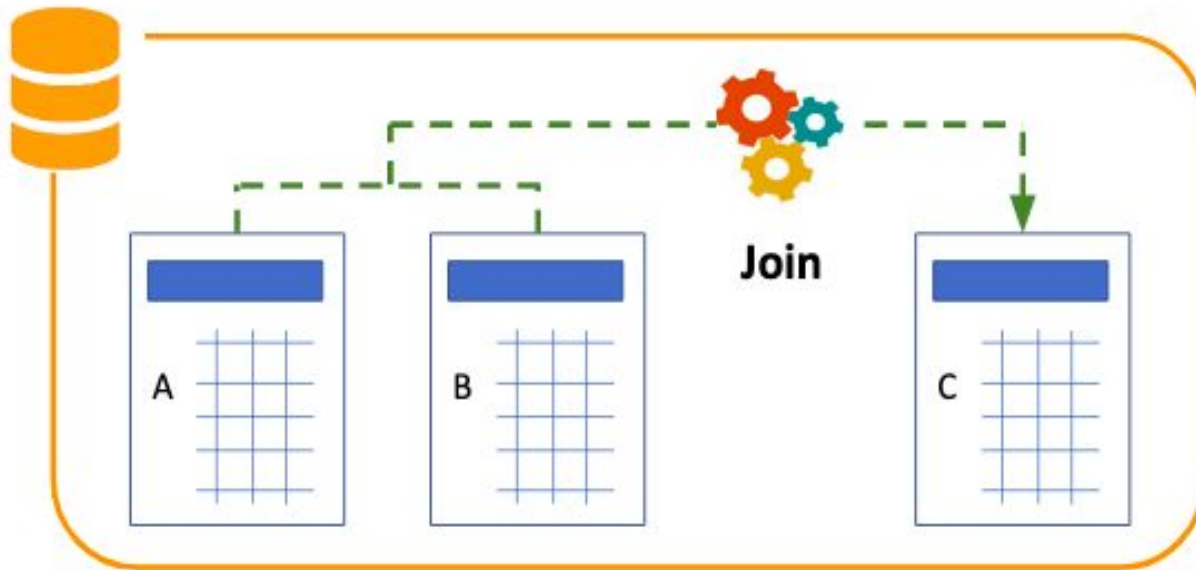
Type of Database?

Relational/SQL

Non-Relational/NoSQL

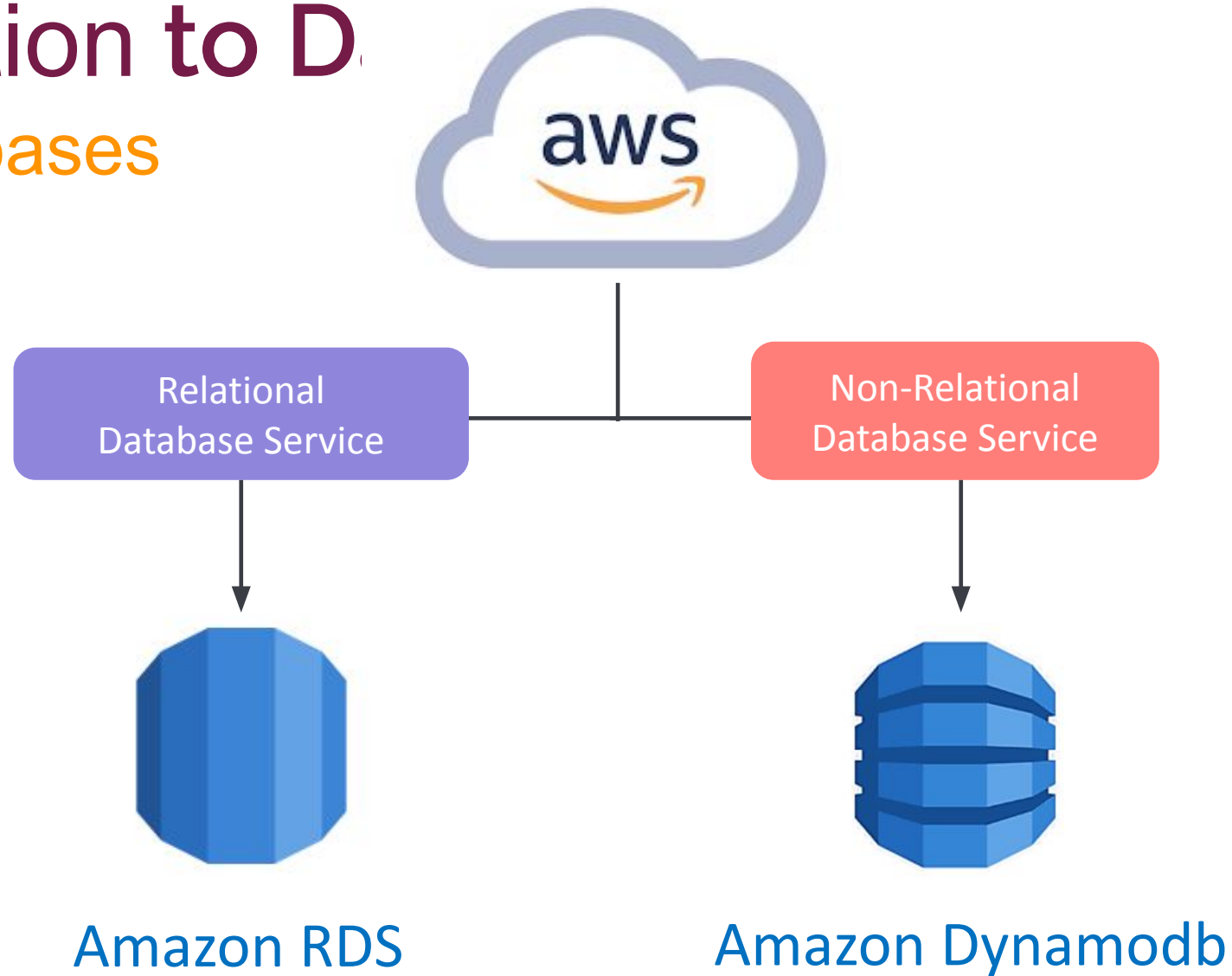# Introduction to Database

Type of Database?

Relational/SQL

Non-Relational/NoSQL

Introduction to D

AWS Databases

Introduction **to Database**

SQL vs. NoSQL ?

SQL	NoSQL
Relational	Non-Relational
Table-based	Document-based, key-value pairs, graph databases or wide-column stores
Predefined Schema	Dynamic Schema
Uses SQL	As the name suggest, it doesn't use SQL
Used for complex queries	Used for simple queries
Available for **Join** function	Not available for **Join** function

2 Amazon RDS

RDS
What is RDS?

Amazon RDS

RDS
Basic Components

Amazon RDS

| Database Engines |
| DB Instance |
| Storage Disk |

db.t2.micro

EC2

| AMI |
| Instance Type |
| Storage Disk/ Root Volume |

t2.micro

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RDS
Database Engines

RDS

Database Instance

```
                          ┌──────────────┐
                          │     RDS      │
                          └──────┬───────┘
              ┌──────────────────┴──────────────────┐
       ┌──────────────┐                       ┌──────────────┐
       │   Pricing    │                       │   Purpose    │
       └──────────────┘                       └──────────────┘
```

On Demand Instance   Reserved Instance

| X | R | M | T |

Memory Optimized   General Purpose   Burstable

RDS
Instance Storage

```
                    ┌─────────────────┐
                    │   Amazon RDS    │
                    │    Storage      │
                    └────────┬────────┘
          ┌──────────────────┼──────────────────┐
┌─────────┴─────────┐ ┌──────┴──────────┐ ┌──────┴─────────┐
│  General Purpose  │ │ Provisioned IOPs│ │    Magnetic    │
│   (SSD) Storage   │ │  (SSD) Storage  │ │    Storage     │
└───────────────────┘ └─────────────────┘ └────────────────┘
```

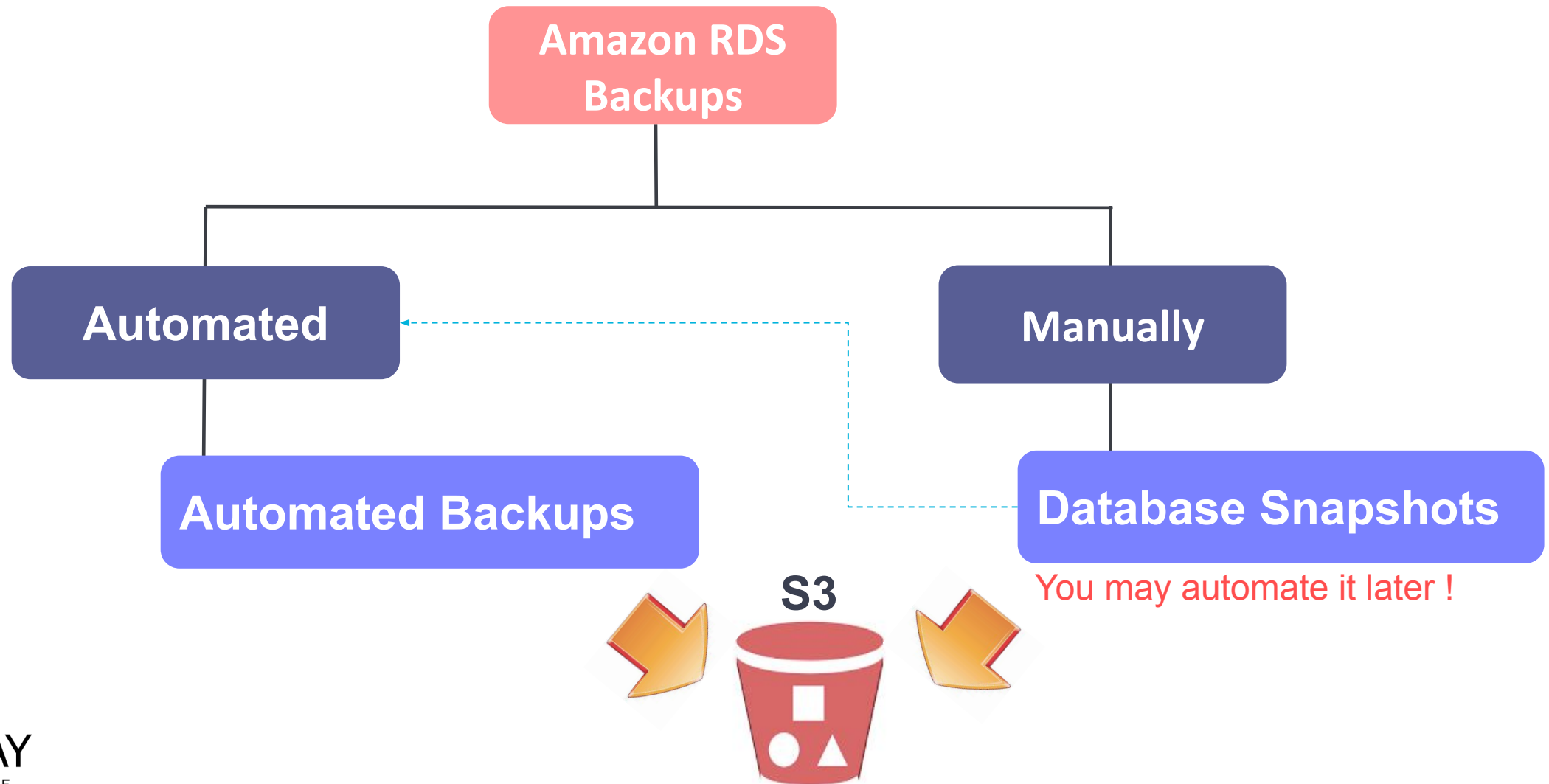**Cost-effective**   **Fast and consistent I/O**   **Not recommended**
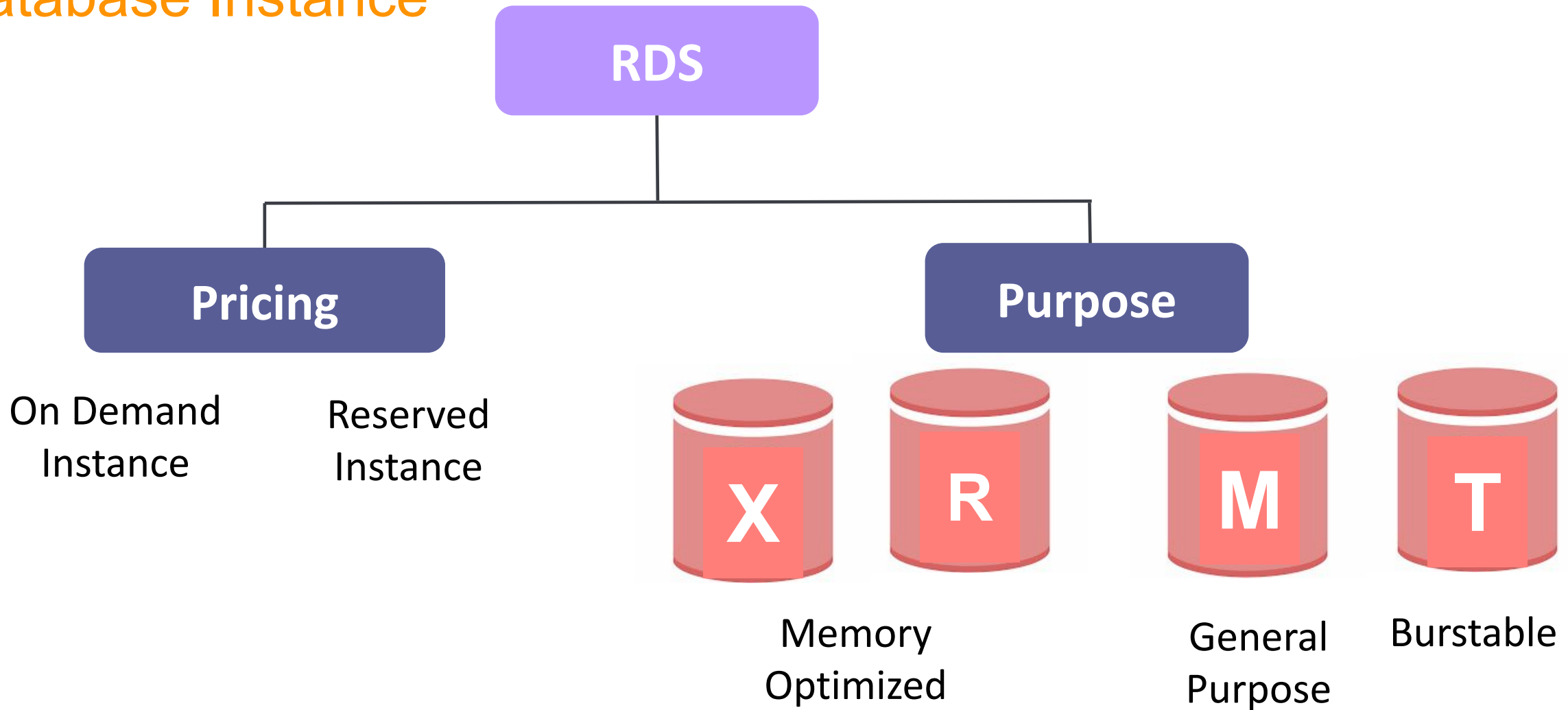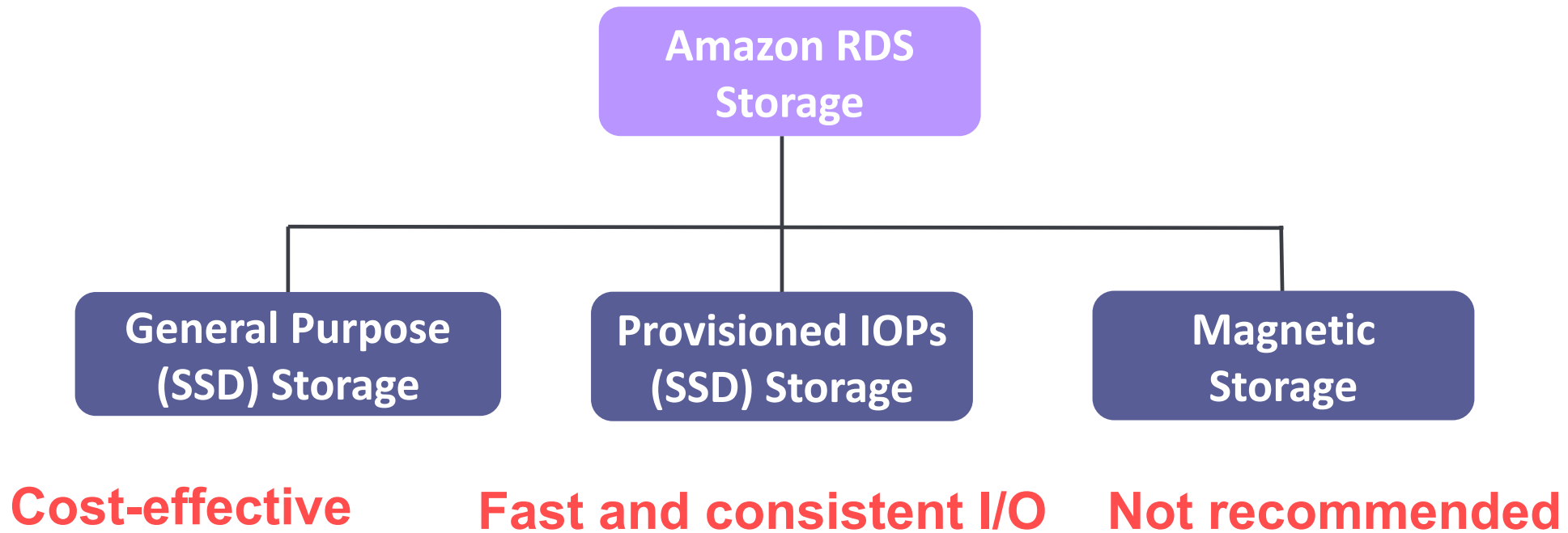
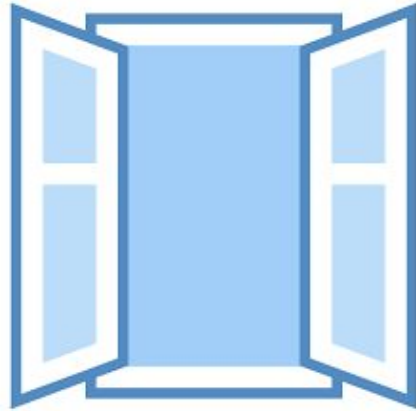There is an important factor in the databases as much as CPU and RAM power, which is the value of IOPs of storage

RDS

MySQL Workbench

MySQL Workbench

DB Instance

MySQL Workbench = Graphical tool for working with MySQL databases.

RDS

DB Instance Backups

Amazon RDS Backups

Automated → **Manually**

Automated Backups

Database Snapshots

You may automate it later !

S3

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RDS

DB Instance Automated Backups

35 days

TRANSACTION LOG

5 minutes

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RDS

DB Instance Snapshot

RDS
RDS Multi-AZ Deployment

Multi-AZ DB
[instance](#)
deployments
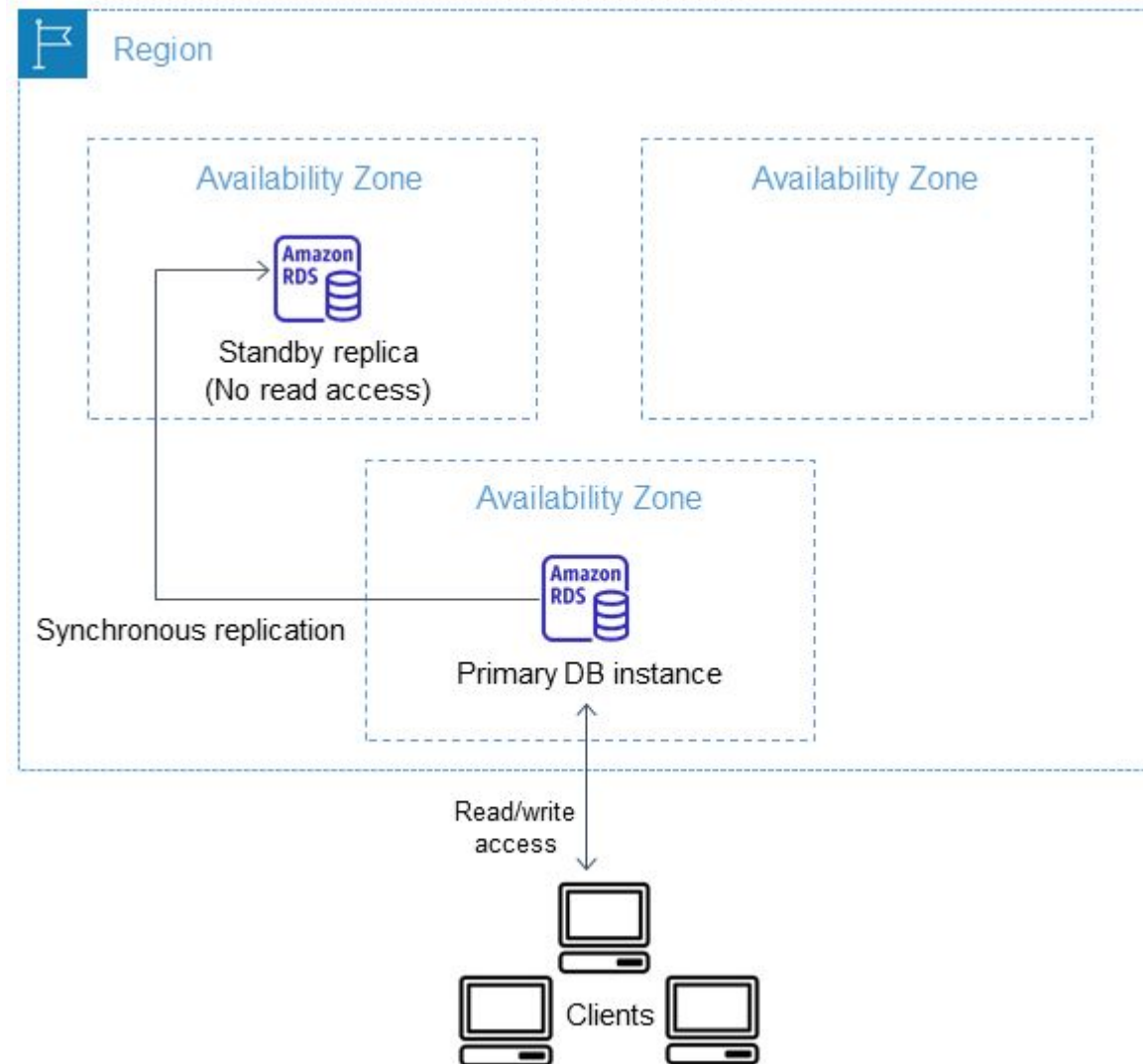
RDS
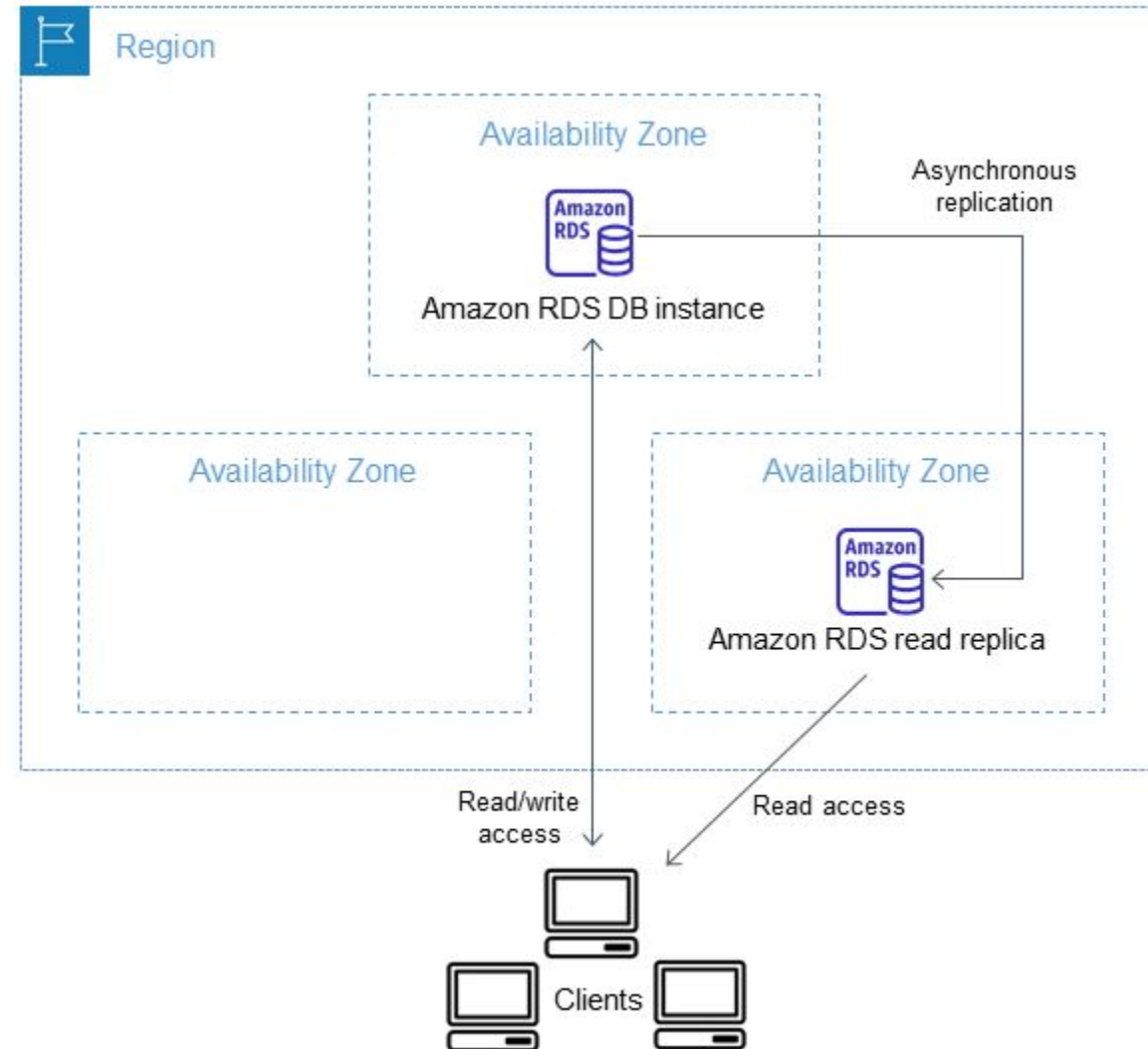## RDS Multi-AZ Deployment

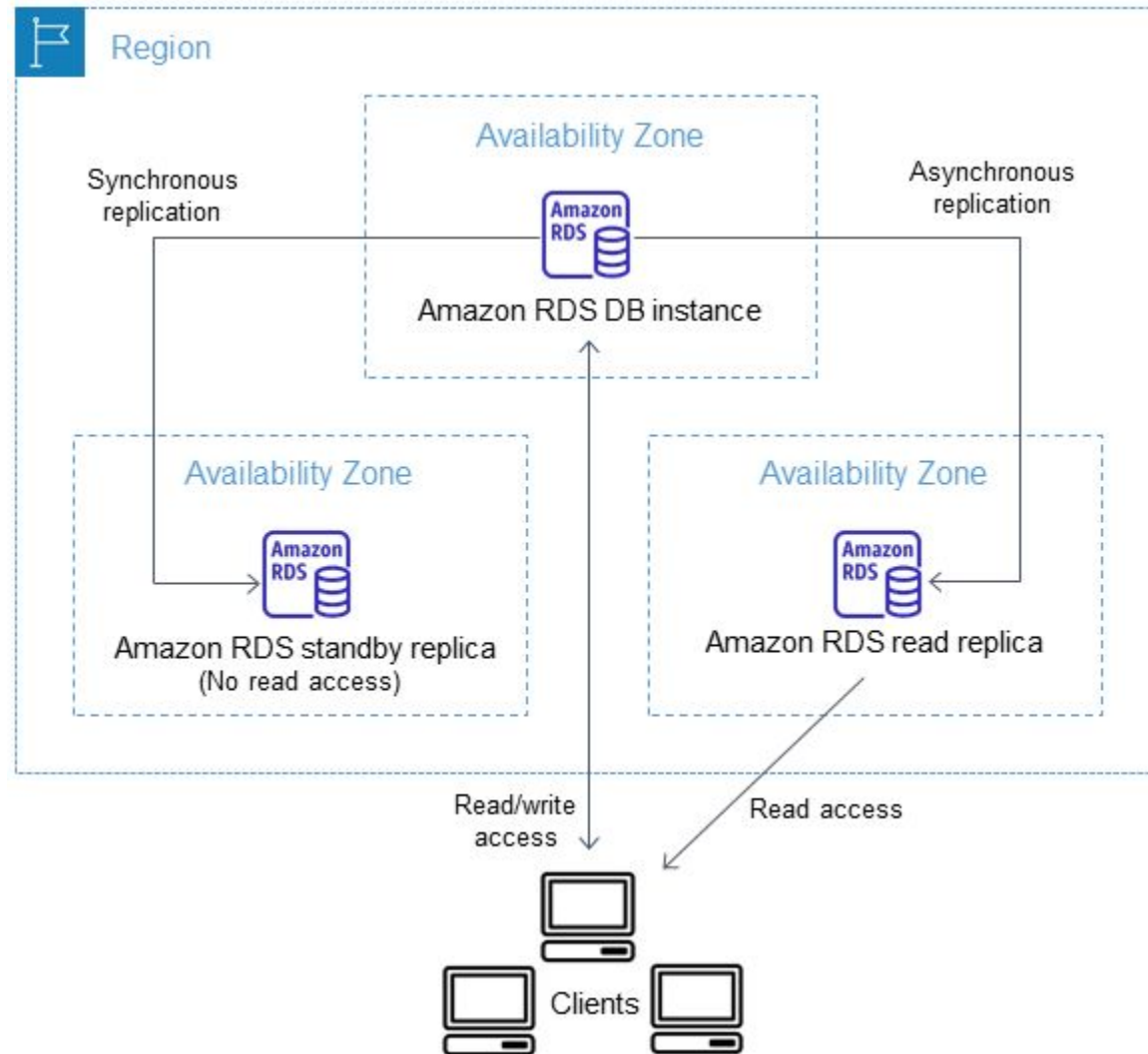Multi-AZ DB [cluster](#) deployments

Only for
PostgreSQL and MySQL
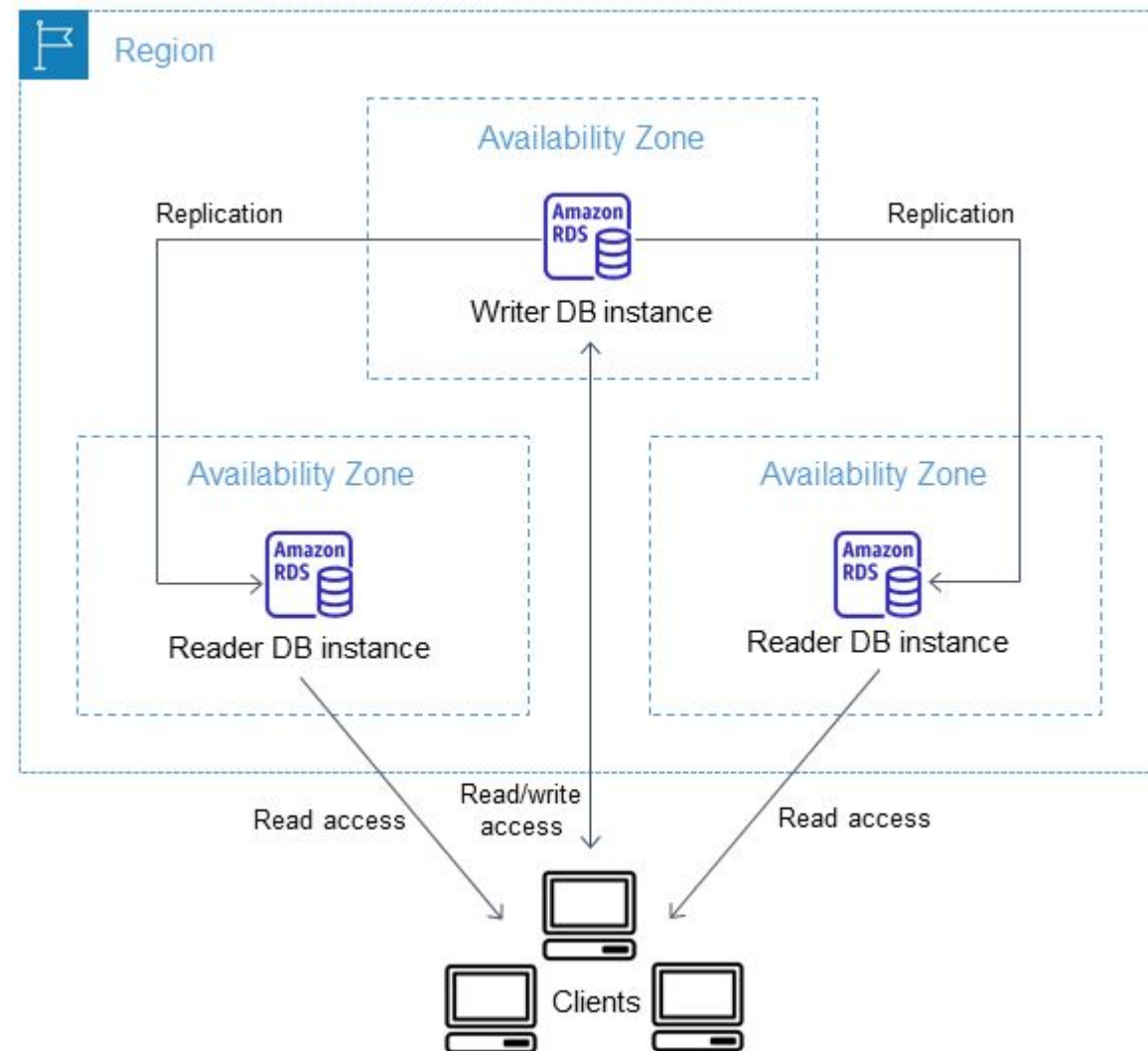
RDS

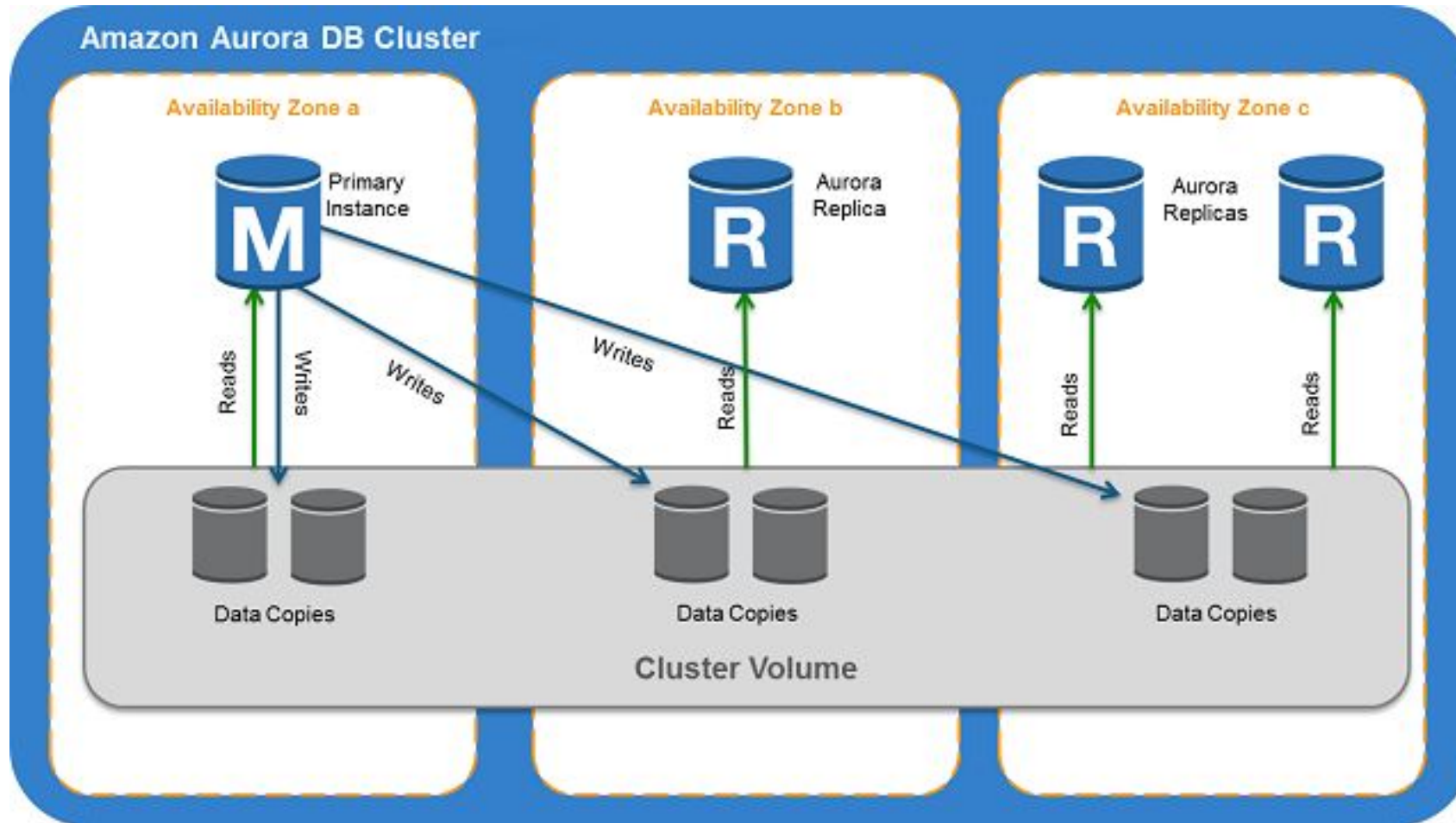## Read Replicas

RDS
Read Replicas w/ Multi AZ Deployment

RDS

Aurora Multi-Master clusters

RDS

Let's get our hands dirty!

- Creating a RDS Instance
- Connecting DB via MySQL Workbench

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THANKS!

Any questions?