Instructor Notes:

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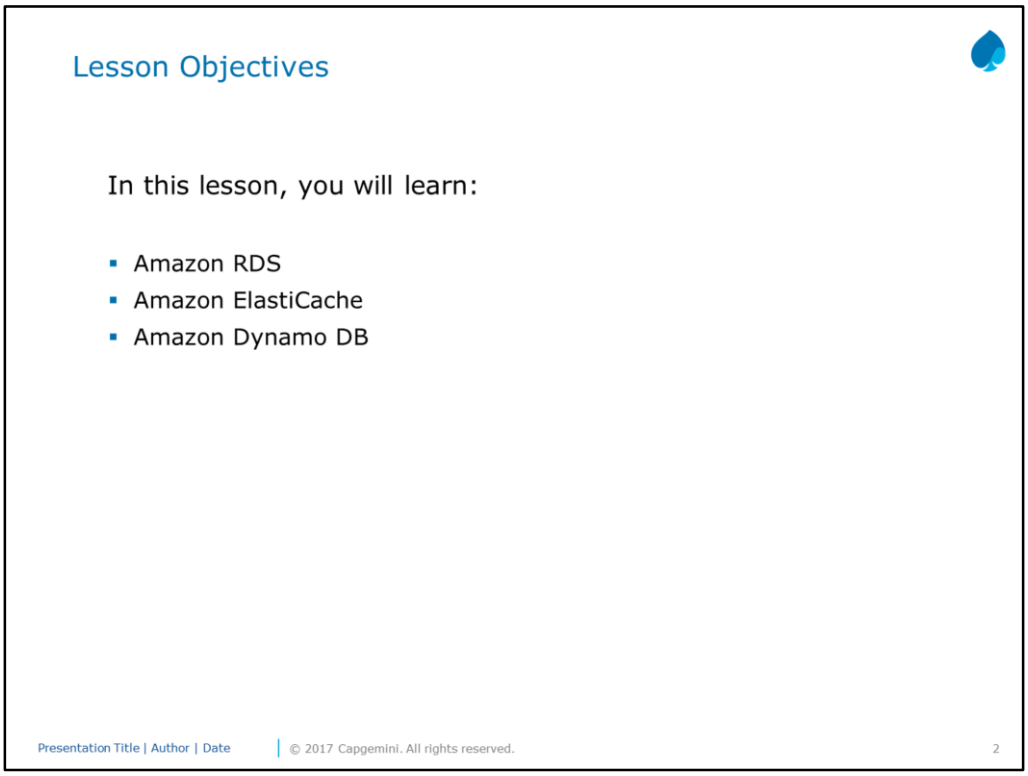
Instructor Notes:

This lesson is to give an Introduction on Java Server Pages



Amazon RDS
Amazon ElastiCache
Amazon Dynamo DB

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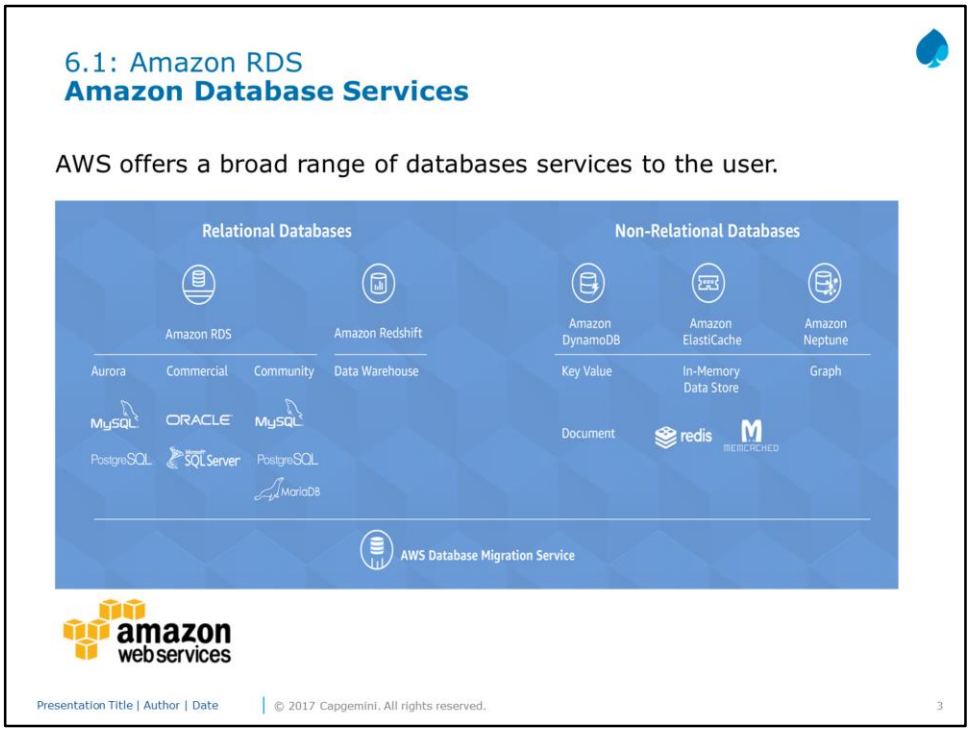

AWS Database services are

- Relational databases
- non-Relational databases
- Data warehouse
- In-memory data store
- Graph database

AWS Database Migration Service makes it easy and cost effective to migrate any one existing databases to AWS

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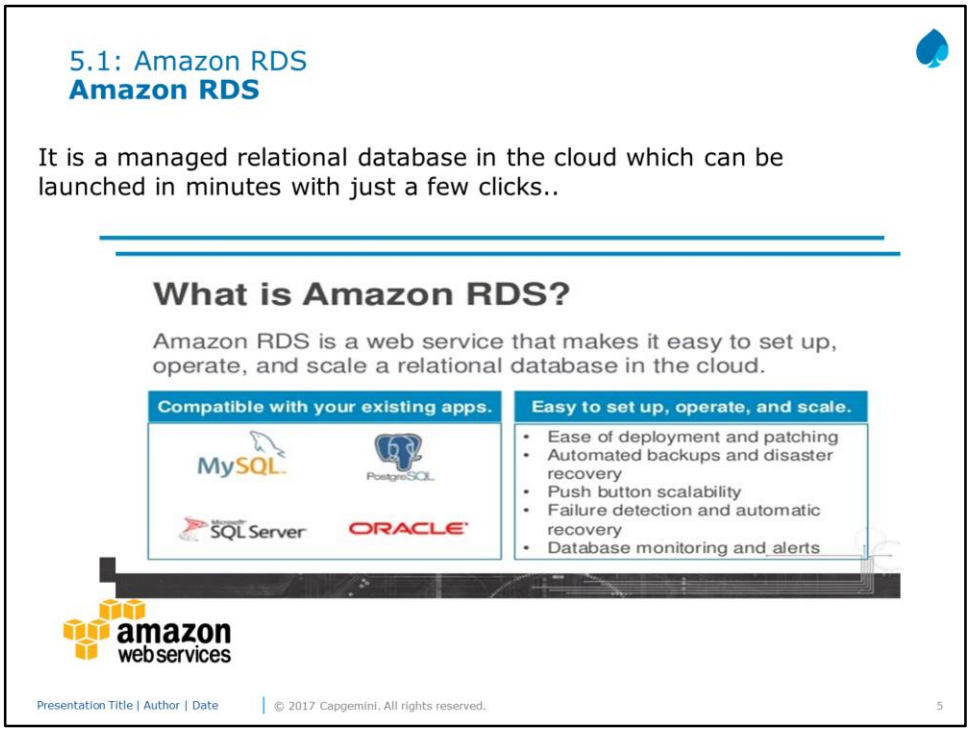


Amazon RDS - offers a variety of database services.
Runs MySQL, Oracle, or SQL Server database engine on AWS.
Free Usage - YES

- 750 hours per month of a t1.micro DB instance
- 20 GB of DB storage
- 20 GB of backups
- 10 million I/O operations

- With Amazon RDS ,the code, applications, and tools we already use today with our existing databases can be used with Amazon RDS.
- Amazon RDS automatically patches the database software and backs up your database, storing the backups for a retention period that you define and enabling point-in-time recovery.
- You benefit from the flexibility of being able to scale the compute resources or storage capacity associated with your relational database instance by using a single API call.

In addition, Amazon RDS makes it easy to use replication to enhance availability and reliability for production databases and to scale out beyond the capacity of a single database deployment for read-heavy database workloads In addition, Amazon RDS makes it easy to use replication to enhance availability and reliability for production databases and to scale out beyond the capacity of a single database deployment for read-heavy database workloads

Instructor Notes:

5.1: Amazon RDS
Amazon RDS(Relational Database Service)

It is easy to Administer :--

- Amazon RDS makes it easy to go from project conception to deployment. No need for infrastructure provisioning, and no need for installing and maintaining database software.

Highly Scalable :-

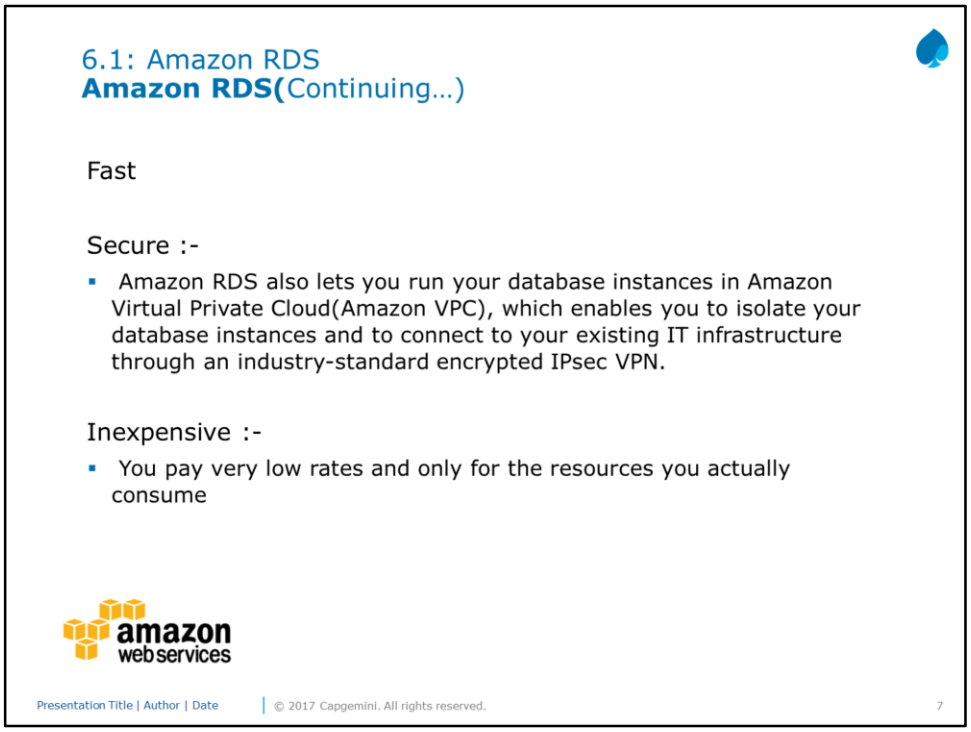
- You can scale your database's compute and storage resources with only a few mouse clicks or an API call, often with no downtime.

Available and durable :-

- When you provision a Multi-AZ DB Instance, Amazon RDS synchronously replicates the data to a standby instance in a different Availability Zone (AZ). Amazon RDS has many other features that enhance reliability for critical production databases, including automated backups, database snapshots, and automatic host replacement.

amazon web services

Instructor Notes:



- With Amazon RDS ,the code, applications, and tools we already use today with our existing databases can be used with Amazon RDS.
- Amazon RDS automatically patches the database software and backs up your database, storing the backups for a retention period that you define and enabling point-in-time recovery.
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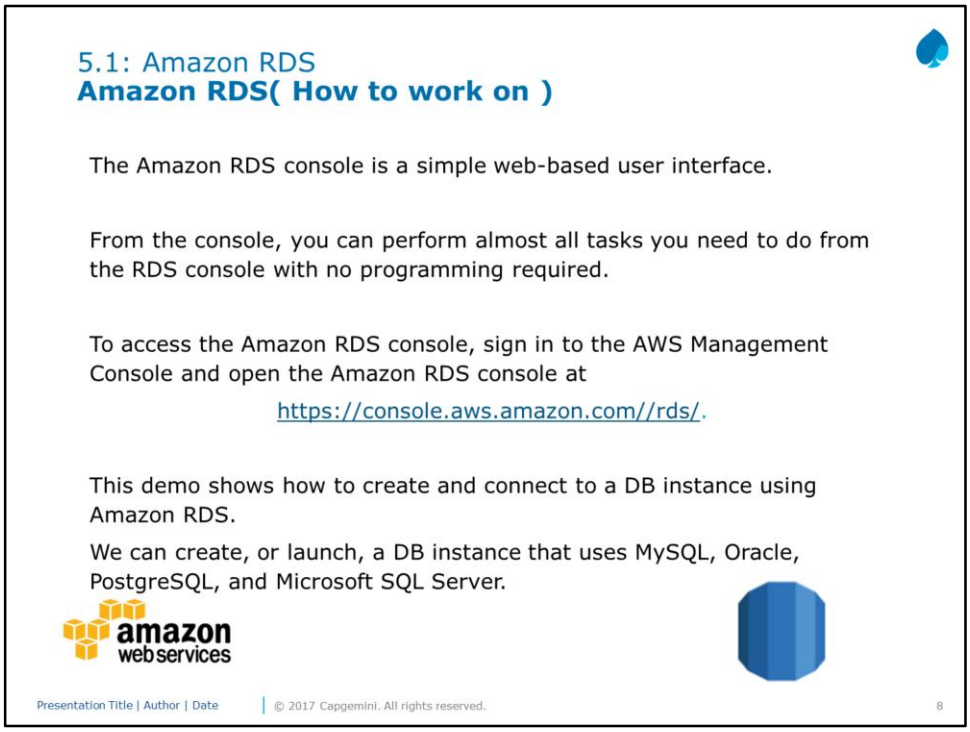

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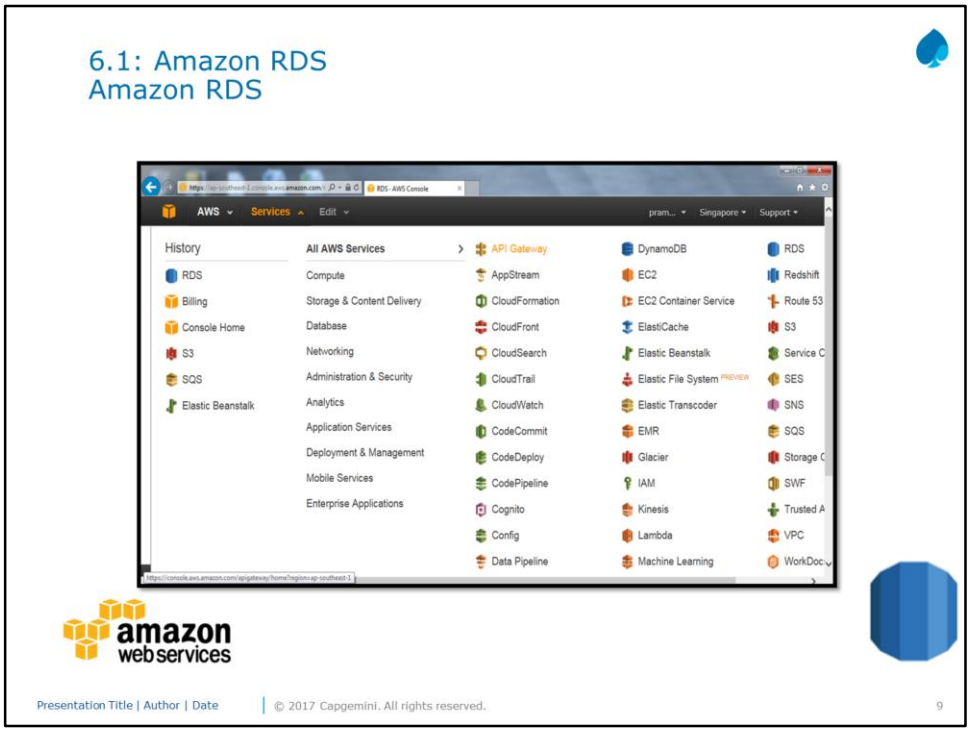

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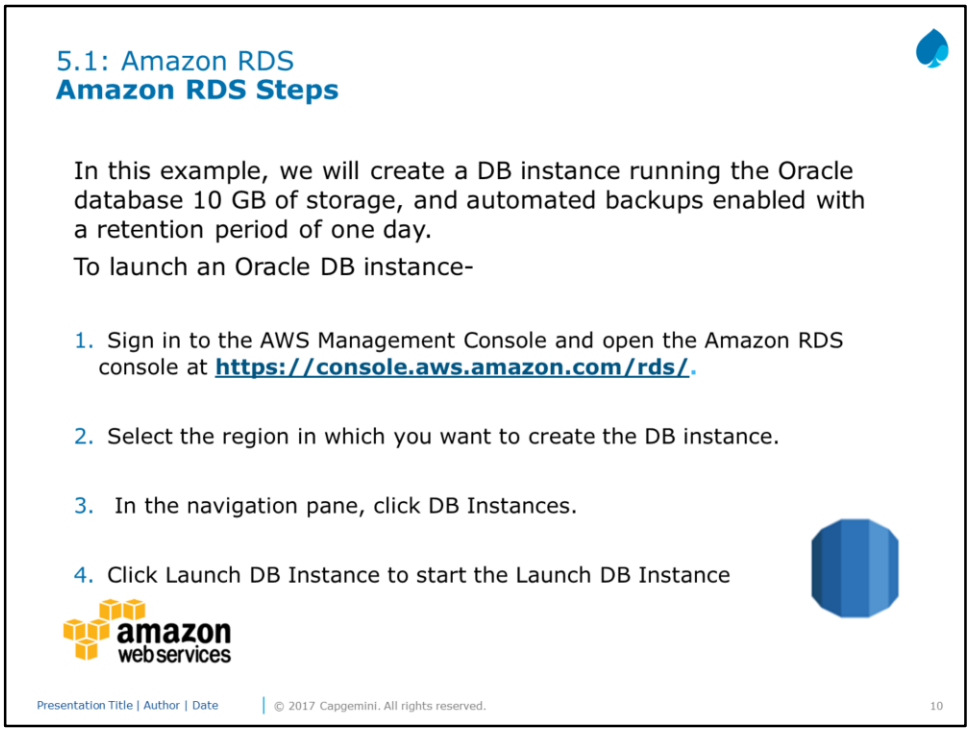

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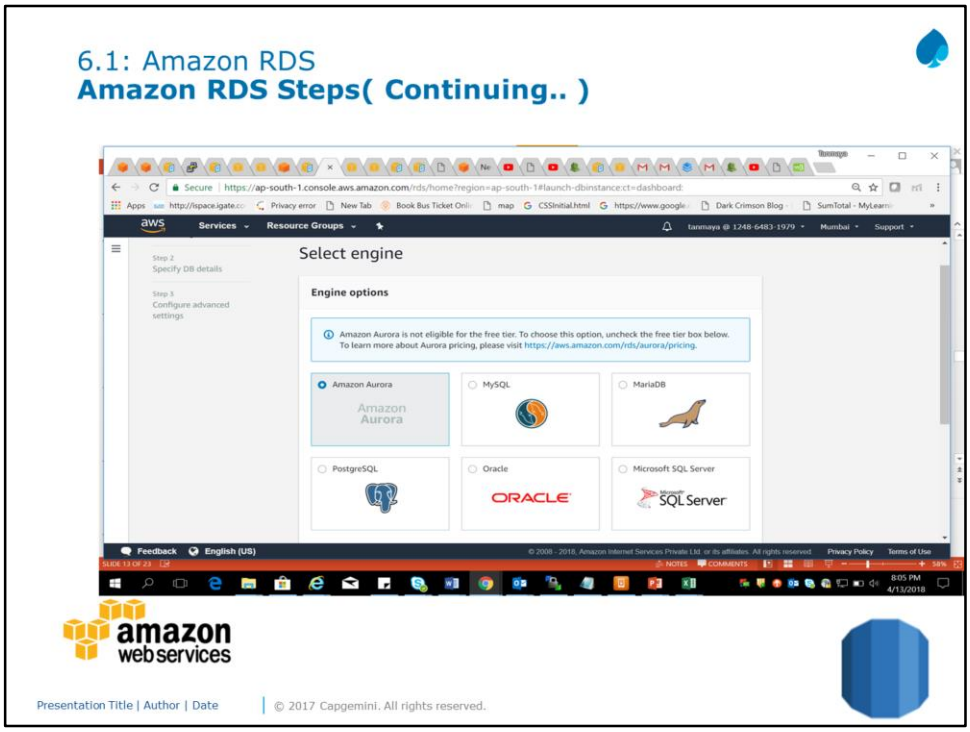

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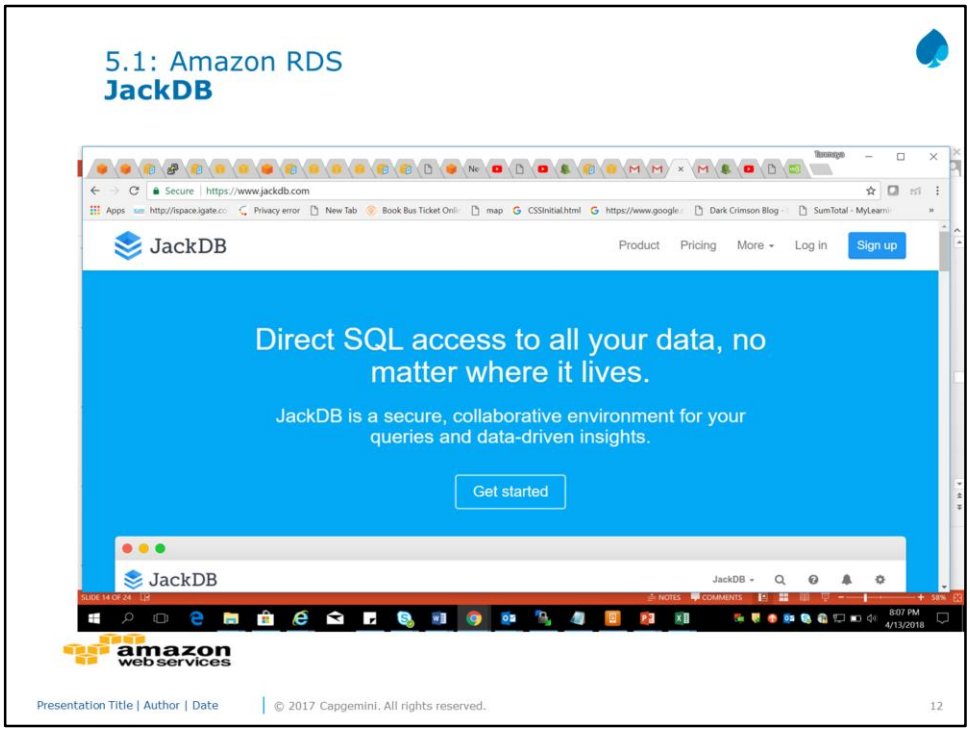

JackDB :-

- A database client - like psql or pgAdmin
- works entirely in web browser
- supports multiple db including PostgreSQL
- Add Audit logging data source sharing
- HTPPS and SSL with remote host verification
- fine grained access control and multi level security policies

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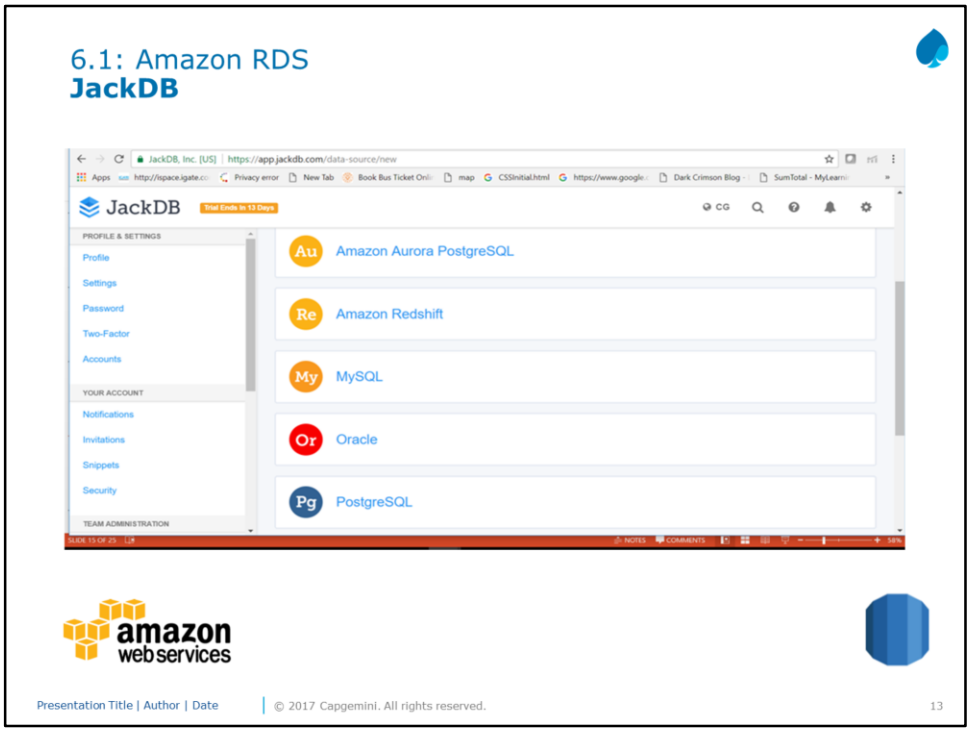

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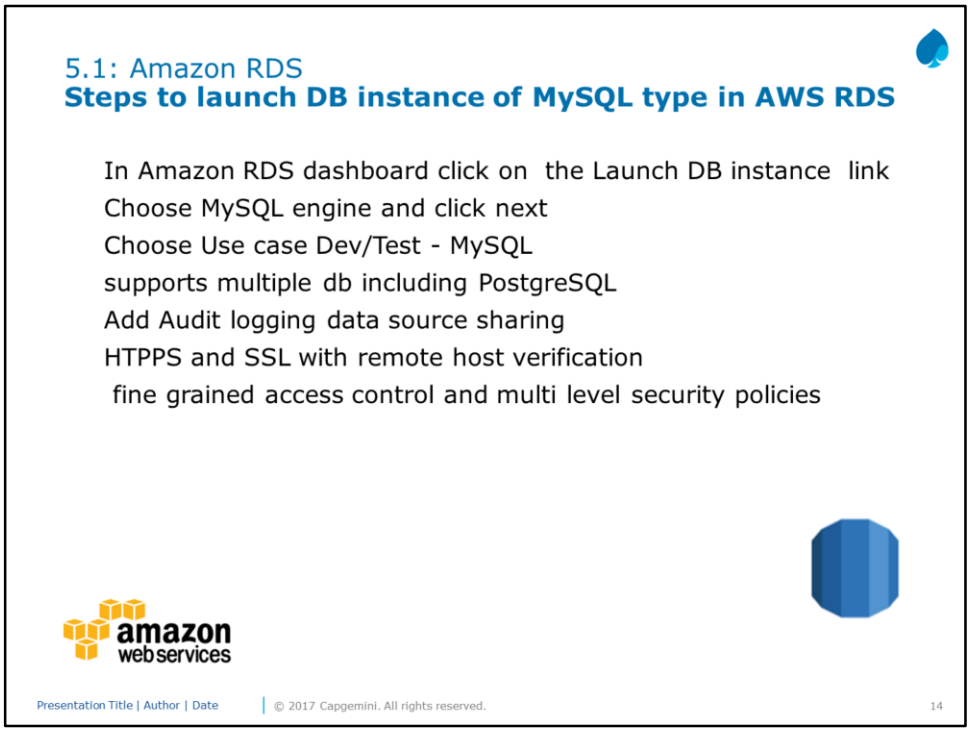


1. In Amazon RDS dashboard click on the Launch DB instance link
2. Choose MySQL engine and click next
3. Choose Use case Dev/Test – MySQL

4. Specify DB details
- DB instance class- db.t2.micro (low space)
- C reate replica in Different Zone
- Storage type – general perpose
- Storage – 20 gb

5. Settings
- DB instance Identifier - LnD-java-mysql
- User name - java
- Password - Bangalore

6. Network and security –
- Let it be default , pls don't change anything

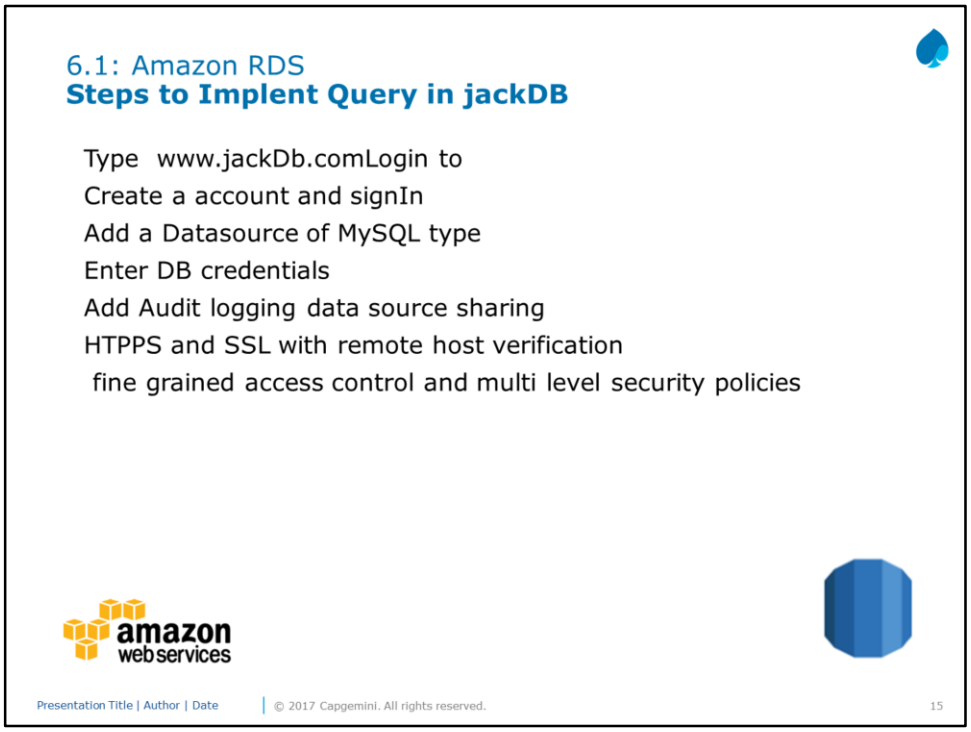
7 Database Options
- DB name - LnD_DB_Mysql
- Port – 3306

8. Click on DB launch instance

- Once the instance is available , copy few things
- Endpoint :- lnd-java-mysql.cryxdduifehe.ap-south-1.rds.amazonaws.com
- Db name :-- LnD_DB_Mysql
- Userid :-- java
- password

check the security group -- Type (Any traffic) and source – (Anywhere)

Instructor Notes:

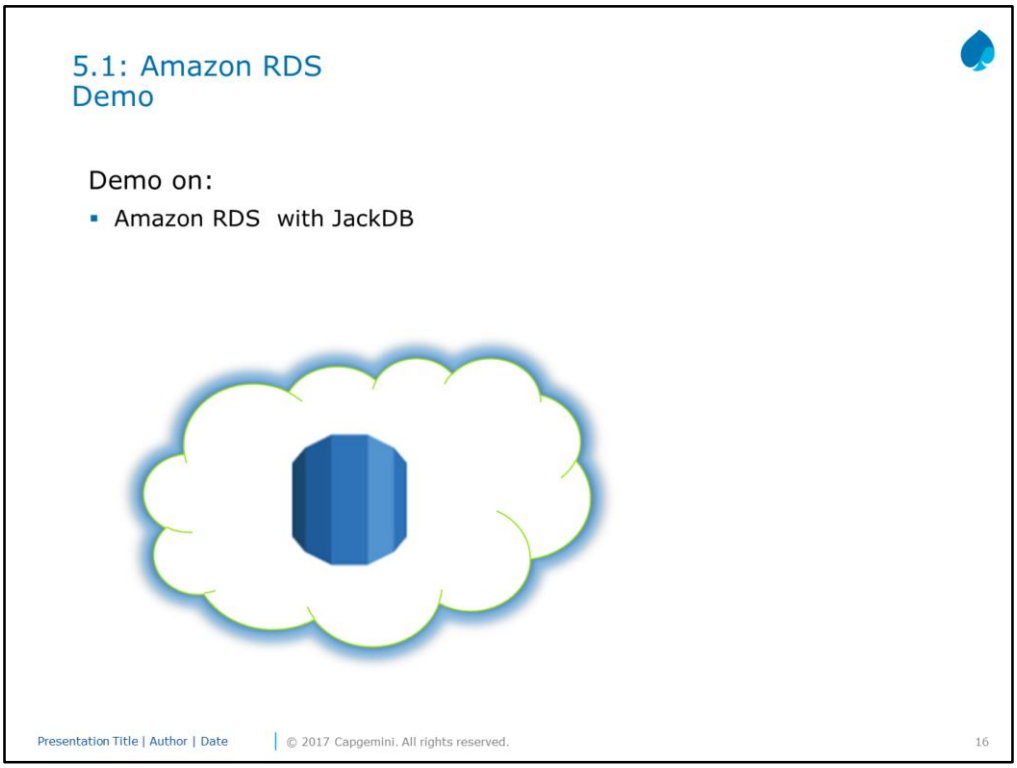


1. Type www.jackDb.comLogin to
2.Create a account and signIn
3. Add a Datasource of MySQL type
4. Enter DB credentials

- Name - LnD-Javalot-Jackdb-mysql
- Host :- Endpoint name of RDS Db instance
- Port :- 3306
- User – java
- Password – DB password from AWS RDS

- Once Datasource created , connect it.

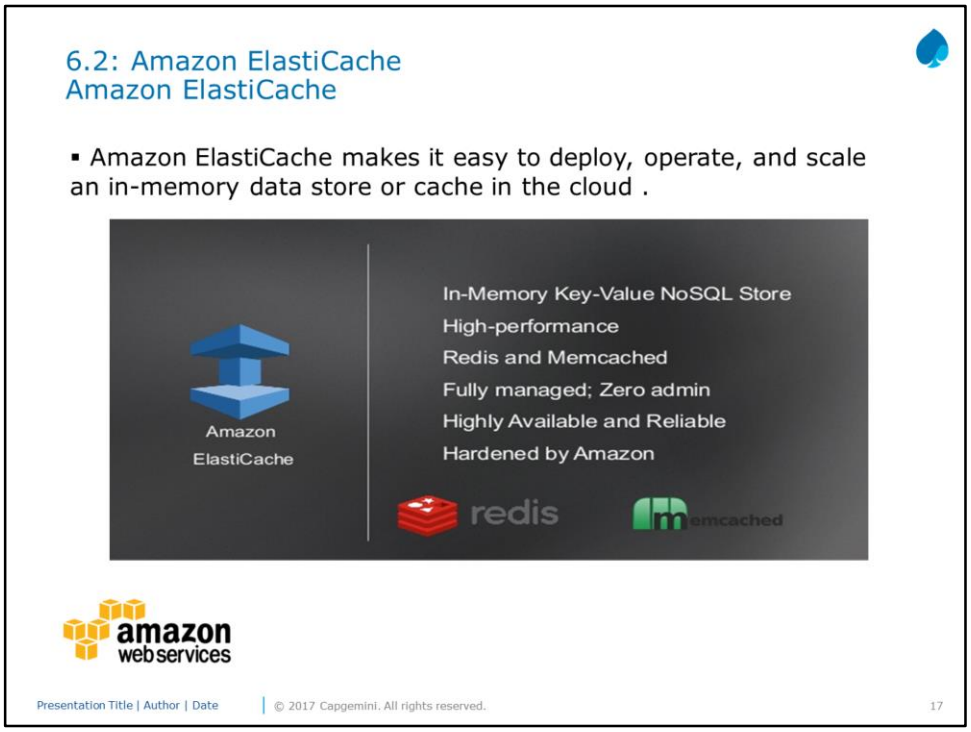
Instructor Notes:



MySQL query:

CREATE DATABASE mydb; USE mydb; CREATE TABLE mytable (id INT PRIMARY KEY, name VARCHAR(20)); INSERT INTO mytable VALUES (1, 'Will'); INSERT INTO mytable VALUES (2, 'Marry'); INSERT INTO mytable VALUES (3, 'Dean'); SELECT id, name FROM mytable WHERE id = 1; UPDATE mytable SET name = 'Willy' WHERE id = 1; SELECT id, name FROM mytable; DELETE FROM mytable WHERE id = 1; SELECT id, name FROM mytable; DROP DATABASE mydb;

Instructor Notes:



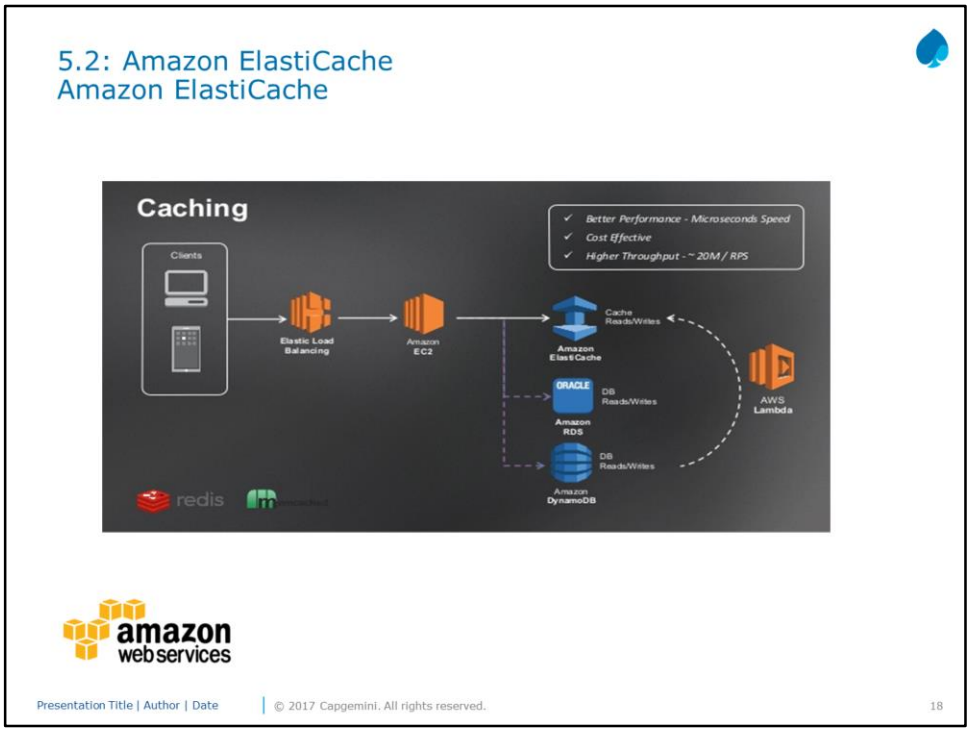
▪This service improves the performance of web applications by allowing you to retrieve information from a fast, managed, in-memory caching system, instead of relying entirely on slower disk-based databases .

▪ElastiCache supports two open-source caching engines.

Memcached - a widely adopted memory object caching system . ElastiCache is protocol compliant with Memcached, so popular tools that you use today with existing Memcached environments will work seamlessly with the service.

Redis --- It is a popular open-source in-memory key-value store that supports data structures such as sorted sets and lists.
ElastiCache supports Redis master / slave replication which can be used to achieve cross AZ redundancy

Instructor Notes:

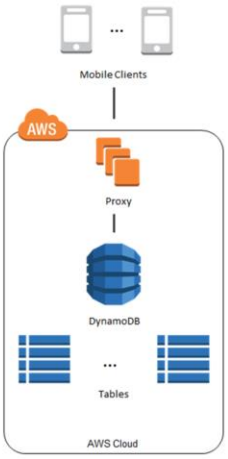


1. Amazon ElastiCache Redis Multi-AZ with Automatic Failover Open-Source Compatible Fully Managed Enhanced Redis Engine Easy to Deploy, Use and Monitor No Cross-AZ Data Transfer Costs Extreme Performance at Cloud Scale ElastiCache - Customer Value

Instructor Notes:

5.3: Amazon DynamoDB
Amazon DynamoDB

- It is a fast, fully managed NoSQL database service which makes it simple and cost-effective to store and retrieve any amount of data, and serve any level of request traffic .
- It is a fully managed cloud database and supports both document and key-value store models.
- It is flexible data model and reliable performance make it a great fit for mobile, web, gaming application.



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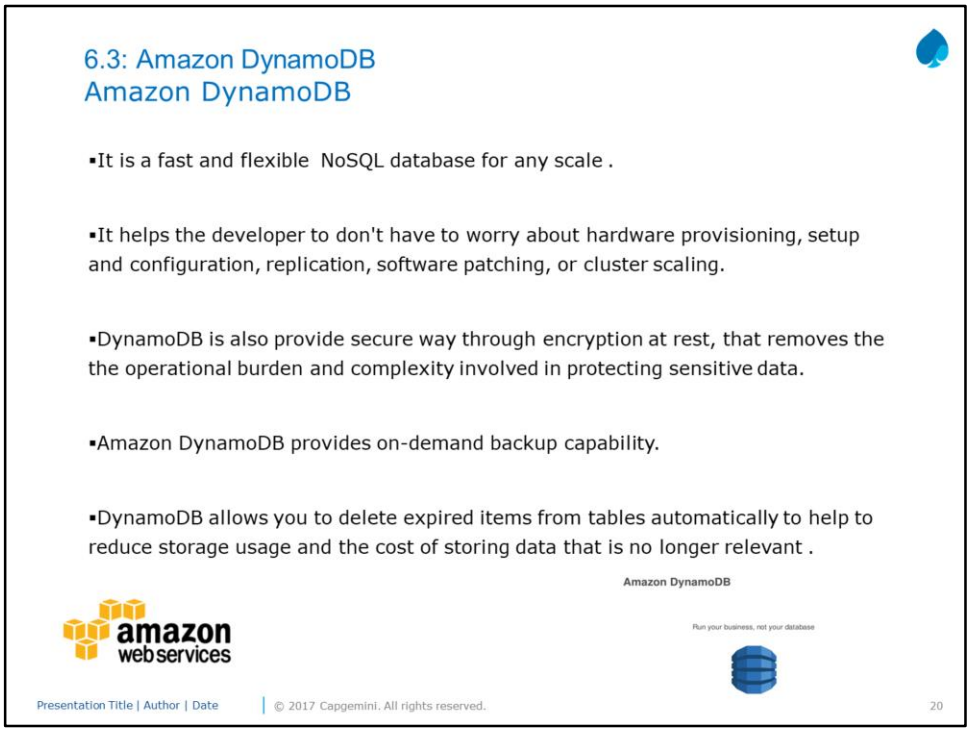

With DynamoDB, you can create database tables that can store and retrieve any amount of data, and serve any level of request traffic. You can scale up or scale down your tables' throughput capacity without downtime or performance degradation, and use the AWS Management Console to monitor resource utilization and performance metrics.

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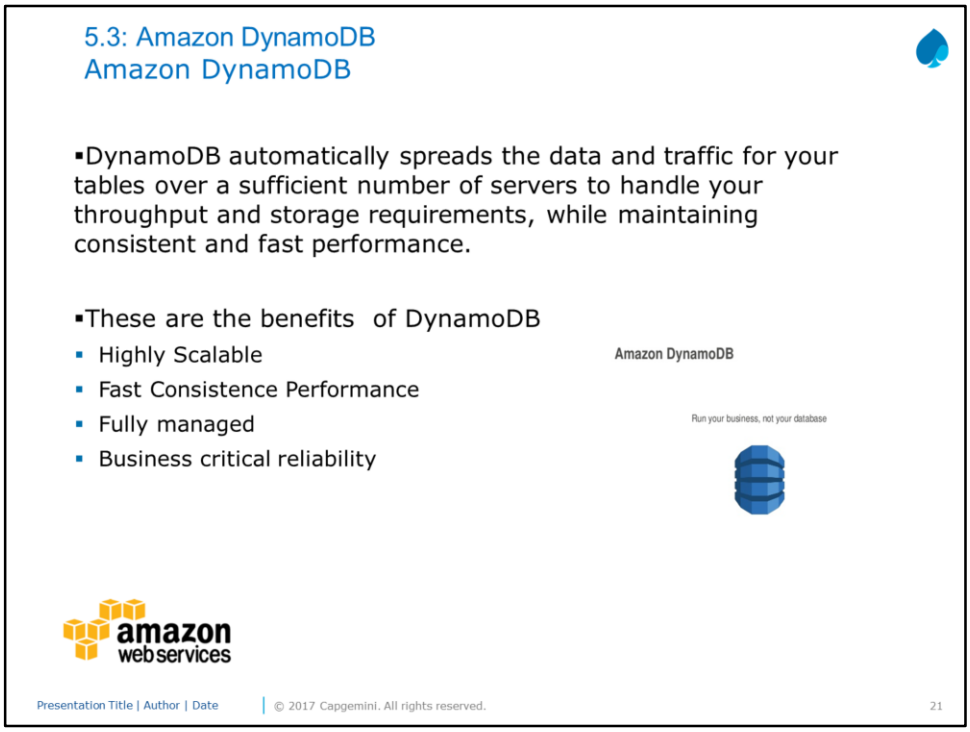
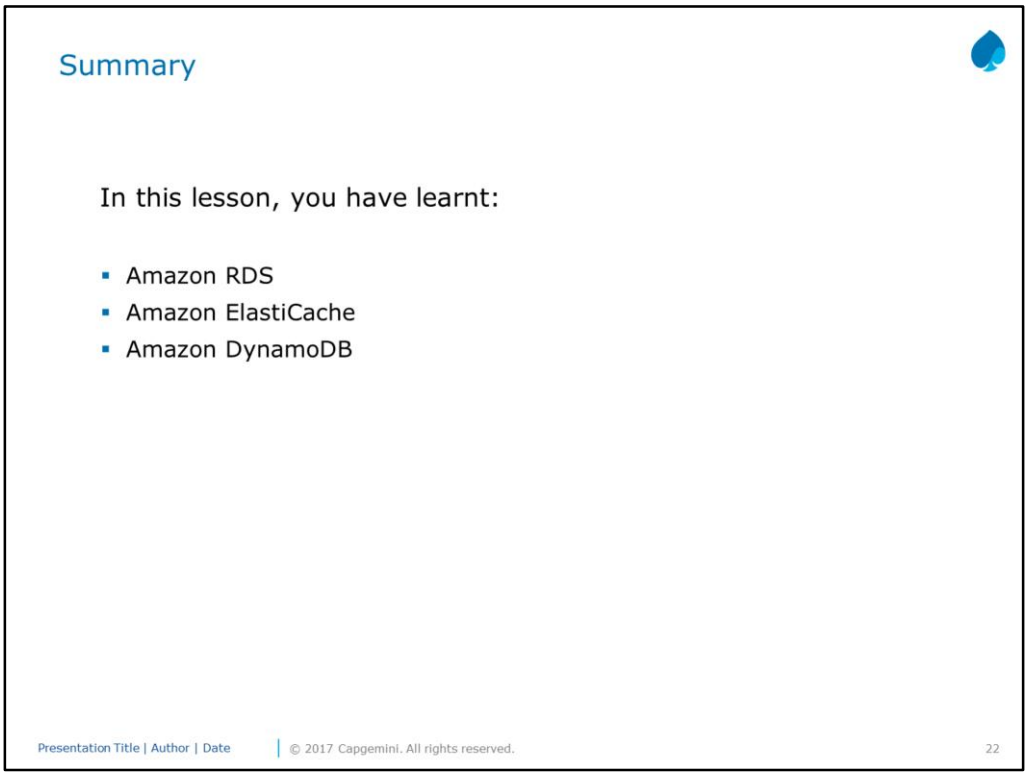


All of your data is stored on solid state disks (SSDs) and automatically replicated across multiple Availability Zones in an AWS region, providing built-in high availability and data durability. You can use global tables to keep DynamoDB tables in sync across AWS Regions.

Instructor Notes:



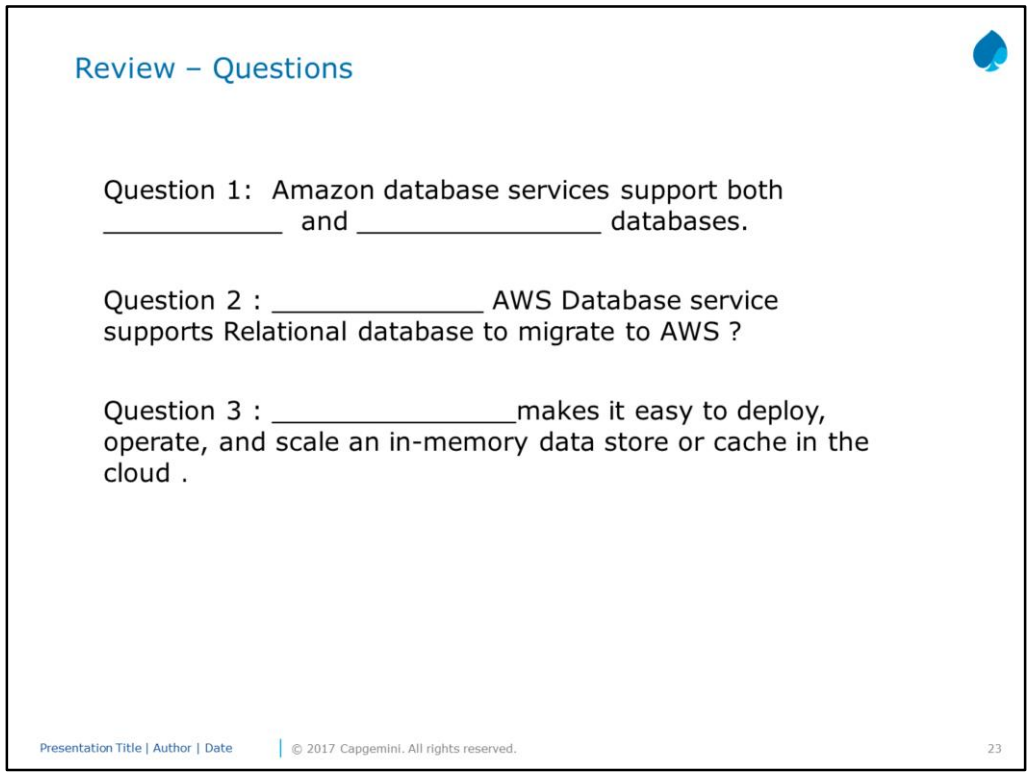
Instructor Notes:

Answers for the Review Questions:

Answer 1: Amazon Relational and Non-Relational

Answer 2: Amazon RDS

Answer 3: Amazon ElastiCache



Instructor Notes:

Answers for the Review Questions:

Answer 3 AWS DynamoDb

Answer 4: Option 2 and Option4