

Exam Session - Knowledge Check: Databases (CLF-C01)

 cloudacademy.com/quiz/exam/3761111/results

#1

Which of the following AWS databases stores, queries, and indexes JSON data?



Amazon Aurora



Amazon QLDB



Amazon DocumentDB



Amazon DynamoDB

Explanation

Amazon DocumentDB is a document database. Document databases store semi-structured data and the data structure is embedded in the document, itself. As a document database, Amazon DocumentDB is designed to store, query, and index JSON data.

 </course/overview-differences-between-aws-database-types-1109/>

Covered in this lecture

Types of Managed NoSQL on AWS - Part 2

Course: Overview of Differences Between AWS Database Types

11m



#2

Which of the following is an AWS managed service providing relational databases with a variety of database engines?



Amazon QLDB





Amazon DynamoDB



Amazon ElastiCache



Amazon RDS

Explanation

They fall into two primary categories, relational and NoSQL databases. The Amazon Relational Database Service is the managed service providing relational databases. The engines include Amazon Aurora, MySQL, MariaDB, Postgres, Microsoft SQL Server, and Oracle.

 </course/overview-differences-between-aws-database-types-1109/>

Covered in this lecture

Course Introduction

Course: Overview of Differences Between AWS Database Types

3m



#3



_____ allows you to set up your secure data lake by identifying existing data sources that you want to move into your data lake, and then crawling, cataloging, and preparing all that data for you to perform analytics on.



AWS Lake Formation



Amazon Athena



Amazon OpenSearch Service



AWS Glue

Explanation

We can use the AWS Lake Formation service, which promises to make setting up your secure data lake take only a matter of days, instead of weeks or months. It does this by identifying existing data sources within Amazon S3, relational databases, and NoSQL databases that you want to move into your data lake. It then will crawl and catalog and prepare all that data for you to perform analytics on.

 </course/understanding-data-lakes-aws-1646/how-do-i-actually-build-a-data-lake/>

#4

What does Amazon RDS perform?



It offers a managed relational database service.



It offers a cloud service that can host user-managed relational databases.



It offers a managed data warehouse service.



It offers a managed non-relational database service.

Explanation

Amazon RDS manages the work involved in setting up a relational database: from provisioning the infrastructure capacity you request to installing the database software. The other choices briefly summarize Amazon EC2, Amazon Redshift, and Amazon DynamoDB.

 <http://aws.amazon.com/rds/faqs/#1>

#5

Which of the following AWS databases is a managed NoSQL graph database?



Amazon Neptune



Amazon DynamoDB



Amazon DocumentDB



Amazon Keyspaces

Explanation

The AWS managed NoSQL graph database is Amazon Neptune.

Graph databases are composed of three elements, vertices, edges, and properties.

Vertices, also called nodes, are objects such as people or artifacts. Each node in a graph database has a unique identifier expressed in key-value pairs.

The singular of vertices is vertex. A vertex can represent data such as integers, string, people, locations, and buildings.

Edges represent the connection--or relationship--between two objects. Each edge is defined by a unique identifier that provides details about a starting or ending node along with a set of properties.

The vertices and edges can each have properties associated with them. This allows a graph database to depict complex relationships between otherwise unrelated data.



</course/overview-differences-between-aws-database-types-1109/types-of-managed-nosql-on-aws-part-2/>

Covered in this lecture

Types of Managed NoSQL on AWS - Part 2

Course: Overview of Differences Between AWS Database Types

11m



#6



Amazon QLDB is a _____ database.



relational



document




ledger



graph

Explanation

What actually is Amazon QLDB? It's yet another fully managed and serverless database service, which has been designed as a ledger database.

 </course/database-fundamentals-aws-part-2-1063/amazon-quantum-ledger-database-qlldb/>

Covered in this lecture

Amazon Quantum Ledger Database (QLDB)

Course: Database Fundamentals for AWS - Part 2 of 2

8m



#7



Which two choices are advantages of hosting databases on Amazon RDS instead of Amazon EC2?



Managed failover in the event of DB failure



Automated database patching



Managed hardware lifecycle



Automated DB backup

Explanation

Amazon RDS provides the following specific advantages over database deployments that aren't fully managed:

- You can use the database products you are already familiar with: MariaDB, Microsoft SQL Server, MySQL, Oracle, and PostgreSQL.
- Amazon RDS manages backups, software patching, automatic failure detection, and recovery.
- You can turn on automated backups, or manually create your own backup snapshots. You can use these backups to restore a database. The Amazon RDS restore process works reliably and efficiently.
- You can get high availability with a primary instance and a synchronous secondary instance that you can fail over to when problems occur. You can also use read replicas to increase read scaling.
- In addition to the security in your database package, you can help control who can access your RDS databases by using AWS Identity and Access Management (IAM) to define users and permissions. You can also help protect your databases by putting them in a virtual private cloud (VPC).

 <https://docs.aws.amazon.com/AmazonRDS/latest/UserGuide/Welcome.html>

#8

Which AWS service is a fully managed, serverless, NoSQL database that has been built to run high-performance applications at any scale?

✗

Amazon S3

✗

Amazon RDS Proxy

✗


Amazon Aurora

✓

Amazon DynamoDB

Explanation

DynamoDB is a fully managed, serverless, NoSQL database that has been built to run high-performance applications at any scale.

 </course/survey-serverless-2399/a-survey-of-serverless/>

#9

Amazon ElastiCache allows you to retrieve information from _____.



different web servers in the cloud



NoSQL databases



relational databases



in-memory data stores

Explanation

Amazon ElastiCache is a service that makes it easy to deploy, operate, and scale open-source, in-memory data stores in the cloud. This service improves performance through caching, where web applications allow you to retrieve information from fast, managed, in-memory data stores instead of relying entirely on slower disk-based solutions.

 </course/database-fundamentals-part-one-1064/amazon-elasticache/>

Covered in this lecture

Amazon ElastiCache

Course:Database Fundamentals for AWS - Part 1 of 2

8m



#10



In Amazon RDS, what is the purpose of Multi-AZ deployment?



to create high availability and data redundancy



to create a database with highly configurable options



to prevent users from outside your VPC security group from accessing your database



to enable automatic backups

Explanation

If high availability and resiliency are of importance when it comes to your database, then you might want to consider a feature known as Multi-AZ, which stands for multi-availability zones. When Multi-AZ is configured, a secondary RDS instance is deployed within a different availability zone within the same region as the primary instance. The primary purpose of the second instance is to provide a failover option for your primary RDS instance. When we have a Multi-AZ deployment, it will create another standby instance in a different availability zone to create high availability and data redundancy.

 </course/database-fundamentals-part-one-1064/amazon-relational-database-service/>

Covered in this lecture

Amazon Relational Database Service

Course:Database Fundamentals for AWS - Part 1 of 2

11m



#11



Which data lake challenge deals with how the data gets to the lake?



data cataloging and discovery



generic analytics



storage



data movement

Explanation

A good data lake will deal with these five challenges well: storage (the lake itself), data movement (how the data gets to the lake), data cataloging and discovery (finding the data and classifying it), generic analytics (making sense of that data), and predictive analytics (making educated guesses about the future based on the data).

 </course/understanding-data-lakes-aws-1646/what-makes-up-a-good-data-lake/>

#12

Amazon Redshift is a fast, fully-managed, _____-scale data warehouse.

✗

megabyte

✗

gigabyte

✗

terabyte

✓

petabyte

Explanation

Amazon Redshift is a fast, fully-managed, petabyte-scale data warehouse.

 </course/database-fundamentals-aws-part-2-1063/amazon-redshift/>

Covered in this lecture

Redshift

Course:AWS Big Data Specialty - Storage

37m



#13



Each of the following is a use case for Amazon ElastiCache except which choice?

✓

persistent data storage

✗

in-memory data storage

✗

improving read access performance

✗

caches using secure, network-attached RAM

Explanation

ElastiCache should never be used to store your only version of data records, since a cache is designed to be a temporary data store. So when data persistence is necessary, such as when we are working with primary data records, or when we need write performance rather than read performance, a persistent data store should be used instead of an ElastiCache.

[🔗 /course/database-fundamentals-part-one-1064/amazon-elasticache/](/course/database-fundamentals-part-one-1064/amazon-elasticache/)

Covered in this lecture

Amazon ElastiCache

Course:Database Fundamentals for AWS - Part 1 of 2

8m



#14



Amazon Keyspaces is compatible with _____.



MongoDB



MySQL



Firebase



Apache Cassandra

Explanation

Keyspaces is a serverless, fully-managed service designed to be highly scalable, highly available, and, importantly, compatible with Apache Cassandra, meaning you can use all the same tools and code as you do normally with your existing Apache Cassandra databases.

[🔗 /course/database-fundamentals-aws-part-2-1063/amazon-keyspaces-for-apache-cassandra/](/course/database-fundamentals-aws-part-2-1063/amazon-keyspaces-for-apache-cassandra/)

Covered in this lecture

Amazon Keyspaces (for Apache Cassandra)

Course:Database Fundamentals for AWS - Part 2 of 2

6m



#15



Which Amazon RDS database engine deploys a database cluster across multiple availability zones, to serve as the primary instance's storage layer?



PostgreSQL



MySQL



Oracle



Aurora

Explanation

When you create an Amazon Aurora instance, the Aurora service also deploys a cloud-native database cluster, and the Aurora instances will use this database cluster as the underlying data store. The database cluster spans two or more availability zones by default, with each availability zone having a copy of the database cluster data. And each cluster has one primary instance which performs all of the data modifications to the cluster volume and supports read and write operations.



/course/aws-database-fundamentals-aws-180/non-relational-databases/?context_id=1&context_resource=lp

#16

Which of the following tasks is not one of the five challenges that a good data lake will deal with well?



normalization



data movement



generic analytics



predictive analytics

Explanation

A good data lake will deal with these five challenges well: storage (the lake itself), data movement (how the data gets to the lake), data cataloging and discovery (finding the data and classifying it), generic analytics (making sense of that data), and predictive analytics (making educated guesses about the future based on the data).



</course/understanding-data-lakes-aws-1646/what-makes-up-a-good-data-lake/>

#17

Which of the following statements about data lakes and data warehouses is true?



A data warehouse is a formless blob of information.



A data warehouse is a specialized tool that allows you to perform analysis on a portion of data from a data lake.



Generally, a data lake is a subset of the data from a data warehouse with a specialized purpose.



A data lake is an optimized database dealing with normalized, transformed, and cleaned-up versions of the data from a data warehouse.

Explanation

A data lake is a formless blob of information. It is a pool of knowledge where we try to capture any relevant data from our business so that we can perform analytics on it. A data warehouse is a specialized tool that allows you to perform analysis on a portion of that data, so you can make meaningful decisions from it. Generally, it is a subset of the data from the data lake with a specialized purpose. Your data warehouse Is an optimized database that is dealing with normalized, transformed, and cleaned-up versions of the data from the data lake.

</course/understanding-data-lakes-aws-1646/what-is-the-difference-between-a-data-lake-and-a-data-warehouse/>
#18

What database is a Key-Value store?



Amazon Redshift



Amazon RDS



Amazon QLDB



DynamoDB

Explanation

The AWS managed NoSQL database that is a Key-Value store is DynamoDB. Key-Value stores are designed for storing, retrieving, and managing associative arrays and are well suited for working with large amounts of data.

</course/overview-differences-between-aws-database-types-1109/>
Covered in this lecture

Types of Managed NoSQL on AWS - Part 1

Course: Overview of Differences Between AWS Database Types

13m



#19



In which two general families can you classify all AWS database services?



Relational and non-relational



Structured and unstructured



Persistent and in-memory



Managed and unmanaged

Explanation

The two general families are relational and non-relational and non-relational. Relational includes Amazon RDS and its various database engine options, as well as Amazon Redshift. Non-relational includes DynamoDB, ElastiCache, and Neptune, among others.

 </course/aws-database-fundamentals-aws-180/databases-overview/>

#20

Amazon Redshift operates as a _____ database management system.



NoSQL



relational



object



graph

Explanation

Redshift operates as a relational database management system, and therefore is compatible with other RDBMS applications.

 </course/database-fundamentals-aws-part-2-1063/amazon-redshift/>

Covered in this lecture

DEMO: Creating an Amazon Redshift Cluster

Course: Database Fundamentals for AWS - Part 2 of 2

6m



