Amazon Polly

You can use Custom Lexicons to customize pronunciation of specific words

You can select Newscaster Speaking Style

You can use Speech Synthesis Markup Language (SSML) and SSML tag
For example <break>, <emphasis>

Brand Voice

Amazon Polly is a service that turns text into lifelike speech,

Amazon Comprehend

Example: In this example, a restaurant is reviewing a customer review to understand where they can improve their business.

Sample Text: I loved the burger, but the service was slow.

Text	Entity Type	Entity Confidence Score	Sentiment	Score
I	Person	0.99	Neutral	0.99
Burger	Other	0.99	Positive	0.99
Service	Attribute	0.99	Negative	0.99

Amazon Lex

Chatbots with conversational AI

Import Custom SSL Certificate To AWS Certificate Manager

AWS Certificate Manager

Importing

Only N.Virginia

Usage

Available for all regions

Cluster endpoint (Primary instance)

Reader endpoint (Read replicas)

Custom endpoints (Provides LB with multiple DB İnstance)

Instance endpoints (One specific DB instance)

Real time data streaming tool

Visualization the data

Serverless -query Amazon S3

Extracting Data

Amazon EMR is a managed big data compute clusters of Apache Spark, Apache Hive, Apache HBase, Apache Flink, Apache Hudi, and Presto.

Amazon Redshift Spectrum- **query Amazon S3 for Redshift**

Glacier Retrieve Policies

- Free Tier Only Policy
- Max Retrieval Rate Policy
- No Retrieval Limit Policy

Glacier Retrieve Types

Expedited	1–5 minutes
Standard	3–5 hours
Bulk	5–12 hours.

REST

GraphQL

Amazon FSx for Windows

- For windows Instance
- Can't write/read S3
- Used with Windows Active directory

Amazon FSx for Lustre

- For Linux Instance
- Can write/read S3
- No Windows Active directory solution
- HPC!!!!!!

EFS

- For Linux Instance
- Can't write/read S3
- Increases and decreases the storage capacity automatically
- NFS

Deployment options for FSx for Lustre

Scratch File Systems are designed for temporary storage and shorter-term processing of data.

Persistent File Systems are designed for longer-term storage and workloads.

backed up your on-premises data

Storage Classes

Archive Retrieval Options

AWS Organizations managed service control policies

Service control policies (SCPs) are similar to IAM permission policies, but are a feature of AWS Organizations rather than IAM. You use SCPs to specify maximum permissions for affected entities. You can attach SCPs to roots, organizational units (OUs), or accounts in your organization. You can create your own, or you can use the policies that IAM defines. You can see the list of policies in your organization on the Policies page on the Organizations console.

What Is AWS FSx for Lustre?	What Is AWS EFS?
FSx for Lustre is an entirely managed service that offers high-performance, scalable, cost-effective storage for compute workloads. A lot of workloads, including high-performance computing, financial simulation, video rendering, and machine learning, are reliant on compute instances having access to the same data via high-performance joint storage.	Amazon Elastic File System (EFS) is a set-and-forget, serverless, simple elastic file system which may be used with on-premises resources and AWS cloud services. It is created to scale on demand (petabytes) and doesn't disrupt applications. It grows and shrinks automatically as you remove or add files, doing away with the requirement to manage and provision capacity to allow for expansion.

AWS Backup

Application Manager, a capability of AWS Systems Manager, helps DevOps engineers investigate and remediate issues with their AWS resources in the context of their applications and clusters.

Parameter Store can store data such as passwords, database strings, Amazon Machine Image (AMI) IDs, and license codes as parameter values. You can store values as plain text or encrypted data.

Secrets Manager enables you to replace hardcoded credentials in your code, including DB passwords, with an API call to Secrets Manager to retrieve the secret programmatically.

Amazon Aurora

SQL

DynamoDB

NoSQL

Amazon DocumentDB

MongoDB-compatible Databases

Amazon Neptune

Fully managed
Graph Database

Amazon DocumentDB

MongoDB-compatible Databases

(NoSQL)

DynamoDB

(NoSQL)

Amazon Keyspaces for Apache Cassandra

Managed Apache Cassandra–compatible Database

(NoSQL)

Amazon Neptune

Fully managed
Graph Database

Object in S3-Upload

- The max. size of an object you can upload via AWS Management Console is 160 GB.
- For uploading a file greater than 160 GB, the AWS CLI, AWS SDK, or API is needed to be used
- The max size of a single file can be put in a bucket is 5 TB.

Amazon Comprehend

Q: Who has access to my content that is processed and stored by Amazon Comprehend?

Only authorized employees will have access to your content that is processed by Amazon Comprehend. Your trust, privacy, and the security of your content are our highest priority and we implement appropriate and sophisticated technical and physical controls, including encryption at rest and in transit, designed to prevent unauthorized access to, or disclosure of, your content and ensure that our use complies with our commitments to you. Please see the AWS data privacy FAQs for more information.

Show less

Q: Do I still own my content that is processed and stored by Amazon Comprehend?

You always retain ownership of your content and we will only use your content with your consent.

Show less

ECS Anywhere Overview

EKS Anywhere on Bare Metal

NO NEED FOR VIRTUALIZATION

	On premises			AWS Cloud	
	Amazon EKS Distro	Amazon EKS Anywhere	Amazon EKS + AWS Outposts	Amazon EKS + Amazon EC2	Amazon EKS + AWS Fargate
Control plane	Customer	Customer	AWS	AWS	AWS
Compute	Customer	Customer	AWS	AWS	AWS
Data plane	Customer	Customer	Customer	Customer	AWS
Support	Community	AWS	AWS	AWS	AWS

Database authentication

Database authentication options Info

- Password authentication
  Authenticates using database passwords.
- Password and IAM database authentication (not available for Multi-AZ DB cluster)
  Authenticates using the database password and user credentials through AWS IAM users and roles.
- Password and Kerberos authentication (not available for Multi-AZ DB cluster)
  Choose a directory in which you want to allow authorized users to authenticate with this DB instance using Kerberos Authentication.

Using IAM authentication with Aurora MySQL

With Aurora MySQL, authentication is handled by `AWSAuthenticationPlugin`—an AWS-provided plugin that works seamlessly with IAM to authenticate your IAM users. Connect to the DB cluster and issue the `CREATE USER` statement, as shown in the following example.

```
CREATE USER jane_doe IDENTIFIED WITH AWSAuthenticationPlugin AS 'RDS';
```


How DataSync handles open and locked files

Keep in mind the following when trying to transfer files that are in use or locked:

- In general, DataSync can transfer open files without any limitations.
- If a file is open and being written to during a transfer, DataSync can detect this kind of inconsistency during the transfer task's verification phase. To get the latest version of the file, you must run the task again.
- If a file is locked and the server prevents DataSync from opening it, DataSync skips the file during the transfer and logs an error.
- DataSync can't lock or unlock files.

Real time Streaming	Capture	Transfer/Load	Analyze

Kinesis Video Stream

Kinesis Streams

Kinesis Data Stream

Kinesis Firehose

Load streaming data into Amazon S3, Amazon Redshift, and Amazon Elasticsearch Service

Kinesis Analytics

Analyze data streams using standard SQL queries

Cost Savings Plan

1 year/1000 dollars/limit

Compute
Saving Plans

EC2
Fargate
Lambda

%66 Cost Saving

EC2 Instance
Saving Plans

EC2

%72 Cost Saving

Reserved Instances

1 year/1500 dollars/limitless

Convertible
RI (Reserved Instance)

EC2

%66 Cost Saving

Standart
RI (Reserved Instance)

EC2

%72 Cost Saving

convertible to the other size of instance

Invoke URL: https://x9f1xamjw2.execute-api.us-east-1.amazonaws.com/dev

Settings | Logs/Tracing | Stage Variables | SDK Generation | Export | Deployment History | Documentation History | Canary

Configure logging and tracing settings for the stage.

CloudWatch Settings

Enable CloudWatch Logs ☑

Log level INFO

Log full requests/responses data ☑

Enable Detailed CloudWatch Metrics ☐

Execution logs

Custom Access Logging

Enable Access Logging ☑

Access Log Destination ARN arn:aws:logs:us-east-1:955617200811:log-group:/aws/api-gateway/sls-dev

Log Format

{"requestTime":"$context.requestTime","requestId":"$context.requestId","httpMethod":"$context.httpMethod","path":"$context.path","resourcePath":"$context.resourcePath","status":"$context.status","responseLatency":"$context.responseLatency","xrayTraceId":"$context.xrayTraceId","functionResponseStatus":"$context.integration.status","integrationStatus":"$context.integration.integrationStatus","integrationRequestId":"$context.integration.requestId","integrationLatency":"$context.integration.latency","authorizeStatus":"$context.authorize.status","authorizeLatency":"$context.authorize.latency","authorizeError":"$context.authorize.error","authorizerStatus":"$context.authorizer.status","authorizerLatency":"$context.authorizer.latency","authorizerError":"$co

Insert Example: CLF JSON XML CSV

List of Log Variables

Access logs

X-Ray Tracing Learn more

Enable X-Ray Tracing ☑ Set X-Ray Sampling Rules

Save Changes

First copy then restore

Direct restore

- Storage auto-repair >>> Prevent disk failure and data loss >>> Back up with cluster volume
- Survivable page cache >>> Cache and database mechanism is separated

  So even the DB fails, cache still works
- Crash recovery >>> Designed to recover from a crash almost instantaneously

Recovery Time Objective (RTO) >>>>>> How much time it takes ?
Recovery Point Objective (RPO) >>>>>> Avoiding losing data

Core services on databases on app server off

Multivalue Answer Routing Policy (8 IPs)

CLARUS
WAY TO REINVENT YOURSELF

When you need to access an archived snapshot, you can restore it from the archive tier to the standard tier, and then use it

Requester Pays buckets for storage transfers and usage

After you configure a bucket to be a Requester Pays bucket, requesters must include `x-amz-request-payer` in their API request header, for DELETE, GET, HEAD, POST, and PUT requests, or as a parameter in a REST request to show that they understand that they will be charged for the request and the data download.

Summary of AWS Security Services

1. Routing policies
2. BGP communities

Public VIF>>> 1. BGP community tags
2. NO_EXPORT BGP community tag

Private VIF>>> 1. BGP communities
2.Local preference BGP communities
3. Routing Policy

CLARUSWAY
WAY TO REINVENT YOURSELF

Amazon FSx file systems

Amazon FSx for NetApp ONTAP

Fully managed shared storage built on NetApp's popular ONTAP file system.

Amazon FSx for OpenZFS

Fully managed shared storage built on the popular OpenZFS file system.

Amazon FSx for Windows File Server

Fully managed shared storage built on Windows Server.

- Compatible with Windows Active Directory

- Compatible with FSx File Gateway

Amazon FSx for Lustre

Fully managed shared storage built on the world's most popular high-performance file system.

- HPC
- Compatible with S3

Database type	Use cases	AWS service
Relational	Traditional applications, enterprise resource planning (ERP), customer relationship management (CRM), ecommerce	Amazon Aurora, Amazon RDS, Amazon Redshift
Key-value	High-traffic web applications, ecommerce systems, gaming applications	Amazon DynamoDB
In-memory	Caching, session management, gaming leaderboards, geospatial applications	Amazon ElastiCache, Amazon MemoryDB for Redis
Document	Content management, catalogs, user profiles JSON workloads	Amazon DocumentDB (with MongoDB compatibility)
Wide column	High-scale industrial apps for equipment maintenance, fleet management, and route optimization	Amazon Keyspaces Apache Casssandra
Graph	Fraud detection, social networking, recommendation engines	Amazon Neptune
Time series	Internet of Things (IoT) applications, DevOps, industrial telemetry	Amazon Timestream
Ledger	Systems of record, supply chain, registrations, banking transactions	Amazon Ledger Database Services (QLDB)

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CLA
WAY TO REINVENT YOURSELF

An *elastic network interface* is a logical networking component in a VPC that represents a virtual network card. It can include the following attributes:

- A primary private IPv4 address from the IPv4 address range of your VPC
- One or more secondary private IPv4 addresses from the IPv4 address range of your VPC
- One Elastic IP address (IPv4) per private IPv4 address
- One public IPv4 address
- One or more IPv6 addresses
- One or more security groups
- A MAC address
- A source/destination check flag
- A description

When you move a network interface from one instance to another, network traffic is redirected to the new instance.

=

+

xvda **xvdf**

lsblk >>>> xvdf seems as root rather than xvda

sudo e2label /dev/xvdf1 old/

WWW.E-SHOPPING.COM

TURKISH

GERMAN

FRENCH

SPANISH

DEPENDS ON USER LOCATION

Resource based Policy can not be attach all resources .(For example except Lambda and Serveless App Repo you can not attach any rbp for any compute service including EC2)

You need to switch the role to take action

You can use only one role at the same time

Storage Classes

Summary of Storage Classes

With Amazon S3 Select, you can use simple structured query language (SQL) statements to filter the contents of an Amazon S3 object and retrieve just the subset of data that you need. By using Amazon S3 Select to filter this data, you can reduce the amount of data that Amazon S3 transfers, which reduces the cost and latency to retrieve this data.

The following limits apply when using Amazon S3 Select:

- The maximum length of a SQL expression is 256 KB.
- The maximum length of a record in the input or result is 1 MB.
- Amazon S3 Select can only emit nested data using the JSON output format.
- You cannot specify the S3 Glacier Flexible Retrieval, S3 Glacier Deep Archive, or REDUCED_REDUNDANCY storage classes. For more information, about storage classes see Storage Classes.

Throttle API requests

You can configure throttling and quotas for your APIs to help protect them from being overwhelmed by too many requests and getting **429 Too Many Requests error**

TTL =300 sn

Caching

CLARUSWAY
WAY TO REINVENT YOURSELF

Graph | Instance type | Platform | Date range

Availability Zones | t2.medium | Linux/UNIX | 1 week

On-Demand price	us-east-1a	us-east-1b	us-east-1c	us-east-1d
$0.0464 Oct 13 2022, 23:50	$0.0139 Oct 13 2022, 23:50	$0.0139 Oct 13 2022, 23:50	$0.0139 Oct 13 2022, 23:50	$0.0139 Oct 13 2022, 23:5
$0.0464 Average hourly cost	$0.0139 Average hourly cost	$0.0139 Average hourly cost	$0.0139 Average hourly cost	$0.0139 Average hourly cc
	70.04% Average savings	70.04% Average savings	70.04% Average savings	70.04% Average savings

Amazon EFS > File systems > fs-01f5416a63a3f3590

otto (fs-01f5416a63a3f3590)

Delete | Attach

General

Edit

Performance mode
General Purpose

Throughput mode
Bursting

Lifecycle management

Automatic backups
Enabled

Encrypted
95c231cd-c4f7-4db7-9e1f-048dc8508b82 (aws/elasticfilesystem)

File system state

Metered size | Monitoring | Tags | File system policy | Access points | Network | Replication

Replication

Replicate your file system to one additional AWS Region or the same AWS Region.

Delete replication | Create replication

No replication
This file system is not being replicated.

Create replication

AWS Directory Service for Microsoft Active Directory

Simple AD

AD Connector

Amazon Cognito

CSAA 03 Practice Test 2

General

Name - *optional*

Name your file system.

Optional. Apply a name to your file system

Name can include letters, numbers, and +-=._:/ symbols, up to 256 characters.

Storage class Learn more

- (●) **Standard**
  Stores data redundantly across multiple AZs
- ( ) **One Zone**
  Stores data redundantly within a single AZ

Automatic backups

Automatically backup your file system data with AWS Backup using recommended settings. Additional pricing applies. Learn more

[x] Enable automatic backups

Lifecycle management

EFS Intelligent-Tiering uses Lifecycle Management to automatically achieve the right price and performance blend for your application by moving your files between the Standard and Standard-Infrequent Access storage classes. Learn more

Transition into IA

Transition files from Standard to Standard-Infrequent Access.

30 day(s) since last access

Transition out of IA

Transition files from Standard-Infrequent Access to Standard.

None