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Advance DeveOps

05/03

Assignment 1

Q1. Use S3 bucket and host video streaming

Step 1:- Set up amazon S3 bucket.

(i) Search for S3 on the services section. Click on its then create bucket. This will directly you to the bucket creation page Here, give a name your bucket.

(ii) After creating the bucket, add the video to this bucket. Click on the name of of bucket, this will redirect you to object screen. Click on upload.

(iii) Select the required mp4 file and upload it

(iv) This will start uploading process

Step 2:- Set up Cloudfront

(i) Search for clouldfront on services tab. Open it in a new tab

(ii) On the left pane, under security, click on origin access. Here, go to identities. Create an origin identity access.

(iii) In the origi Go back to distributions and create a clouldfront distribution.

(iv) In orgin field, stelect S3 bucket where video is uploaded.

Under origin access, select legacy access identifies. Select the identity that has been created. Click on Yes, update bucket policy In default cache behaviour, under viewer, select redirect HTTP/HTTPS

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Under web Application Firewall, select enable security protections.
Create the distribution, this will deploy it.
step 3:- Accessing the hosted video:-
(i) once distribution is deployed, copy its domain name
(ii) Go to the video in the bucket where it is uploaded. click on its name. Copy the key of the video.
(iii) On your address URL bar, ~~use~~ the link as <domain name>/<key of video>
Thus we deployed a video on an S3 bucket

Q2] Discuss BMW & Hotstar case studies using AWS.
BMW & ~~Hotstar~~ ~~case~~ a renowned global automotive leader, leverages AWS to drive its digital transformation & enhances its operational efficiency, BMW utilizes AWS to power its connected drive platform, offering real-time updates, navigation & remote diagnostics by processing vast amounts of vehicals sensor data.
AWS services like Amazon SageMaker & AWS IOT enable BMW to perform advanced data analytics & machine learning, optimizing vehicle
Hotstar, a leading Indian streaming platform, relies on AWS to manage massive traffic spikes particulary during live events
Using AWS's scalable infrastructure,

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Hotstar ensures seamless conten delivery to millions of concurrent viewers through services like Amazon cloudFront Amazon S3 & Amazon EC2. AWS's pay-as-you-go model optimizes costs by scaling resources according to demand. The global CDN provided, by AWS ensures low latency & high performance delivery high-quality experiences.

Q3] Why Kubernets & advantage & disadvantages of Kubernets. Explain how adidas uses it

→ Kubernets is open-source container orchestration platform that automates the deployment, scaling by management of containerized applications

Advantages-

1) Automation: Automates deployement scaling & management of containerized application.

2) Portability: Runs on ~~scalability~~ various enivorments including public clouds, private clouds & premises

3) Scalability: Easily scales applications horizontally meet increasing demands.

Disadvantages!

1) Complexity: It can be complex to set up & manage

2) Learing curve: Requires significant time & effort to learn & master

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3) Initial setup: The initial setup can be time-consuming & may require special knowledge.

How adidas uses Kubernets:
Adidas leverages Kubernets to enhances its application scalability & reliability. By microservices / Kubernets. Adidas ensures efficient load balancing, automated scaling, & seamless application updates. kubernets orchestration capabilites allow adidas to manage its containerized applications effectively, ensuring high availability & optimized performedce across its digital platform across its digital platforms.

Q4) What are nagios & explain how Nagios are used in r-services?

→ Nagios is a robust & versatile open source monitoring tool designed to oversee & manage IT infrastructure. It primarily focuses on monitoring systems, networks & infrastructure, providing comprehensive insights into the performance & health of sources servers, applications, serveies & network protocol. Nagios operates by periodically checking the status of various resources through plugins, which can be customized to suit specific monitoring needs. When it detects issues or potential

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problems. Nagios alerts administration through notifications enabling timely interventions to prevent downtime & ensure system reliability. In the context of E-services, Nagios plays a critical role by ensuring the continuous availability & optimal performance of online services & applications. E-services rely heavily on consistent uptime & quick response times to most user expectation & maintain satisfaction, Nagios helps achieve this by monitoring the entire infrastructure supporting e-services, including web services & other critical components. It detects issue like server overloads, network outages or application failures, network outages. By using Nagios organizations can proactively manage their e-services.

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