Name: Shubham Jha
Div: D15C
Roll No.: 19

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Assignment - 1
Adv- DevOps

Q.1) Use S3 bucket and host video streaming.

→ The step by step procedure:

Step 1) Create an S3 bucket.

i) Log into your AWS management console.
ii) Navigate to S3 under storage section.
iii) Click create Bucket and provide a unique bucket name.
iv) Configure permissions
v) Complete the bucket creation process.

Step 2) Upload Video files on S3

i) Click on your bucket name.
ii) Use the upload button to add your video file.
iii) Set the access control list (ACL) to allow public read access

Step 3) Enable static website hosting

i) Inside the S3 bucket, go inside the properties tab.
ii) Scroll to static website hosting section and enable it.
iii) Set the index document and provide an optional error document.

Step 4) Configure bucket permissions to allow public access.

Step 5) i) Create an index.html file containing a video player using the <video> tag.

ii) Upload this index.html to your S3 bucket.

Step 6) Access your hosted video your video would be playable in embeded HTML player.

Q2) BMW and Hotstar Case study using AWS

→ • BMW uses AWS to power its connected car system, enabling real time data processing, over the air updates and personalized driving experiences. AWS' global infrastructure helps BMW manage large scale vehicle data allowing predictive maintainance and enhancing customer experience through features like traffic info, Parking availability. It provides scalability and security, ensuring that BMW can deliver services efficiently.

• Hotstar : Hotstar a leading streaming platform relies on AWS to manage massive traffic spikes during live event like IPL, where millions of users connect simultaneously. AWS helps hotstar scale elastically, utilizing EC2 instances, CloudFront and S3 storage to provide low latency, high quality video streaming. This ensures smooth services during peak hours giving huge loads, Enabling hotstar to handle over 25 million users simultaneously!

Q.3] Why Kubernetes and advantages and disadvantages of Kubernetes. Explain how adidas uses Kubernetes.

→ Kubernetes automates the deployment, scaling and management of containerized application, making it popular choice

for orchestrating microservices

Advantages
- Automated Scaling and self healing
- Supports multicloud and hybrid deployment
- efficient usage of resource through containers orchestration.

Disadvantages:-
- Complexity in setup and operation
- Requires steep learning curve for configuration

Adidas uses Kubernetes to manage its E-commerce infrastructure, which involves deploying 100s of microservices. Kubernetes enabled Adidas to handle Peak traffic during product launches by scaling services automatically and distributing loads efficiently. The Agility and scalability have helped adidas strengthen its digital operation & improve users satisfaction.

Q.4] What is Nagios and How its used in E-services?
→ Nagios is an open source monitoring tool used to monitor the health and performance of IT infrastructure. It tracks system metrics like CPU, memory, disk usage alerts administrators of potential risks before they affect the users
In E-services, Nagios ensures uptime and performance of critical online services by monitoring service.

health, detecting failures and automatically trigering failure actions. This proactive approach helps to minimize downtime & maintain service availability, making it crucial tool for maintaining seemless user experience.