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1. Storage as a service - S3

Amazon S3 is simple storage as service in AWS that stores files of different types like Photos, Audios & videos as objects providing more scalability and security to.
It allows users to store and retrive any amt of data at any pt in time from anywhere on the web.
It is used for various purpose in cloud because of its robust features with scaling and security of data

Key features of Amazon S3:

1. Object Storage:
Data is stored as objects, which consist of data itself, metadata and a unique identifier.

2. Scalability:
S3 can handle vast amt of data, scaling seamlessly as your storage needs grow

3. Durability and Availability:
It is designed for durability meaning your data is highly protected against loss.
It also provides availability ensuring that your data is accessible whenever needed.

4. Event Notificat^{ns}:
S3 can trigger AWS Lambda funct^{ns} or send messages to Amazon SNS and SQS when specific events occur in bucket

5. Logging and Monitoring:
S3 Access Logs: Captures detailed info. abt requests made to your S3 bucket
Amazon CloudWatch: Monitor S3 activity & set up alarms for unusual patterns.

Amazon S3 bucket:

It is fundamental storage container feature in AWS S3 service. It provides a secure and scalable repository for storing of objects such as Text data, Images, Audio & Video files over AWS Cloud. Each S3 bucket name should be named globally unique & should be configured with ACL (access control list).

2. S3 usecases:

1. Data storage:
Amazon S3 acts as the best option for scaling both small & large storage applicat^ns. It helps in storing & retrieving the data-intensive applicat^ns as per needs in ideal time.

2. Backup and Recovery:
Many organizations are using Amazon S3 to backup their critical data & maintain the data durability & availability for recovery needs

3. Hosting Static Websites:
Amazon S3 facilitates in storing HTML, CSS & other web content from users / developers allowing them for hosting static websites benefiting with low-latency access & cost-effectiveness.

4. Data Archiving-
Amazon S3 Glacier service integration helps as a cost-effective sol^n for long-term data storing which are less frequently accessed applications.

5. Big Data Analytics:
Amazon S3 is often considered as data lake because of its capacity to store large amt of both structured & unstructured data offering seamless integration with other AWS analytics & AWS Machine learning services.

3. Steps for S3.

Step 1:
Log on to your AWS console. If you don't have an account you can create it absolutely free as Amazon provides a 1-year free tier to its new users.

Step 2:
In the search bar located at the top of your AWS Managment Console type "Amazon S3".

Step 3:
Click on S3 - Scalable Storage in the Cloud" & proceed further

Step 4:
Click on "Create Bucket" A new pane will open up, where you have to enter the details & configure your bucket.

Step 5:
Enter the name of your bucket. (It should be unique accross all Amazon S3 buckets.
It can consist only lowercase; numbers, dots & hyphens.) etc

Step 6:
Next choose an AWS region nearest to your location or where you want your data to reside.
Configure additional settings like versioning, logging & encryption (these are optional & can be configured later)

Step 7:
Click on Create Bucket

step 8:
Upload files to S3 Bucket.

Step 9:
set permissions for your S3 Bucket or files.

Bucket: Navigate to "Permissions" tab within your bucket.
Modify bucket policy based on your need

Files: Select file(s) you want to set permission for
click on "Actions" & choose "Make public" (if want)
or adjust permissions under "Permission" tab.

Step 10:
Access your files.

- Navigate to file you want to access
- click on file name to open its details
- can copy object URL, which is the direct link to your file & share or use it as needed.

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Step 11:
Monitor & Secure your S3 Bucket.

1. Monitor: Use Amazon CloudWatch to monitor your S3 bucket's activity & set up alarms for specific events
2. Secure: Regularly review & update your bucket policies & permissions. Use AWS identity & Access Managment (IAM) to control access to your bucket.

Step 12:
Delete S3 Buckets & objects (if needed)

Object - Navigate to the objects in your bucket, select it & choose "Delete" from Actions menue

Bucket - To delete bucket ensure it is empty first then select the bucket & click "Delete bucket" from Actions menu.