## Breakout Exercise: Working with Amazon Simple Storage Service (S3)

Your company grows larger; the sizes of their DBMS and server logs continue to grow. This has increased the pains related to backing up the codes and the DBMS to tape and led to the consideration of alternate strategies including AWS S3.

Your group has been put in charge to create a storage repository for your company's needs (DBMS, server backups and logs, codes, and website contents) on S3. You use S3 to create buckets with folders based on your design, work with AWS Identity and Access Management to create and grant users permissions on your Amazon S3 bucket and its content.
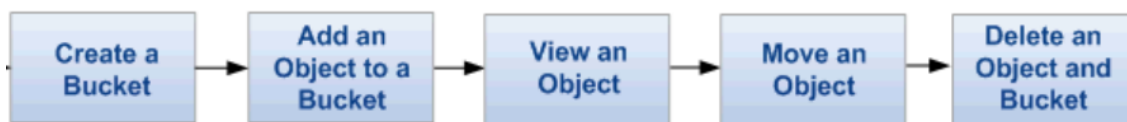
Amazon S3 is a simple key, value store designed to store objects in one or more buckets. The S3 data model is a flat structure. Users create a bucket, and the bucket stores objects. The objects can be used as input resources for AWS services or as static components used in web-based applications.

Your group needs to do the following:

1. Create buckets and folders based on your design.
2. Upload a simple HTML file to the website content folder, give public access permission to the HTML file and use the full DNS name to see whether the HTML page can be viewed by public users.
3. You have 3 main admins, DB Admin, Server Admin and Software Admin. You want DB Admin to access only the DBMS bucket/folder, Server Admin only the server backups and log bucket/folder, and you want give Software Admin access to both DBMS and backups log bucket/folder. You need to manage access by creating AWS Identity and Access Management (IAM) users for each user and grant the users the necessary permissions. To better mange permissions, you may want to create group policy and add user-specific permissions by attaching policies to specific users. Discuss the advantages and disadvantages of using group policies.
4. On feature that can be useful for the admins is bucket versioning. Enable this feature for each of the admins you think it is necessary. Additionally, you can add another layer of security by enabling MFA (Multi-Factor Authentication) Delete, which requires additional authentication for deleting the object version or changing the bucket versioning. State. Discuss how this feature can help your admins.