S3 Bucket Replication Implementation Instructions

Overview

This document provides instructions for implementing S3 bucket replication using the provided `replication.json` configuration file.

Prerequisites

Before implementing S3 bucket replication, ensure that:

1. Both source and destination buckets exist
2. Versioning is enabled on both buckets: `bash aws s3api put-bucket-versioning --bucket source-bucket --versioning-configuration Status=Enabled aws s3api put-bucket-versioning --bucket destination-bucket --versioning-configuration Status=Enabled`
3. The IAM role for replication has been created with the appropriate trust and permissions policies

Implementation Steps

1. Customize the Replication Configuration

Edit the `replication.json` file to replace the placeholder values:

- Replace `ACCOUNT-ID` with your AWS account ID
- Replace `destination-bucket` with your actual destination bucket name

2. Apply the Replication Configuration

Use the following AWS CLI command to apply the replication configuration to your source bucket:

```
aws s3api put-bucket-replication --bucket source-bucket --replication-configuration file://replication.json
```

Replace `source-bucket` with your actual source bucket name.

3. Verify the Replication Configuration

Verify that the replication configuration has been applied correctly:

```
aws s3api get-bucket-replication --bucket source-bucket
```

Configuration Details

The `replication.json` file contains:

- **Role**: The ARN of the IAM role that S3 can assume to replicate objects
- **Rules**: A list of replication rules with the following properties:
- **Id**: A unique identifier for the rule
- **Status**: Whether the rule is enabled or disabled
- **Priority**: The priority of the rule (lower numbers have higher priority)
- **DeleteMarkerReplication**: Whether to replicate delete markers
- **Filter**: Criteria for objects to replicate (empty means all objects)
- **Destination**: Where to replicate objects, including:
    - **Bucket**: The ARN of the destination bucket
    - **StorageClass**: The storage class to use for replicated objects

Notes

- Replication only applies to new objects created after the replication configuration is applied
- Existing objects will not be replicated unless you use S3 Batch Replication
- If objects in the source bucket are encrypted, additional configuration is required
- Cross-region replication may incur additional data transfer costs

Troubleshooting

If you encounter issues with replication:

1. Verify that the IAM role has the correct trust and permissions policies
2. Ensure that versioning is enabled on both buckets
3. Check that the source and destination bucket names are correct
4. Review CloudTrail logs for any permission-related errors