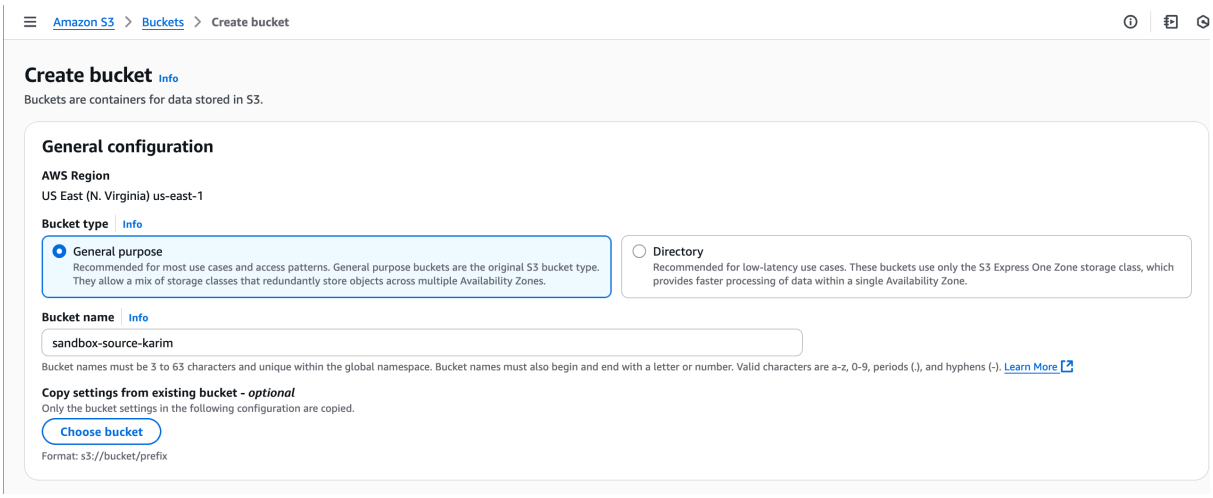
Sandbox Tutorial: Simulating Hybrid Storage and Data Migration to Amazon S3

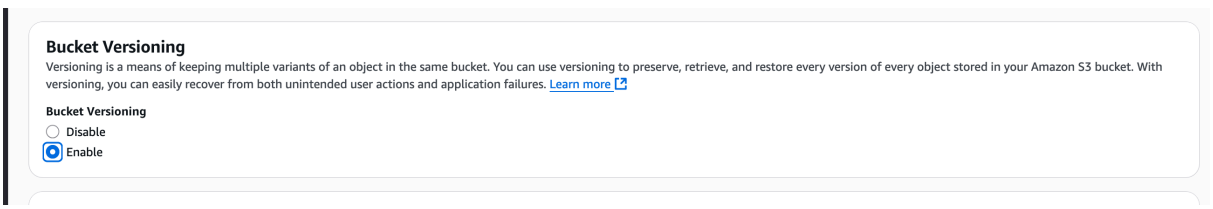
To migrate files from an on-premises Linux system (UTM VM) to Amazon S3 in AWS Sandbox, demonstrating cloud-based file storage, versioning, and data transfer workflows. This lab simulates a hybrid storage scenario without using AWS Storage Gateway, and focuses on uploading and managing files in S3.

1. Create the S3 Buckets

One bucket receives files (source), the other receives replicated files (destination). Both must have **Versioning enabled**.

US-East-1





2. Prepare Your Linux VM (UTM)

Connect to your **UTM Linux instance**.

Update packages:

```
sudo apt update && sudo apt -y upgrade
```

Install AWS CLI (if not installed):

Since im running aarch64

Downloading the aarch64 AWS cli and installing it


```
curl "https://awscli.amazonaws.com/awscli-exe-linux-aarch64.zip" -o "awscliv2.zip"
```

```
unzip awscliv2.zip
```

```
sudo ./aws/install
```

```
aws --version
```

```
karim@karim-vm:~$ aws --version
aws-cli/2.28.21 Python/3.13.7 Linux/6.8.0-79-generic exe/aarch64.ubuntu.24
karim@karim-vm:~$
```

Configuring the AWS

```
karim@karim-vm:~$ aws configure
AWS Access Key ID [None]: AKIA2TTGXG5HLNXWR5EM
AWS Secret Access Key [None]: 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
Default region name [None]: us-east-1
Default output format [None]: json
```

Verify Connection

```
karim@karim-vm:~$ aws s3 ls
2025-08-31 09:48:37 sandbox-source-karim
karim@karim-vm:~$
```

Create a Local Folder with Test Files

```
mkdir ~/s3test
cd ~/s3test
echo "Hello AWS Sandbox" > file1.txt
echo "Another test file" > file2.txt
```

```
karim@karim-vm:~$ mkdir ~/s3test
karim@karim-vm:~$ ls
academy-regular.ovpn  backupDir     host.pcap    nmap_res.txt  sample.txt
aws                   cryptography  http.cap     output.txt    sqlProject
awscliv2.zip          firstDir      myfile.txt   project       testDir
backup.log            gitprojects   myscript.sh  s3test
karim@karim-vm:~$ aws s3 ls
2025-08-31 09:48:37 sandbox-source-karim
karim@karim-vm:~$ cd ~/s3test
karim@karim-vm:~/s3test$ echo "Hello AWS Sandbox" > file1.txt
karim@karim-vm:~/s3test$ echo "Another test file" > file2.txt
karim@karim-vm:~/s3test$
karim@karim-vm:~/s3test$ cat file1.txt
Hello AWS Sandbox
karim@karim-vm:~/s3test$ cat file2.txt
Another test file
karim@karim-vm:~/s3test$
```

Upload Files to S3

- `cp` → copy
- `-recursive` → uploads everything inside the folder

```
aws s3 cp ~/s3test s3://<bucket-name>/ --recursive
```

```
karim@karim-vm:~/s3test$ aws s3 cp ~/s3test s3://sandbox-source-karim/ --recursi
ve
upload: ./file1.txt to s3://sandbox-source-karim/file1.txt
upload: ./file2.txt to s3://sandbox-source-karim/file2.txt
karim@karim-vm:~/s3test$
```

Verify Upload

```
aws s3 ls s3://<bucket-name>/
```

```
karim@karim-vm:~/s3test$ aws s3 ls s3://sandbox-source-karim/
2025-08-31 09:58:31         18 file1.txt
2025-08-31 09:58:31         18 file2.txt
karim@karim-vm:~/s3test$
```

Now our UTM Linux VM is connected to AWS Sandbox and successfully sending files to S3 🚀