# CODTECH Internship Task 1 Report

Simulation of AWS S3 Bucket Creation

**Submitted by**

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**GitHub Repository**

https://github.com/Vishva2705/CODTECH/tree/main/Task1

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# 1. Project Overview

This report outlines my work on **Level 1 – Task 1** of the **CODTECH Internship Program**, which centered around simulating the creation of a **cloud storage bucket** using the **AWS Command Line Interface (CLI)**, specifically for **Amazon Web Services (AWS) Simple Storage Service (S3)**.

The primary goal of this task was to gain a hands-on understanding of how S3 buckets are structured and managed through CLI commands. However, due to limitations such as the inability to register for live AWS or GCP accounts (because of payment method restrictions), it was not possible to interact directly with the cloud environment. Instead, I carried out the task in a **simulated setting**, using example commands, documentation practices, and visual aids to replicate real-world cloud workflows.

This simulation proved invaluable in building foundational knowledge about cloud storage operations. I learned how to define bucket names, select regions, and structure commands for creating and managing S3 buckets. Additionally, the task involved documenting the entire process, using Markdown and reStructuredText, capturing terminal-like output, and organizing files for GitHub deployment.

Understanding these concepts is essential in today's tech-driven world, where **cloud platforms like AWS play a key role in DevOps pipelines, full-stack application hosting, and scalable infrastructure deployment**. Through this exercise, I not only learned the technical commands but also improved my ability to write developer-friendly documentation, simulate real-world environments, and present technical work professionally.

Overall, this task has equipped me with both theoretical knowledge and practical exposure to cloud development concepts—skills that are critical for roles in cloud engineering, DevOps, and modern software development.

# 2. Tools & Technologies Used

To simulate a realistic cloud development workflow, I utilized a combination of **command-line, documentation, and design tools** commonly employed in professional software engineering and DevOps environments. These tools allowed me to accurately mirror industry-standard processes and effectively demonstrate my understanding of cloud storage operations.

## Tools Used :

- **AWS CLI**
  Simulated the creation of an S3 bucket using real-world command structures. Although actual cloud execution was not possible, the CLI syntax and behavior were replicated to demonstrate command-line interactions with cloud services.
- **Markdown / reStructuredText (.md / .rst)**
  Used to write well-structured technical documentation for the bucket creation process. These formats are widely used in open-source projects and professional documentation.
- **GitHub**
  Served as the version control system and public hosting platform for all task-related files, including documentation, screenshots, and configuration structures. This mimics the workflow of collaborative software development teams.
- **Screenshot Tools**
  Employed to capture simulated terminal commands and their outputs. These visuals were used to support the documentation and demonstrate task completion in the absence of live execution.
- **Google Docs / Microsoft Word**
  Used to compile and format this internship report. These tools ensured a clean and presentable output suitable for evaluation and submission.

# 3. Execution Steps

This section outlines the step-by-step process I followed to complete **Level 1 – Task 1** of the CODTECH Internship.

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### 3.1 Studied AWS CLI Syntax

I began by researching the AWS CLI command required to create an S3 bucket. Specifically, I studied the syntax of the aws s3api create-bucket command, including options such as:

- --bucket: the name of the S3 bucket to be created
- --region: the AWS region in which the bucket should be created
- --create-bucket-configuration: specifies regional constraints

I also reviewed AWS naming conventions and configuration requirements to ensure that the simulated command would resemble real-world usage.

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### 3.2 Prepared the Command

After understanding the syntax and constraints, I drafted the following command to simulate the creation of an S3 bucket:

aws s3api create-bucket --bucket my-demo-bucket --region us-west-1 \

--create-bucket-configuration LocationConstraint=us-west-1

This command simulates the creation of a bucket named my-demo-bucket in the us-west-1 AWS region, including region-specific configuration.

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### 3.3 Simulated CLI Output

Since this was a simulated task, I manually constructed the expected output of the command based on AWS documentation and examples. The simulated output appeared as:

json

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```
{
  "Location": "/my-demo-bucket"
}
```

This output confirms that the bucket was successfully created (in a real environment) and located at the specified path.

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### 3.4 Documented Everything

I documented the entire workflow using both **Markdown** and **reStructuredText** formats. The two key files created were:

- s3-example-creating-buckets.md
- s3-example-creating-buckets.rst

These files included command breakdowns, explanations of each argument, simulated outputs, and relevant screenshots to aid understanding.

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### 3.5 Visual Output

To enhance the presentation of my task:

- I took a screenshot of the simulated terminal command and output (create-bucket-example.png)
- I designed a **Canva thumbnail** and visuals for use in the report and social media sharing
  This added a professional look to the technical work.

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### 3.6 Final Submission Folder

All files were organized in a clean, professional folder structure and uploaded to my GitHub repository for review. The structure is as follows:

lua

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/Task1

├── s3-example-creating-buckets.md

├── s3-example-creating-buckets.rst

├── create-bucket-example.png

└── README.md

📎 **GitHub Link**:
https://github.com/Vishva2705/CODTECH/tree/main/Task1

# 4. Learning & Experience

This simulated task provided valuable insights into modern **cloud infrastructure**, **technical documentation**, and **real-world development workflows**. Despite the absence of direct deployment on AWS, the simulation was deeply educational and skill-building.

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### 4.1 Cloud Concepts Learned

Throughout this task, I gained a clearer understanding of how cloud storage services—particularly AWS S3—operate. Key concepts I explored include:

- ✅ **Bucket Fundamentals**: Naming conventions, region constraints, and bucket structure
- 🔐 **Access & Permissions**: Recognizing the importance of access control policies
- 📄 **Configuration Requirements**: How configuration settings impact deployment
- 📝 **Documentation Standards**: How structured, developer-friendly documentation supports team collaboration
- 💻 **Command Line Fluency**: Using terminal commands to simulate infrastructure provisioning

These insights form a strong foundation for working with real-world cloud platforms in DevOps or development roles.

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### 4.2 Skills Practiced

The task also allowed me to apply and improve several practical skills relevant to cloud computing and professional software engineering:

- ✍ **Technical Writing**
  Authored clean and well-structured documentation using Markdown (.md) and reStructuredText (.rst)

- 🌐 **Version Control with GitHub**
  Used GitHub to manage version control and host task files publicly, mimicking real development team workflows

- 🖼 **Visual Documentation**
  Created terminal screenshots and Canva designs to enhance clarity and presentation of technical content

- 🗂 **Project Structuring**
  Organized files and folders to be clean, readable, and ready for review by recruiters, mentors, or technical stakeholders

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Even without direct access to AWS services, this task demonstrated that **understanding the syntax, structure, and workflow is just as important as deploying it live**. It has significantly boosted my confidence in:

- Reading and writing AWS CLI commands
- Creating documentation for technical tasks
- Structuring cloud-based project repositories

This experience has equipped me to contribute effectively to cloud-enabled development projects and to continue growing as a developer with cloud proficiency.

# 5. Conclusion & Final Thoughts

Task 1 of the CODTECH Internship was a valuable learning experience. By simulating the creation of an AWS S3 bucket, I gained hands-on knowledge of cloud storage operations, produced professional documentation, and organized my work in a GitHub repository. Each stepfrom writing commands to designing visualsenhanced my skills as a future developer.

The GitHub repository containing all deliverables is available at :

https://github.com/Vishva2705/CODTECH/tree/main/Task1

I am grateful for the opportunity provided by CODTECH and look forward to tackling more advanced tasks in the internship program.