

2022

ESG高峰會 環境、社會、治理

雲端儲存與 永續資訊

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國立臺北大學 資訊管理研究所



指導單位



主辦單位



雲端儲存與永續資訊

Cloud Storage and Sustainability Information

Time: 2022/6/25 (Sat.) 9:40-10:15

Place: 台北世貿一館1樓B區 ESG沙龍 (B536)



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Institute of Information Management, National Taipei University

<https://web.ntpu.edu.tw/~myday>

2022-06-25





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Architect
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Cloud
Practitioner

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Publications Co-Chairs, IEEE/ACM International Conference on Advances in Social Networks Analysis and Mining (ASONAM 2013-)

Program Co-Chair, IEEE International Workshop on Empirical Methods for Recognizing Inference in TExt (IEEE EM-RITE 2012-)

Publications Chair, The IEEE International Conference on Information Reuse and Integration for Data Science (IEEE IRI)



國立臺北大學
National Taipei University



aws educate

Cloud Ambassador

2020 Cohort

Outline

- 永續資訊雲端架構
- AWS Serverless 架構
- AWS 雲端儲存 (S3: Simple Storage Service)
- AWS Hands-on：
Using S3 Service for XBRL Cloud Storage
- 結論

永續資訊揭露與 XBRL 應用之研究

永續報告XBRL雲端架構之研究

2022/02- 2022/06

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研究助理：**鄧詠薇**，國立臺北大學資訊管理研究所



2022-06-25

Gartner Magic Quadrant for Cloud Infrastructure and Platform Services

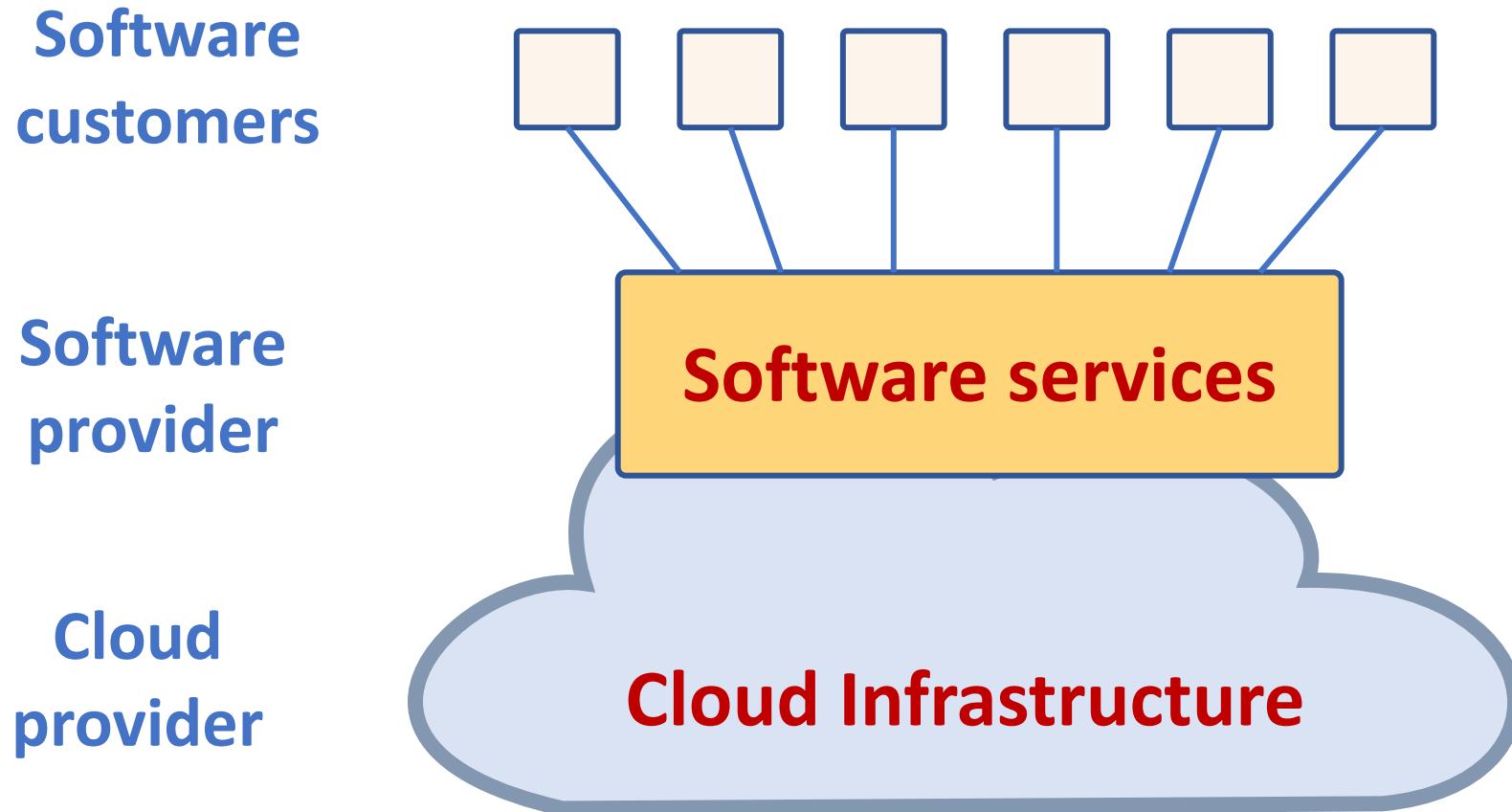


Amazon Web Services

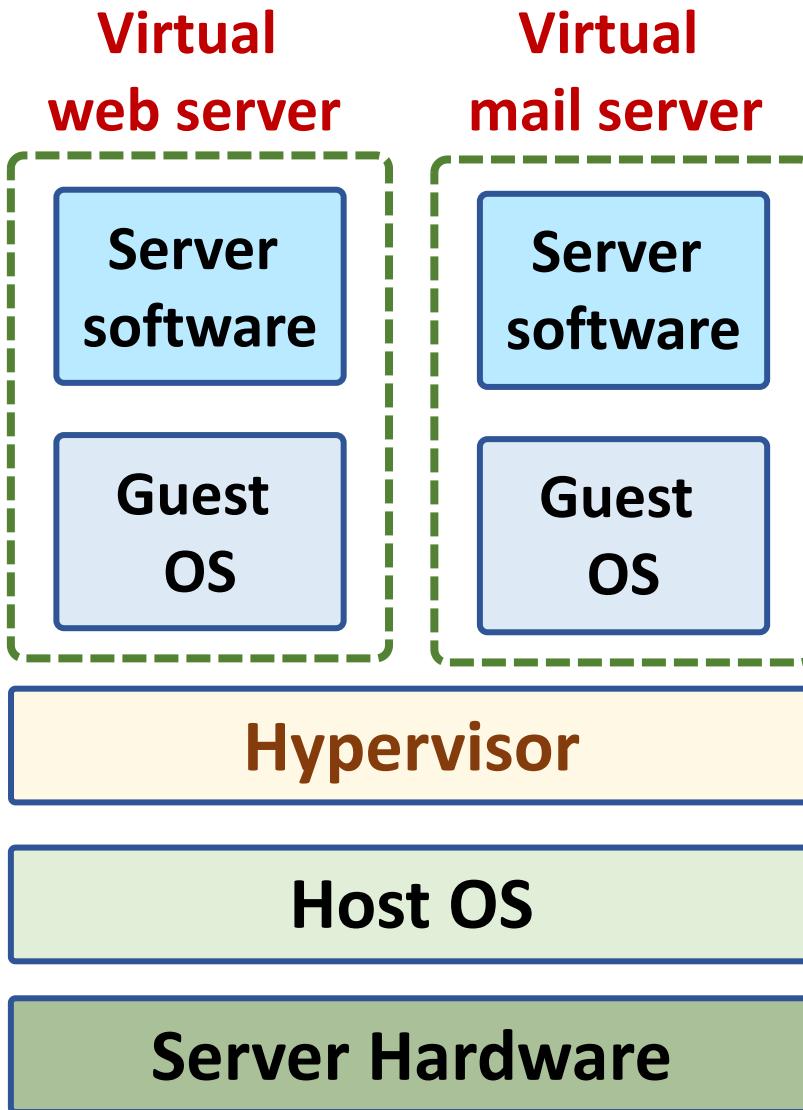
Microsoft

Google

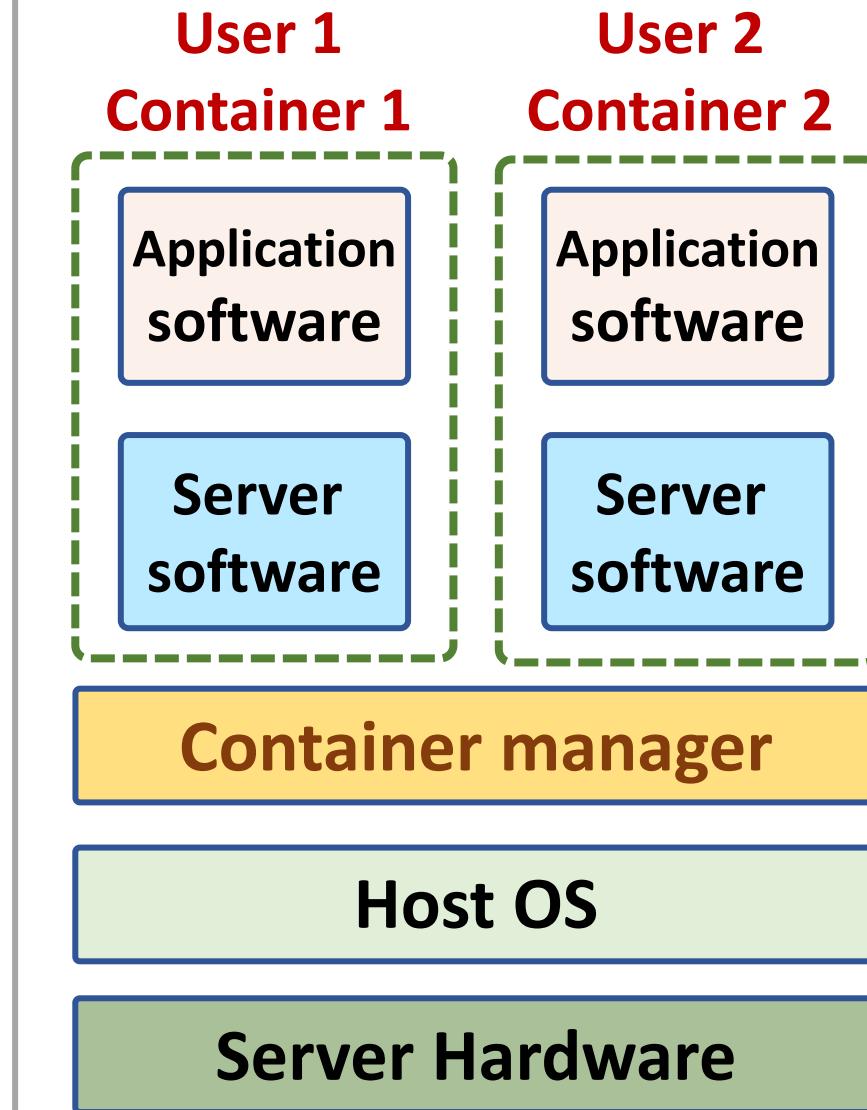
Software as a service



VM



Container



Everything as a service

SASB+XBRL
Application

**Software as a service
(SaaS)**

Logistics
management

Cloud
management
Monitoring

**Platform as a service
(PaaS)**

Database
Software
development

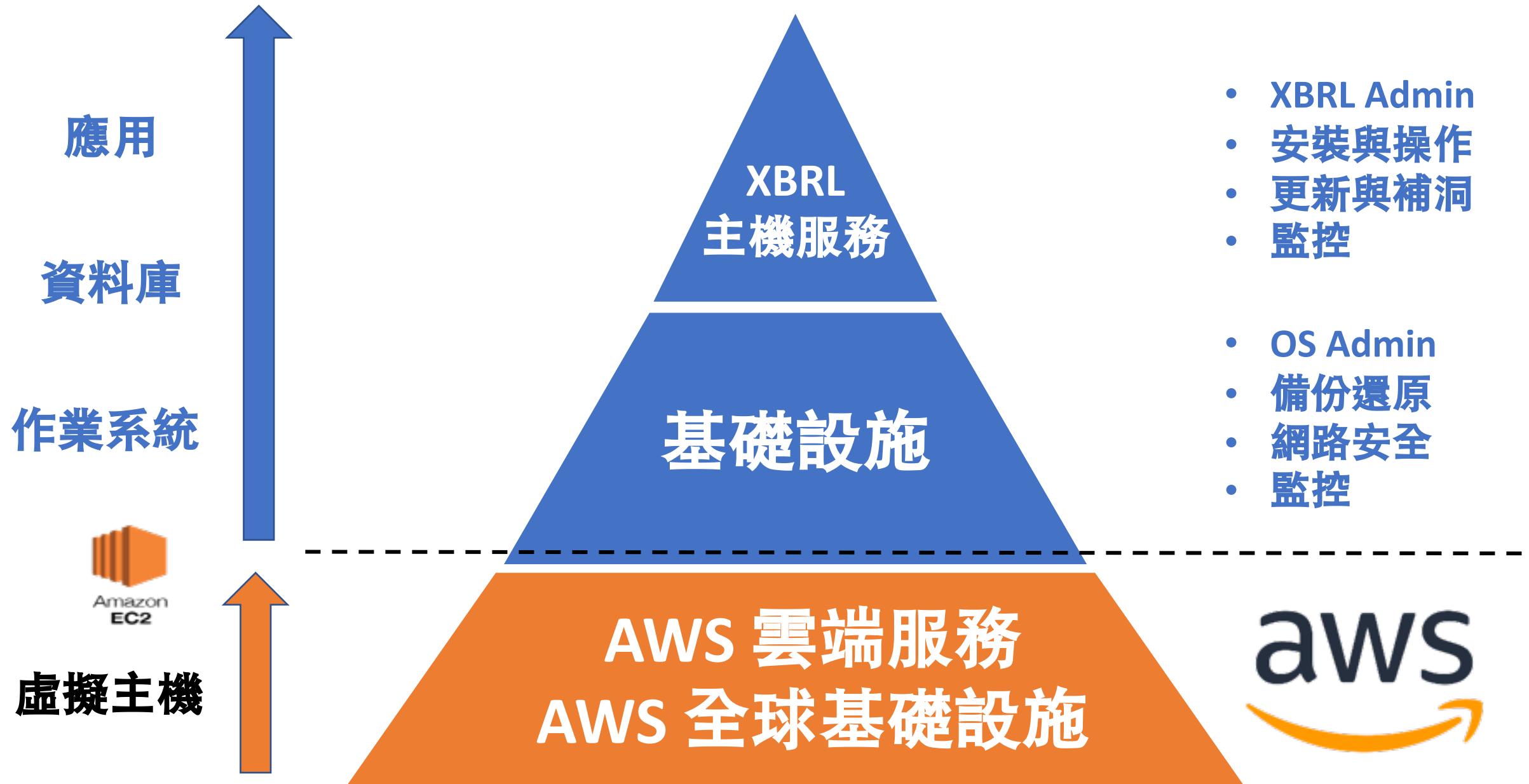
Storage
Network

**Infrastructure as a service
(IaaS)**

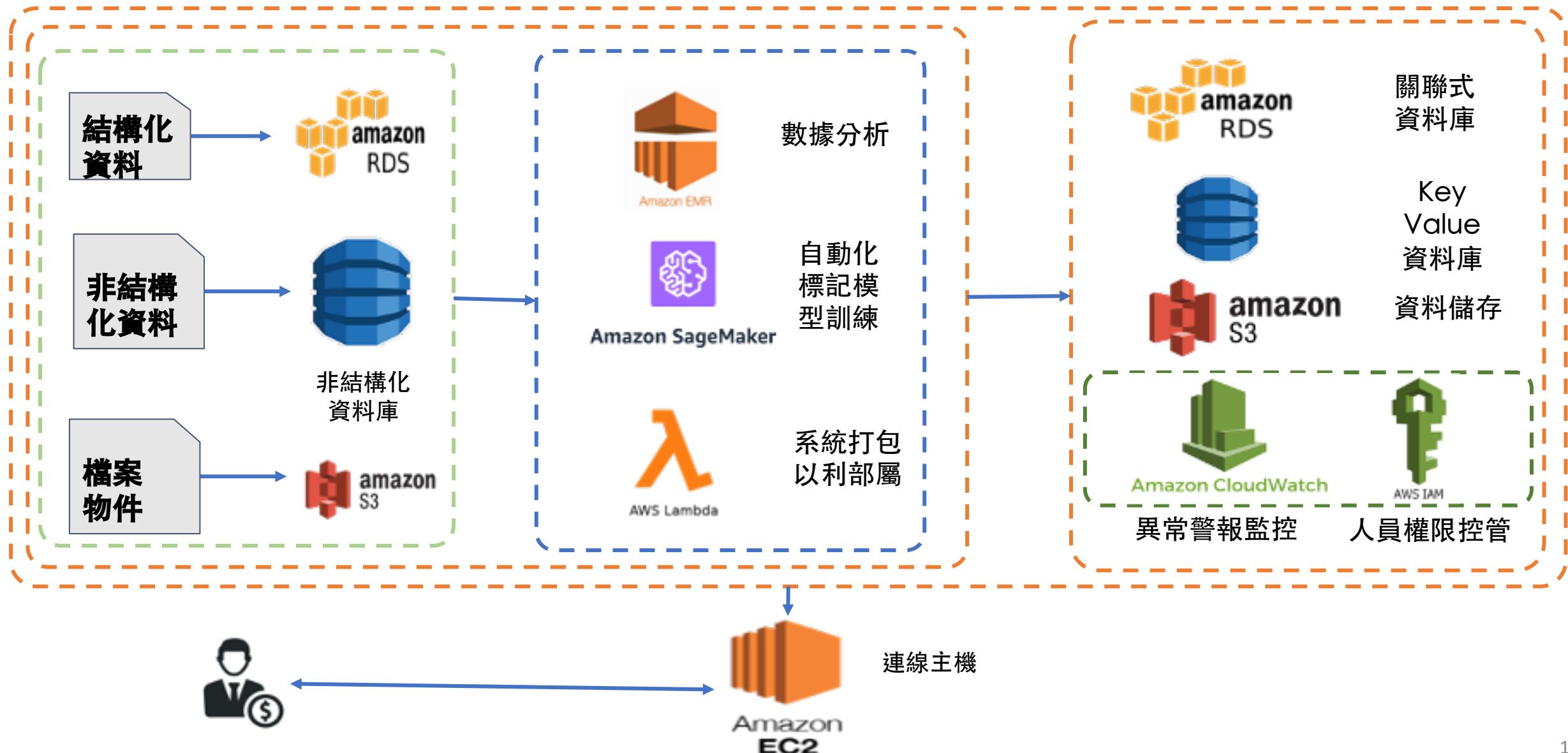
Computing
Virtualization

Cloud data center

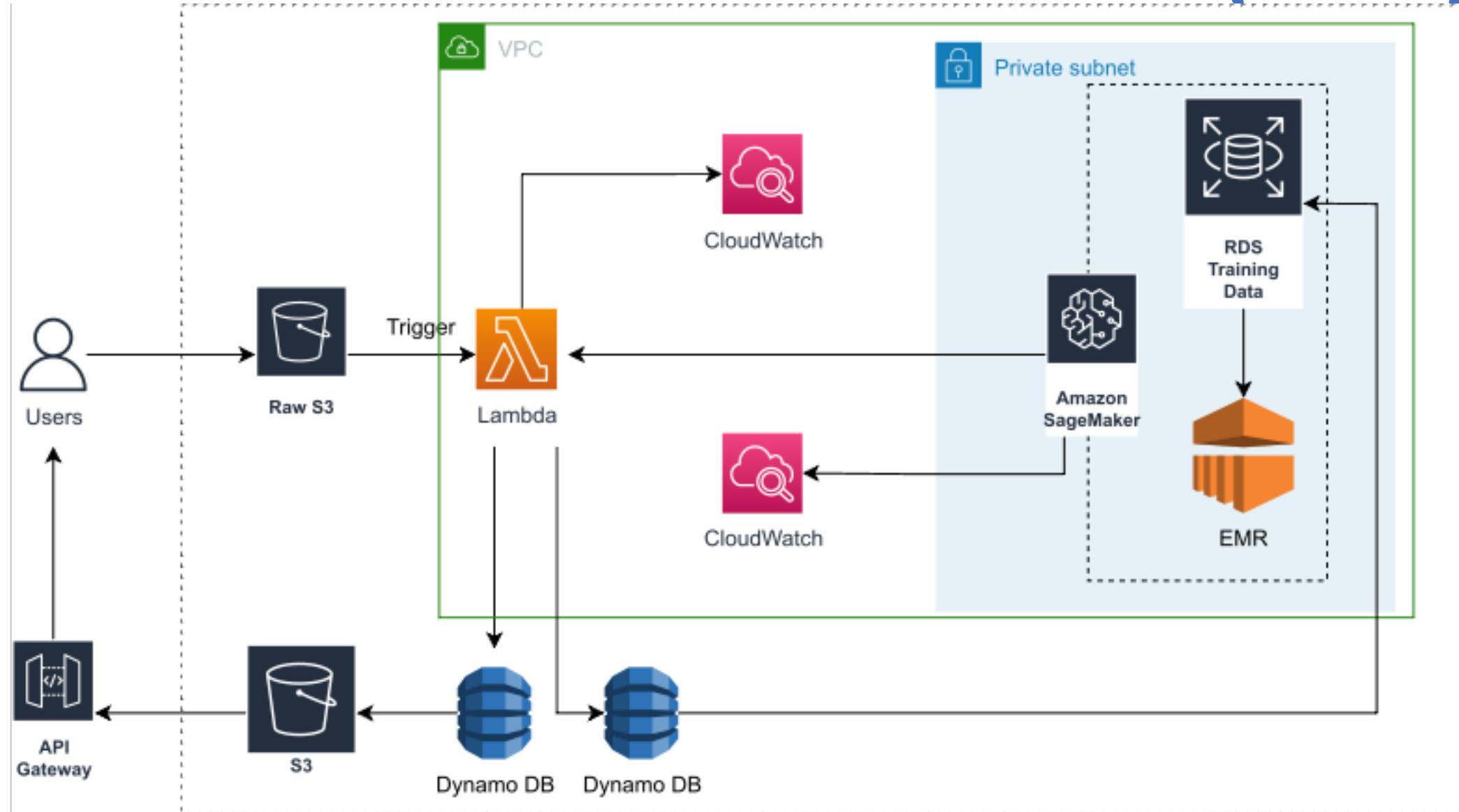
在 AWS 雲端管理 XBRL 服務



永續報告 XBRL 雲端架構圖



永續報告 XBRL 雲端架構圖 (AWS)



永續報告 XBRL 雲端 Sequence Diagram (AWS)



EMR



Amazon RDS



Amazon SageMaker



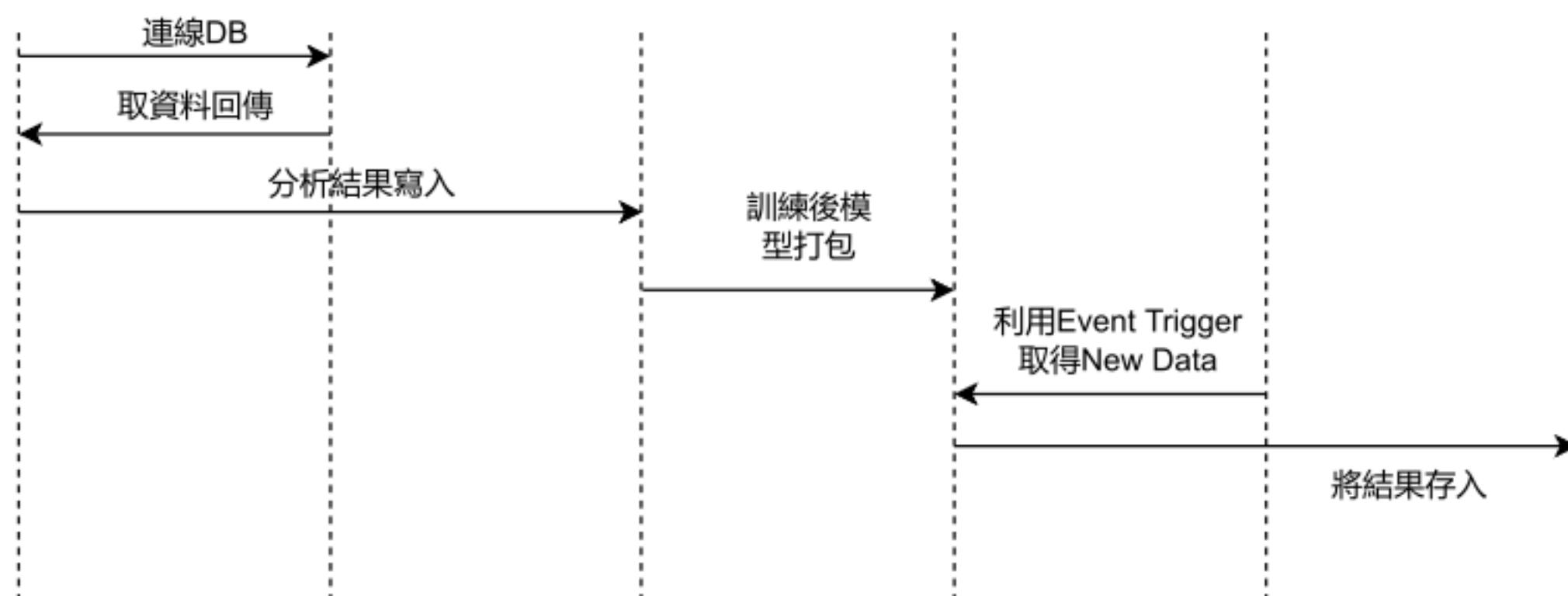
Lambda



Raw S3



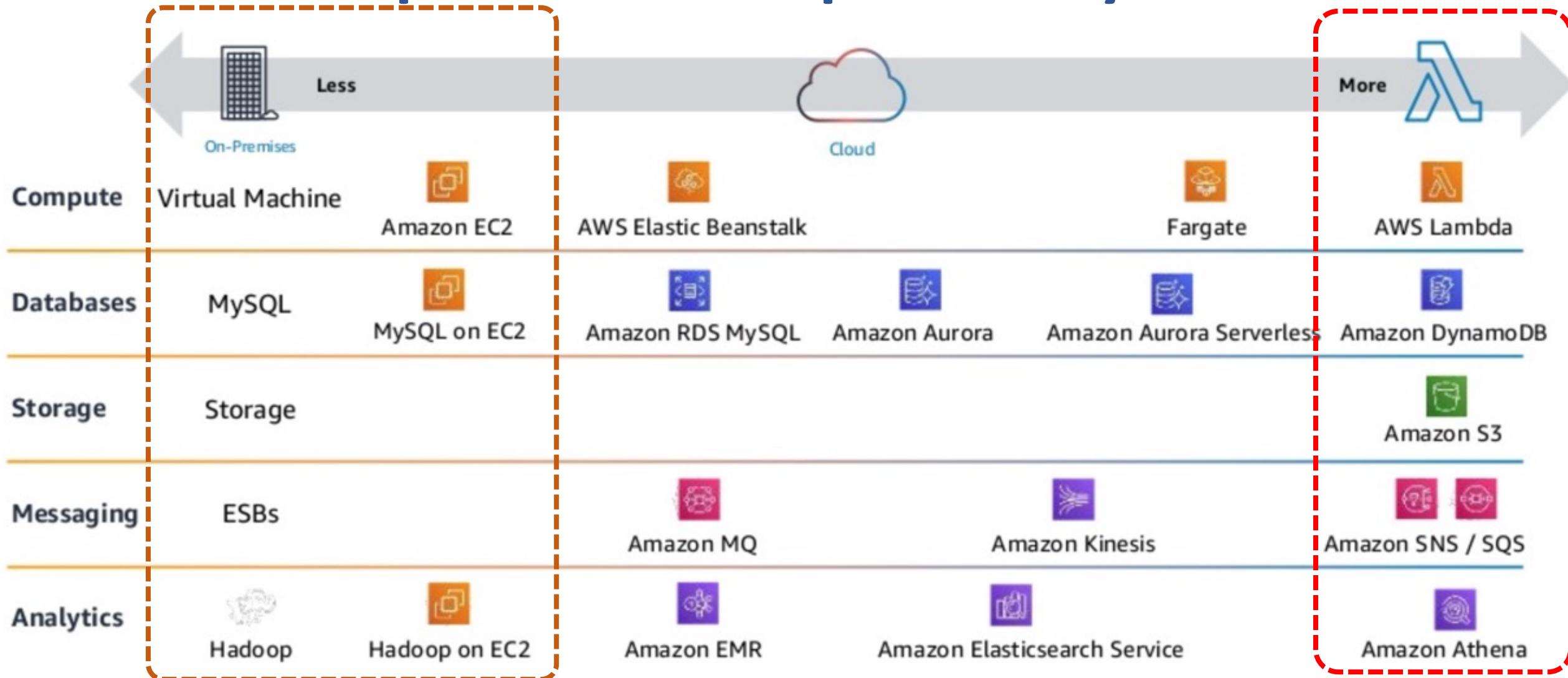
Result S3





AWS Serverless Architecture

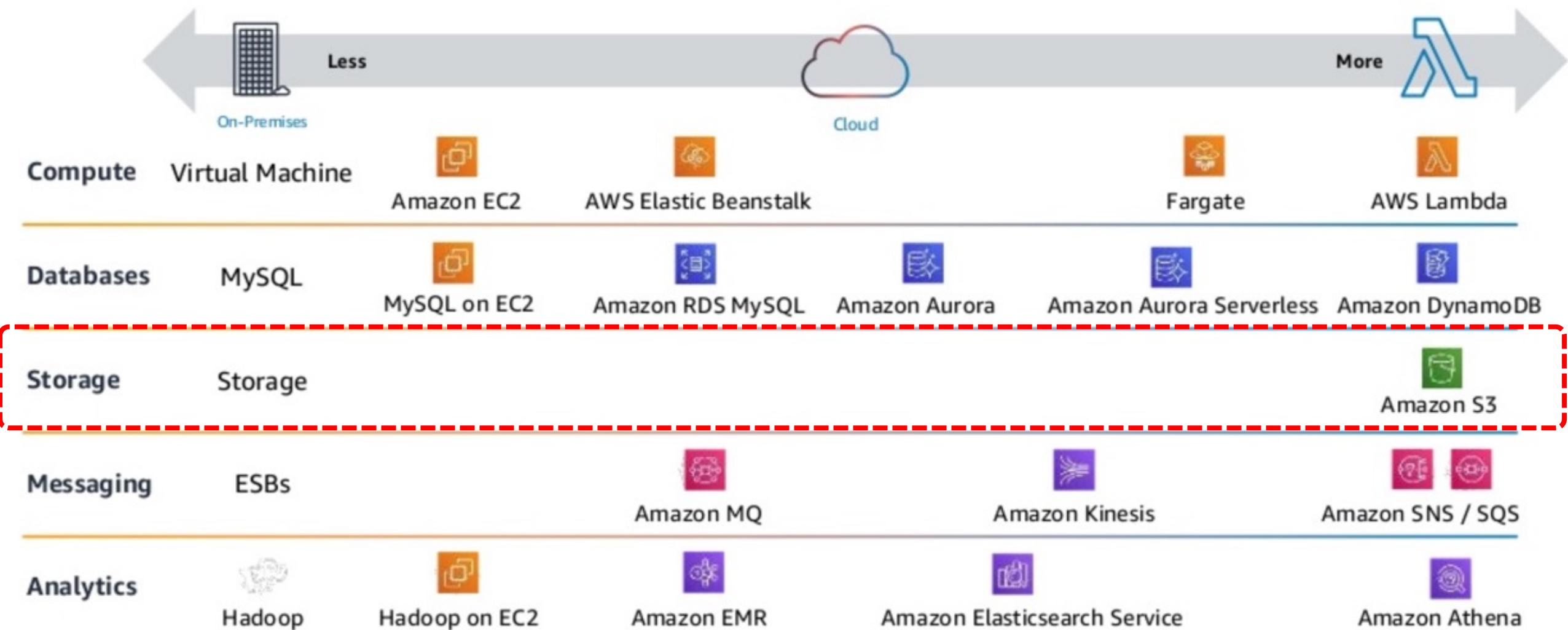
AWS Operational Responsibility Models





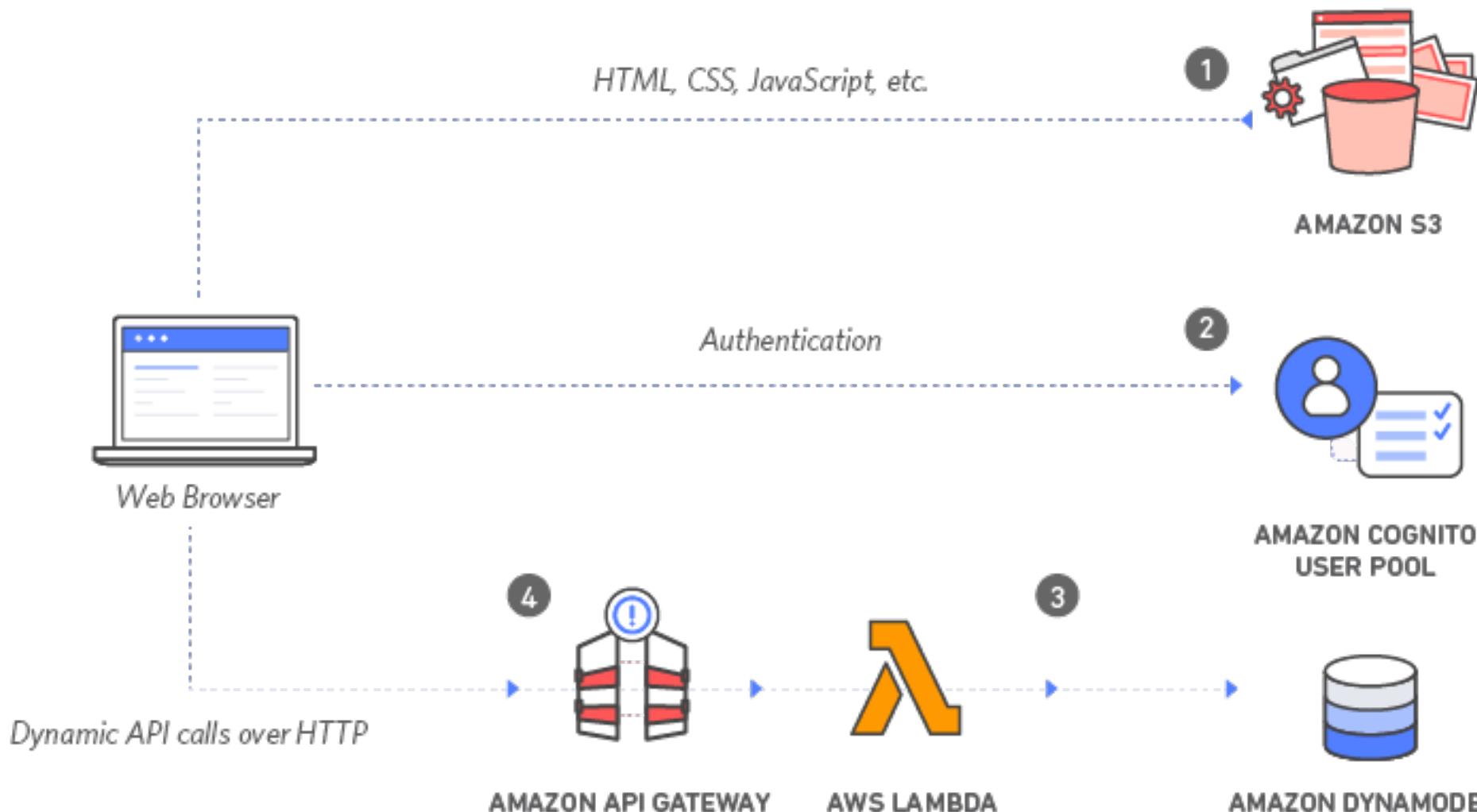
AWS Serverless Architecture

Cloud Storage: Amazon S3



aws Build a Serverless Web Application

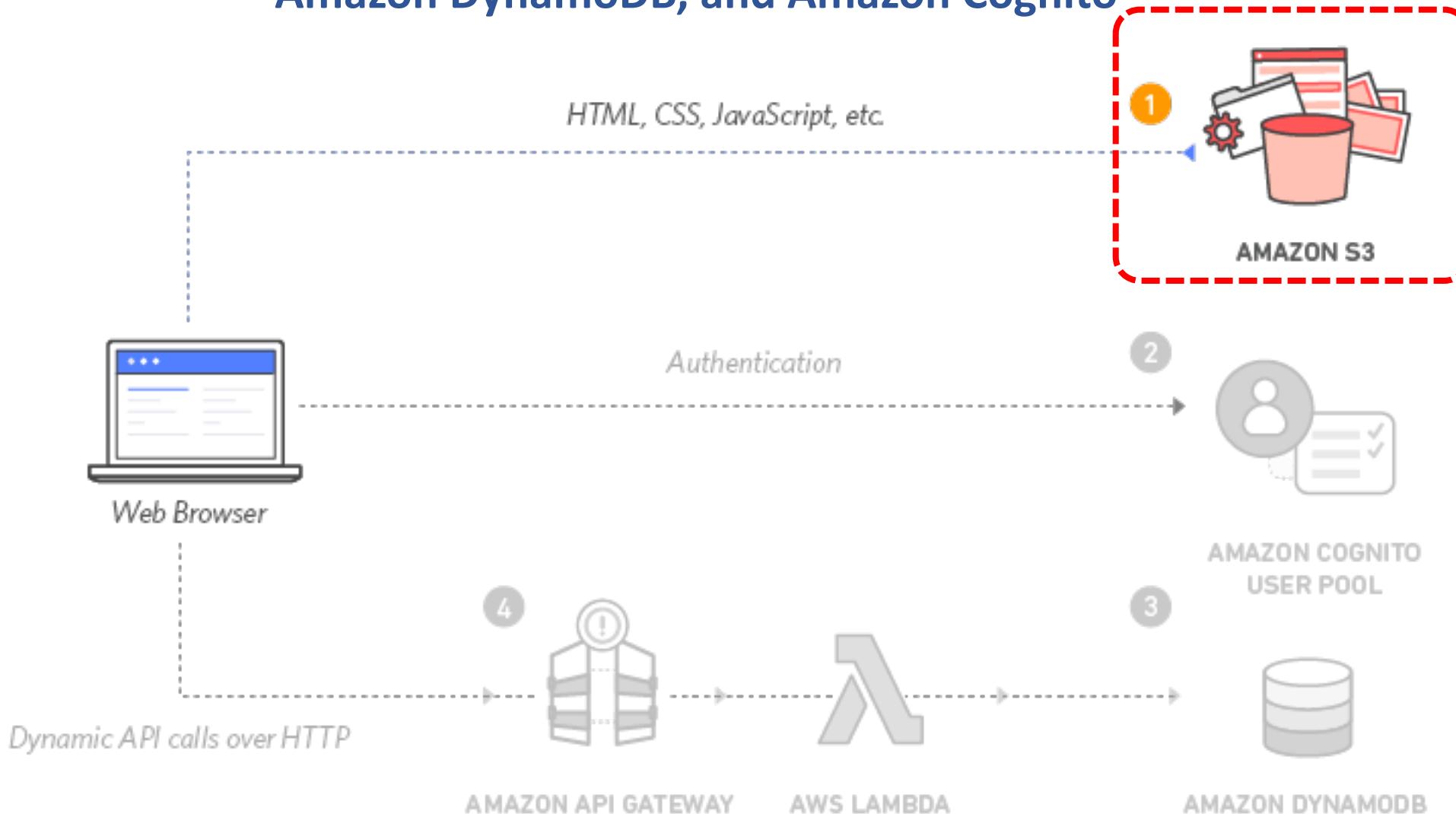
with Amazon S3, AWS Lambda, Amazon API Gateway,
Amazon DynamoDB, and Amazon Cognito



aws Build a Serverless Web Application

with Amazon S3, AWS Lambda, Amazon API Gateway,
Amazon DynamoDB, and Amazon Cognito

1



aws Build a Serverless Web Application

with Amazon S3, AWS Lambda, Amazon API Gateway,
Amazon DynamoDB, and Amazon Cognito

1

HTML, CSS, JavaScript, etc.

Static Web Hosting

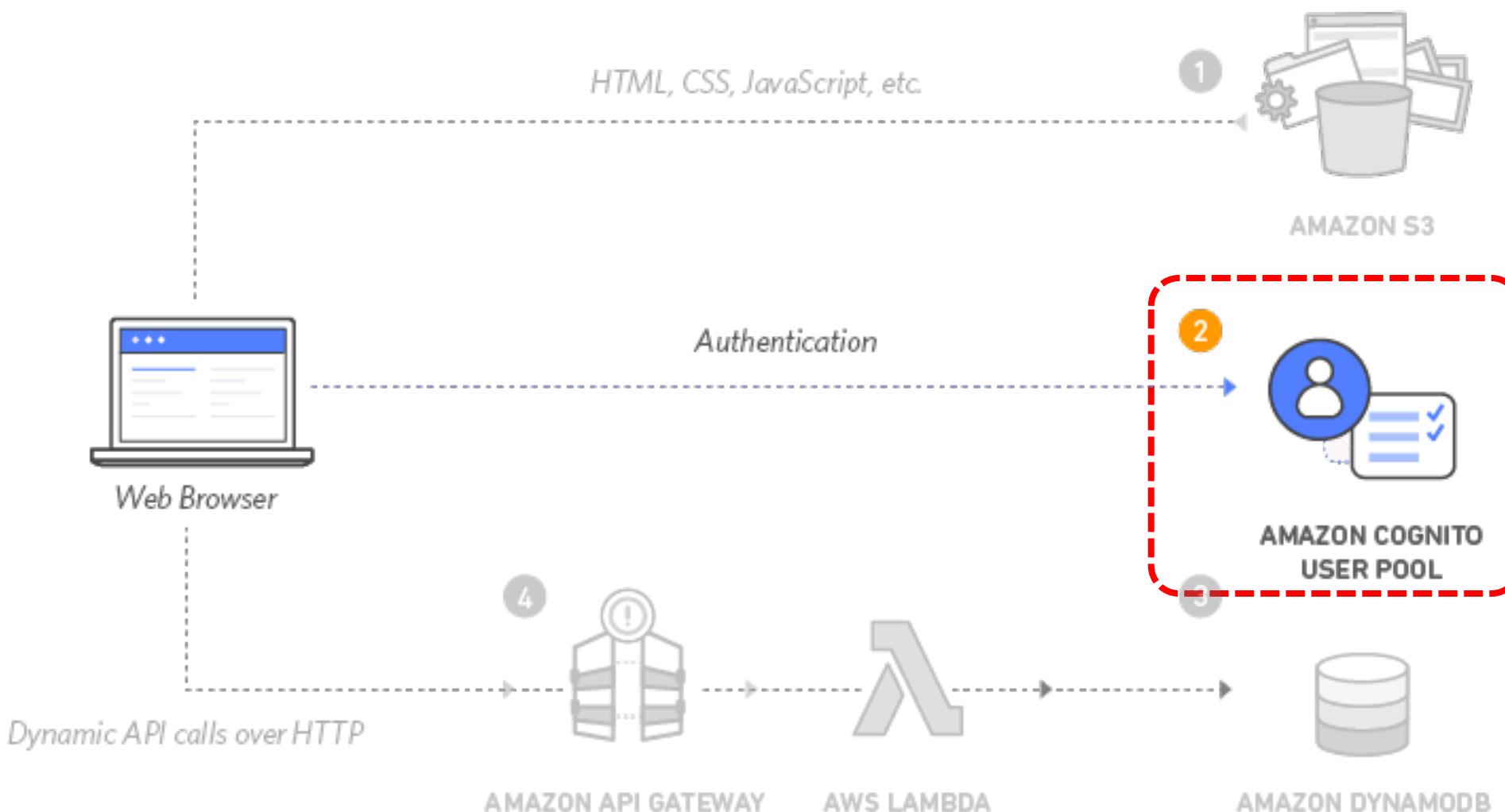
Amazon S3 hosts static web resources including HTML, CSS, JavaScript, and image files which are loaded in the user's browser.



aws Build a Serverless Web Application

with Amazon S3, AWS Lambda, Amazon API Gateway,
Amazon DynamoDB, and Amazon Cognito

2



aws Build a Serverless Web Application

with Amazon S3, AWS Lambda, Amazon API Gateway,
Amazon DynamoDB, and Amazon Cognito

2

User Management

Amazon Cognito provides user management and authentication functions to secure the backend API.

Dynamic API calls over HTTP

AMAZON API GATEWAY

AWS LAMBDA

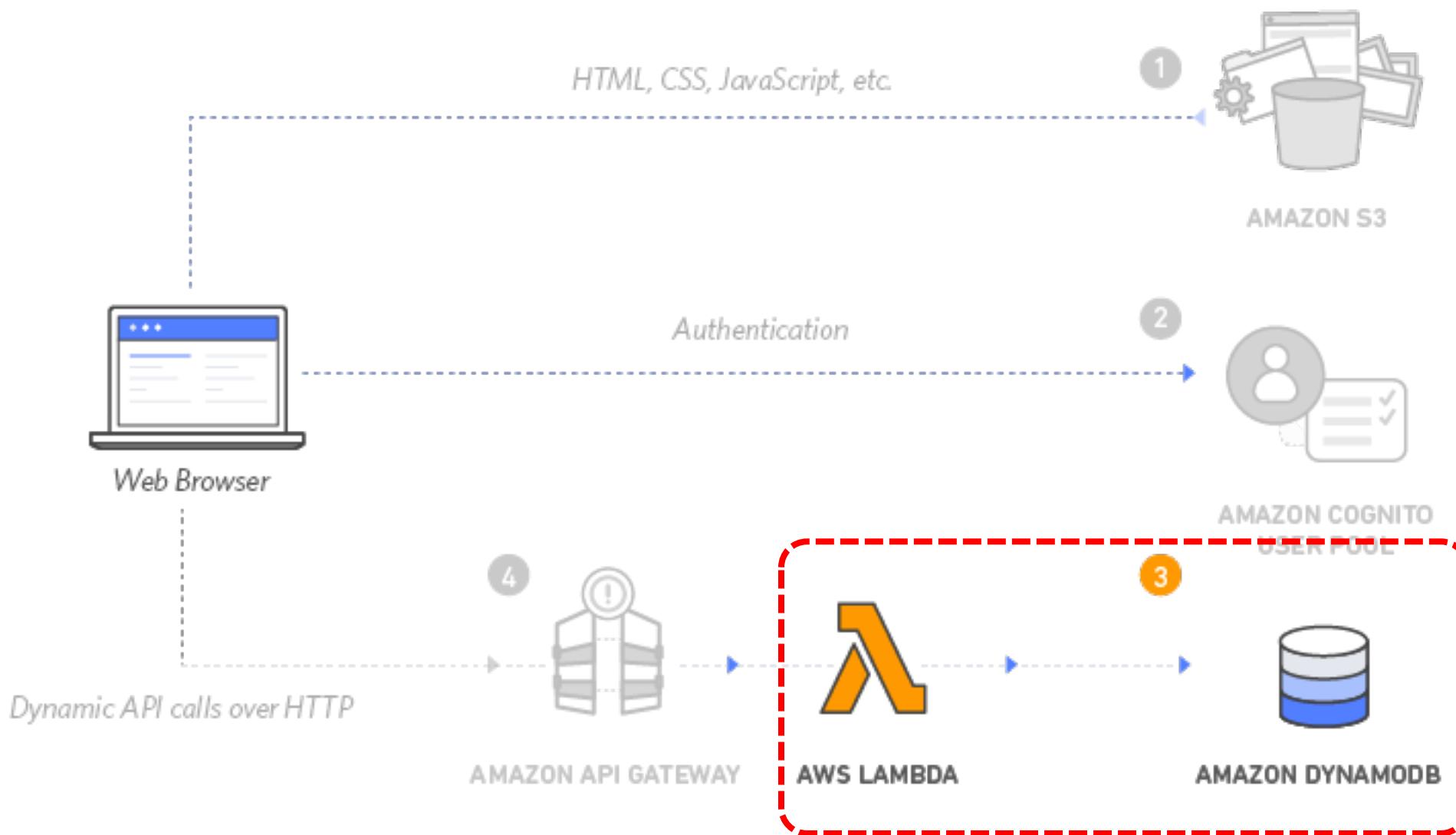
AMAZON DYNAMODB



aws Build a Serverless Web Application

with Amazon S3, AWS Lambda, Amazon API Gateway,
Amazon DynamoDB, and Amazon Cognito

3



aws Build a Serverless Web Application

with Amazon S3, AWS Lambda, Amazon API Gateway,
Amazon DynamoDB, and Amazon Cognito

3

Serverless Backend

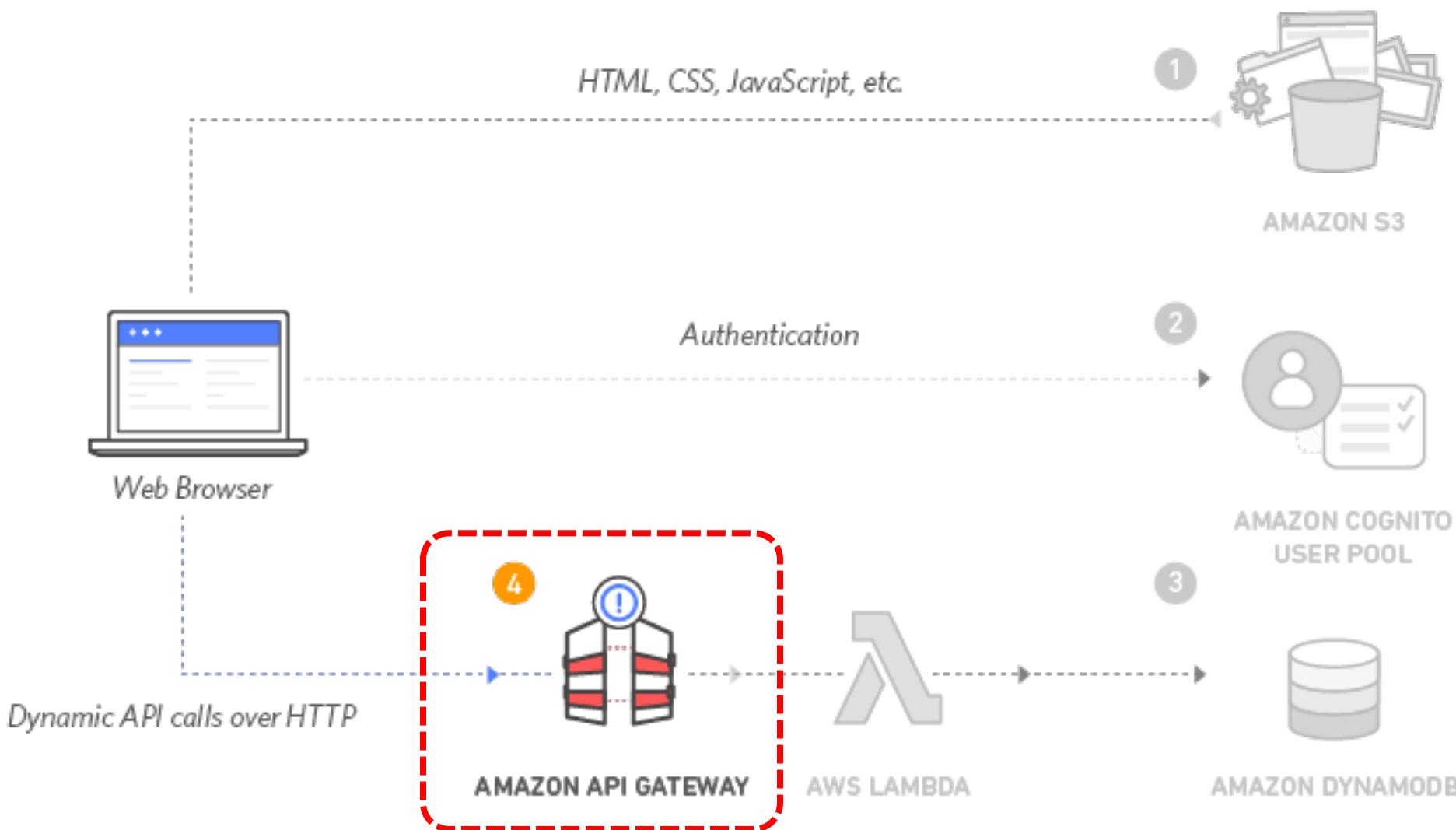
Amazon DynamoDB provides a persistence layer where data can be stored by the API's **Lambda** function.



aws Build a Serverless Web Application

with Amazon S3, AWS Lambda, Amazon API Gateway,
Amazon DynamoDB, and Amazon Cognito

4



aws Build a Serverless Web Application

with Amazon S3, AWS Lambda, Amazon API Gateway,
Amazon DynamoDB, and Amazon Cognito

4

RESTful API

JavaScript executed in the browser
sends and receives data from a
public backend API built using
Lambda and **API Gateway**.



Dynamic API calls over HTTP

AMAZON API GATEWAY

AWS LAMBDA

AMAZON DYNAMODB



Build a Serverless Web Application

with Amazon S3, AWS Lambda, Amazon API Gateway,
Amazon DynamoDB, and Amazon Cognito

5 Terminate resources

Resource Cleanup

You will terminate an **Amazon S3** bucket, an **Amazon Cognito** User Pool, an **AWS Lambda** function, an **IAM** role, a **DynamoDB** table, a **REST API**, and a **CloudWatch** Log.

It is a best practice to **delete resources** you are no longer using to avoid unwanted charges.

Amazon S3: Simple Storage Service

AWS

Contact Us Support English My Account Sign In to the Console

Products Solutions Pricing Documentation Learn Partner Network AWS Marketplace Customer Enablement Events Explore More Q

Amazon S3 Overview Features Storage classes Pricing Security Resources FAQs

« Storage

Amazon S3

Object storage built to retrieve any amount of data from anywhere

Get Started with Amazon S3 Connect with an Amazon S3 specialist

5 GB of S3 standard storage for 12 months with the [AWS Free Tier](#)

Scale storage resources to meet fluctuating needs with 99.99999999% (11 9s) of data durability.

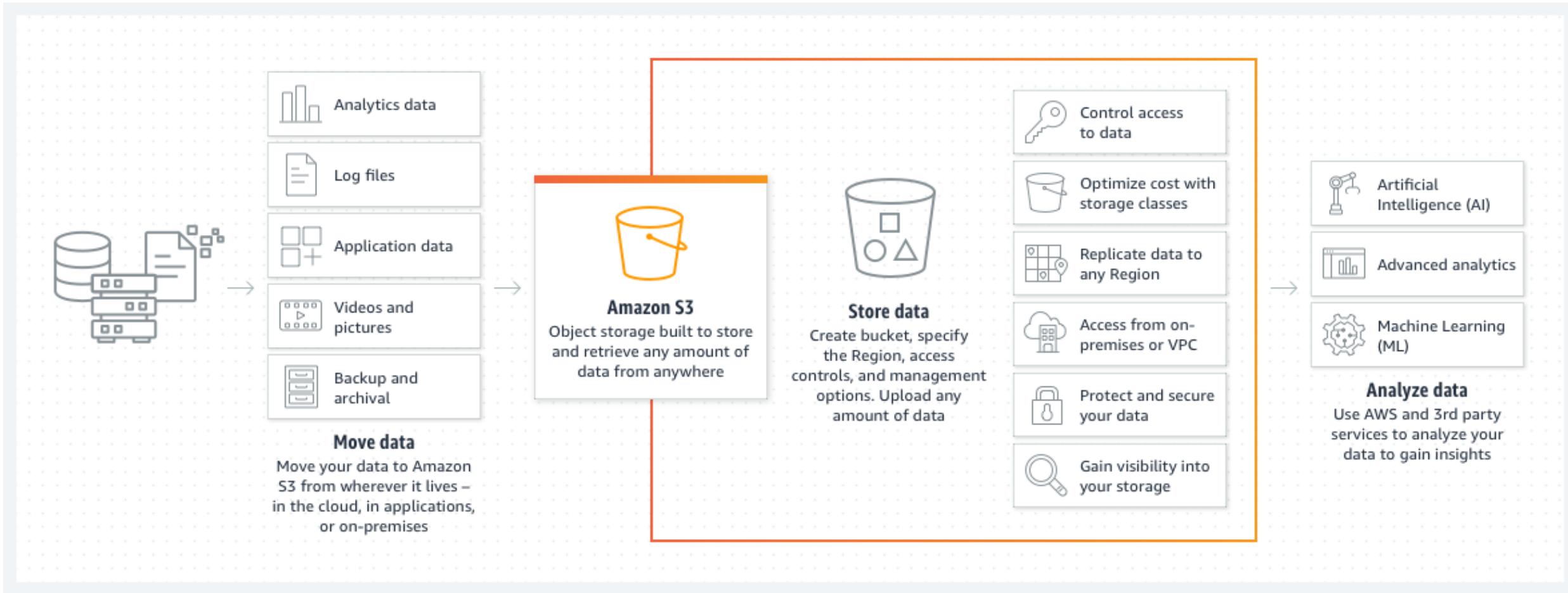
Store data across Amazon S3 storage classes to reduce costs without upfront investment or hardware refresh cycles.

Protect your data with unmatched security, compliance, and audit capabilities.

Easily manage data at any scale with robust access controls, flexible replication tools, and organization-wide visibility.

The screenshot shows the official Amazon S3 landing page. At the top, there's a navigation bar with links for Contact Us, Support, English, My Account, and Sign In to the Console. Below that is another row with Products, Solutions, Pricing, Documentation, Learn, Partner Network, AWS Marketplace, Customer Enablement, Events, Explore More, and a search bar. The main content area has a heading 'Amazon S3' with 'Overview' underlined, followed by 'Features', 'Storage classes', 'Pricing', 'Security', 'Resources', and 'FAQs'. A sidebar on the left says '« Storage'. The central part features a large image of circuit boards and text about 5 GB of standard storage for 12 months with the AWS Free Tier. Below this are four boxes: 'Get Started with Amazon S3' (orange button), 'Connect with an Amazon S3 specialist' (white button), and three descriptive boxes about scaling, data protection, and management.

Amazon S3: Simple Storage Service



AWS 雲端儲存 – Amazon S3

- 是一種物件儲存服務
- 提供可擴展性、資料可用性、安全性及效能。
- 可用於建置資料湖，雲端原生應用程式和行動應用程式，以及備份和還原關鍵資料

Amazon S3 與 AWS 服務結合應用

- **資料處理**：使用 AWS Lambda 函數，自動處理標準 S3 GET 請求的輸出，便可講S3與其Lambda 函数做串接
- **儲存管理與監控**：可利用AWS Cloudwatch 來追蹤 AWS S3 儲存資源的操作狀態
- **存取管理**：可結合 IAM，做將存取權授與其他使用，並建置存取控制清單 (ACL)，用來使個別物件可供授權使用者使用
- **安全性**：使用 VPC 端點從 Amazon Virtual Private Cloud (Amazon VPC) 和內部部署連接至 S3 資源，針對上傳資料，Amazon S3 同時支援伺服器端加密 (具有三個金鑰管理選項) 和用戶端加密



AWS Hands-on : Using S3 Service for XBRL Cloud Storage

AWS Hands-on : Using S3 Service for XBRL Cloud Storage

us-east-1.console.aws.amazon.com/console/home?region=us-east-1#

N. Virginia voclabs/user1323818=Min-Yuh_Day @ 6420-3836-5284

The new AWS Console Home will replace your existing experience soon
Starting June 2022, the new AWS Console Home will replace your current experience. Switch now to customize your Console Home and view valuable insights.
[Learn more](#) or [let us know what you think.](#)

AWS Management Console

AWS services

Recently visited services: CloudFront, CloudShell, S3, EC2

All services

Build a solution
Get started with simple wizards and automated workflows.

[Launch a virtual machine](#) [Build a web app](#)

New AWS Console Home
See valuable insights for your account and services with the new customizable Console Home experience. [Learn more](#)

Stay connected to your AWS resources on-the-go
AWS Console Mobile App now supports four additional regions. Download the AWS Console Mobile App to your iOS or Android mobile device. [Learn more](#)

Feedback Looking for language selection? Find it in the new Unified Settings [\[\]](#) © 2022, Amazon Web Services, Inc. or its affiliates. Privacy Terms Cookie preferences

Source: AWS Academy Introduction to Cloud: Semester 1, <https://awsacademy.instructure.com/courses/18745>

AWS Hands-on : Using S3 Service for XBRL Cloud Storage

The screenshot shows the AWS Academy interface for a lab session. The left sidebar has icons for Account, Dashboard, Courses (selected), Calendar, Inbox (4 notifications), History, and Help (10 notifications). The main navigation bar shows the path: AICv1Sem1E... > Modules > Module 5 - C... > Lab 5 - CloudFront. The top right has a green 'AWS' status indicator, a timer at 01:53, and buttons for Start Lab, End Lab, AWS Details, and Readme. A 'Cloud Access' modal is open, displaying session details and AWS account information.

Cloud Access

AWS CLI: [Show](#)

Cloud Labs

Remaining session time: 01:52:11(113 minutes)
Session started at: 2022-05-05T20:14:17-0700
Session to end at: 2022-05-05T22:14:17-0700

Accumulated lab time: 00:07:49 (8 minutes)

No running instance

SSH key [Show](#) [Download PEM](#) [Download PPK](#)

AWS SSO [Download URL](#)

AWSAccountId	642038365284
Region	us-east-1

[◀ Previous](#) [Next ▶](#)

AWS Hands-on : Using S3 Service for XBRL Cloud Storage

Task 1. Create an S3 bucket using the AWS CLI

4. Choose the **Services** menu, locate the **Developer Tools** services, and select **CloudShell**.

If a welcome pop-up window appears, choose **Close**.

AWS CloudShell is a browser-based shell that gives you command line access to your AWS resources in the selected AWS Region.

5. Copy and paste the following code into a text editor:

```
cd ~  
aws s3api create-bucket --bucket (bucket-name) --region us-east-1
```

```
cd ~  
aws s3api create-bucket --bucket sasb-xbrl-2330 --region us-east-1
```

6. In the code that you copied, replace **(bucket-name)** with a unique Domain Name System (DNS)-compliant name for your new bucket.

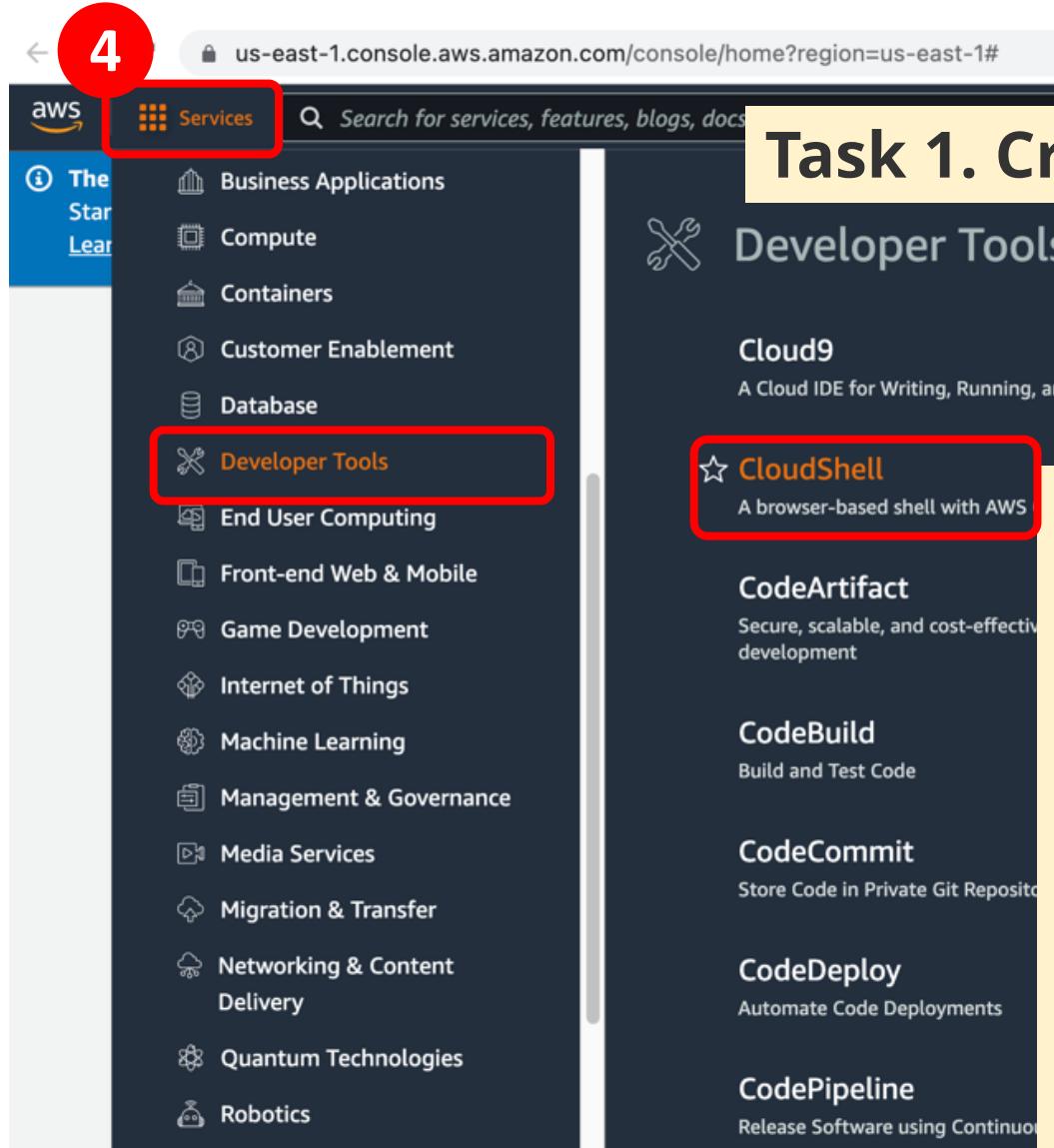
7. Run the updated code in the CloudShell terminal.

If a pop-up window appears, choose **Paste**.

The output should look similar to the following:

```
{  
  "Location": "/mylabbucket12345"  
}
```

AWS Hands-on : Using S3 Service for XBRL Cloud Storage

4  us-east-1.console.aws.amazon.com/console/home?region=us-east-1#

Services

The Star Lear

- Business Applications
- Compute
- Containers
- Customer Enablement
- Database
- Developer Tools**
- End User Computing
- Front-end Web & Mobile
- Game Development
- Internet of Things
- Machine Learning
- Management & Governance
- Media Services
- Migration & Transfer
- Networking & Content Delivery
- Quantum Technologies
- Robotics

Developer Tools

Cloud9
A Cloud IDE for Writing, Running, and Debugging Code

CloudShell
A browser-based shell with AWS

CodeArtifact
Secure, scalable, and cost-effective development

CodeBuild
Build and Test Code

CodeCommit
Store Code in Private Git Repositories

CodeDeploy
Automate Code Deployments

CodePipeline
Release Software using Continuous Integration and Deployment

Task 1. Create an S3 bucket using the AWS CLI

4. Choose the **Services** menu, locate the **Developer Tools** services, and select **CloudShell**. If a welcome pop-up window appears, choose **Close**. AWS CloudShell is a browser-based shell that gives you command line access to your AWS resources in the selected AWS Region.

AWS Hands-on : Using S3 Service for XBRL Cloud Storage

← → ⌂ us-east-1.console.aws.amazon.com/cloudshell/home?region=us-east-1#

aws Services Search for services, features, blogs, docs, and more [Option+S] N. Virginia v voclabs/user1323818=Min-Yuh_Day @ 6420-3836-5284 ▾

* Creating the environment...

AWS CloudShell Actions ▾

us-east-1

If the arrow keys aren't working correctly, try using the keyboard navigation key. Don't show this message again

Welcome to AWS CloudShell

AWS CloudShell is a browser-based shell that gives you command-line access to your AWS resources in the selected AWS region. AWS CloudShell comes pre-installed with popular tools for resource management and creation.

You have the same credentials as you used to log in to the console. [Learn more](#)

 Pre-installed tools
AWS CLI, Python, Node.js and more

 Storage included
1 GB of storage free per AWS region

 Saved files and settings
Files saved in your home directory are available in future sessions for the same AWS region

Do not show again

Close

AWS Hands-on : Using S3 Service for XBRL Cloud Storage

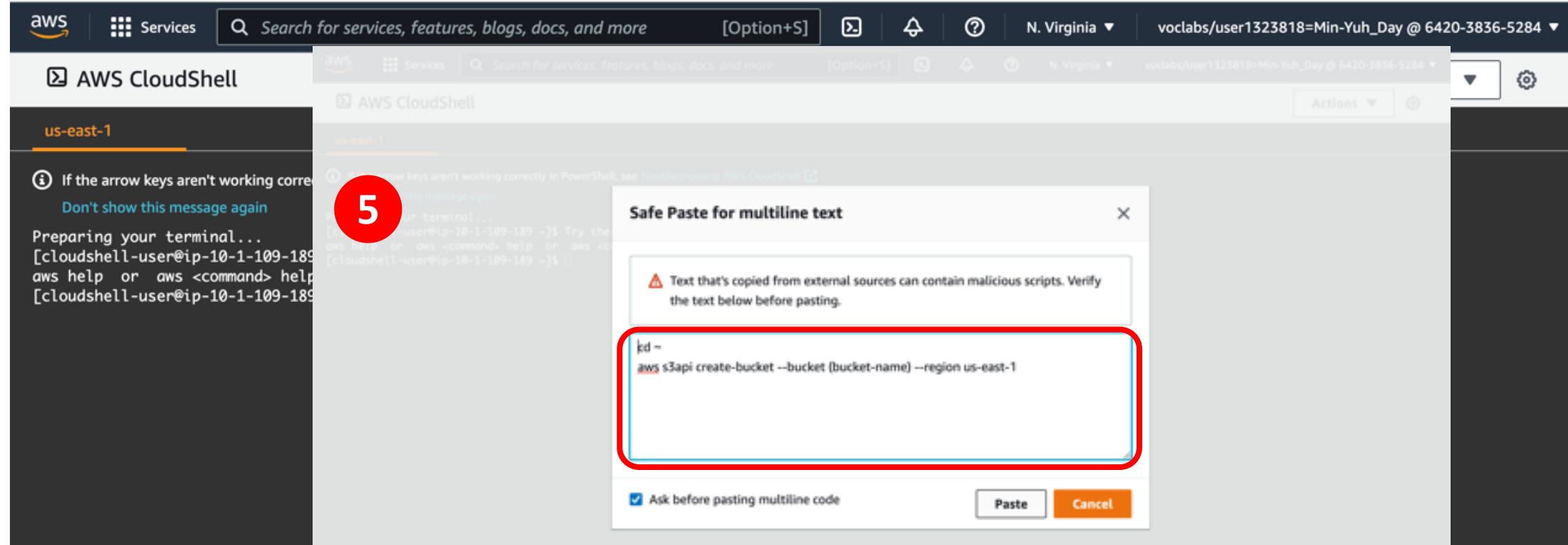
The screenshot shows the AWS CloudShell interface in the us-east-1 region. A red circle labeled '5' highlights a troubleshooting message: 'If the arrow keys aren't working correctly in CloudShell, see Troubleshooting AWS CloudShell'. Below this, the terminal is preparing: 'Preparing your terminal...' followed by command-line help text for AWS CLI.

```
[cloudshell-user@ip-10-1-109-189 ~]$ Try these commands to get started:  
aws help or aws <command> help or aws <command> --cli-auto-prompt  
[cloudshell-user@ip-10-1-109-189 ~]$
```

5. Copy and paste the following code into a text editor:

```
cd ~  
aws s3api create-bucket --bucket (bucket-name) --region us-east-1
```

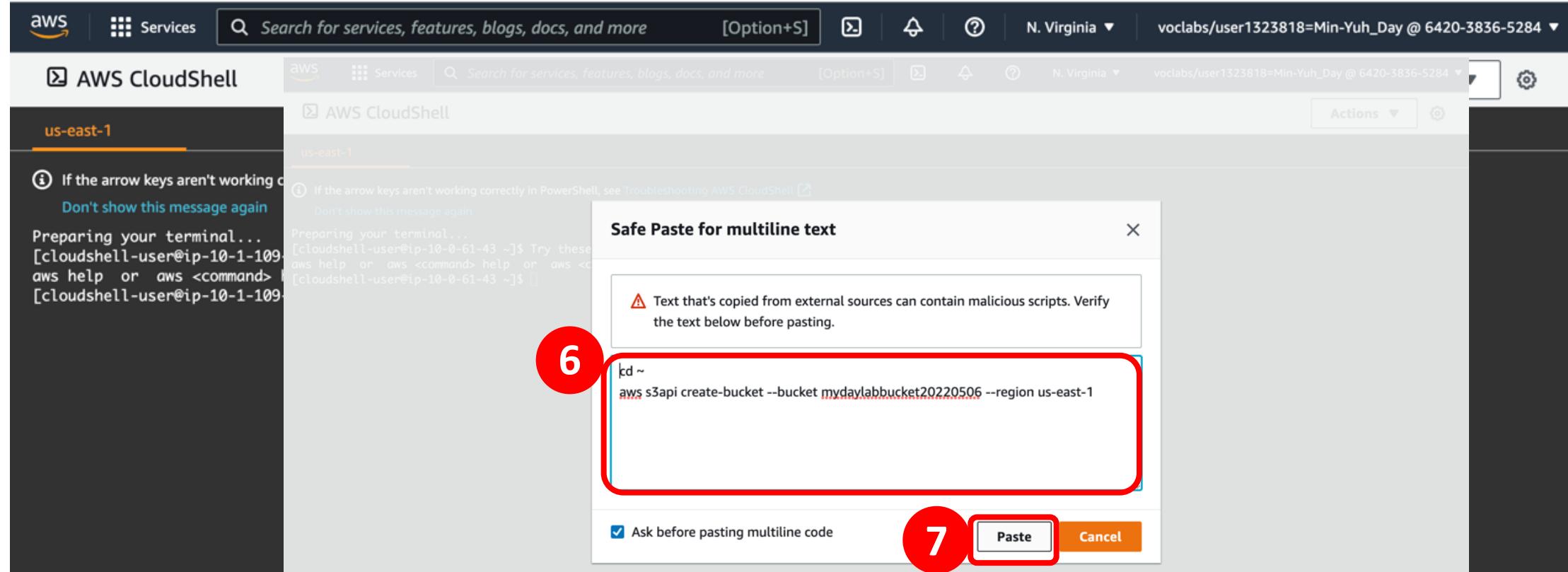
AWS Hands-on : Using S3 Service for XBRL Cloud Storage



5. Copy and paste the following code into a text editor:

```
cd ~  
aws s3api create-bucket --bucket (bucket-name) --region us-east-1
```

AWS Hands-on : Using S3 Service for XBRL Cloud Storage



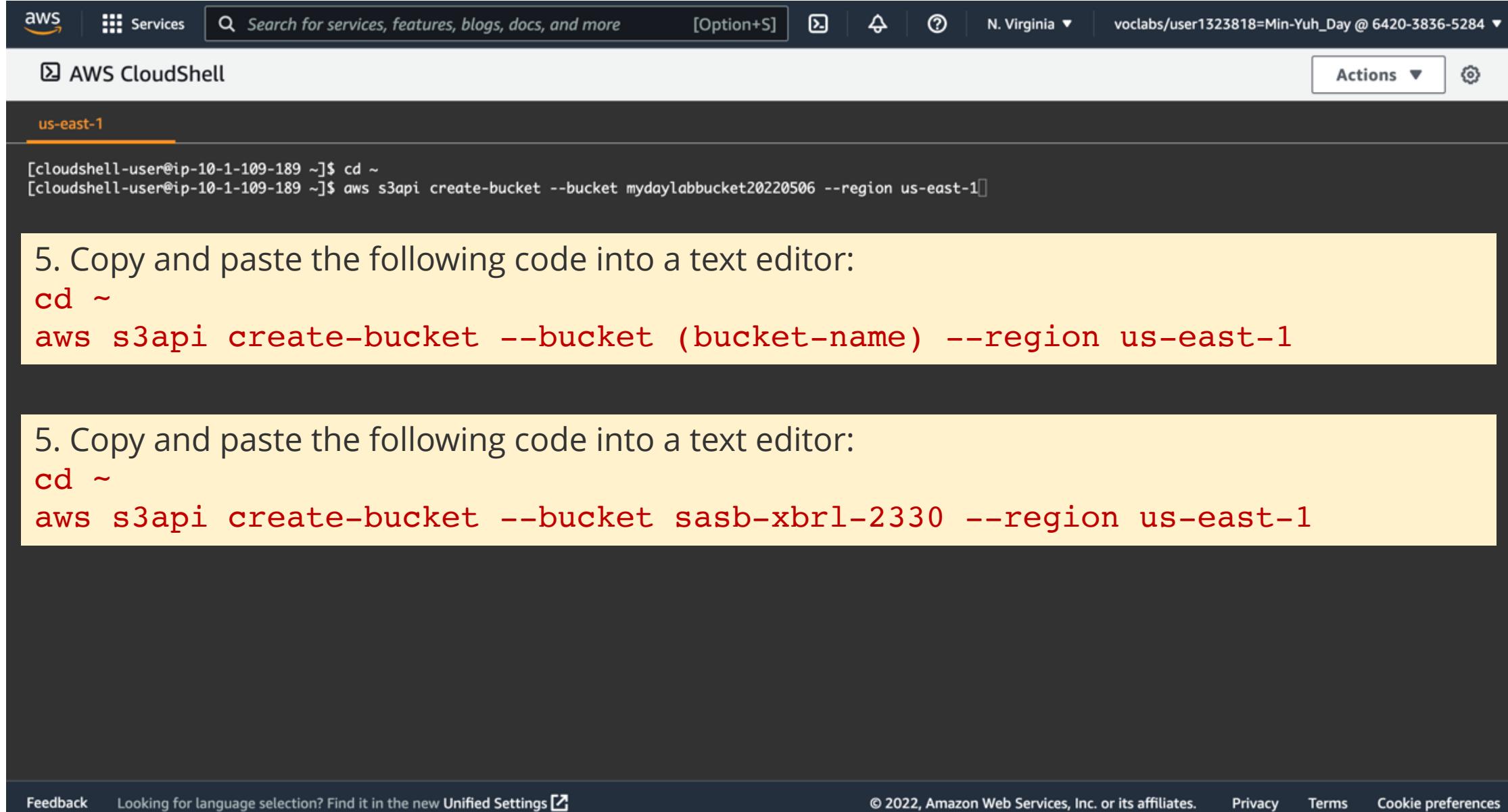
5. Copy and paste the following code into a text editor:

```
cd ~\naws s3api create-bucket --bucket (bucket-name) --region us-east-1
```

5. Copy and paste the following code into a text editor:

```
cd ~\naws s3api create-bucket --bucket sasb-xbrl-2330 --region us-east-1
```

AWS Hands-on : Using S3 Service for XBRL Cloud Storage



The screenshot shows the AWS CloudShell interface in the us-east-1 region. The search bar contains "Search for services, features, blogs, docs, and more". The top navigation bar includes "Services", "[Option+S]", and account information "N. Virginia" and "voclabs/user1323818=Min-Yuh_Day @ 6420-3836-5284". The main area displays a terminal session:

```
[cloudshell-user@ip-10-1-109-189 ~]$ cd ~  
[cloudshell-user@ip-10-1-109-189 ~]$ aws s3api create-bucket --bucket mydaylabbucket20220506 --region us-east-1
```

Below the terminal, two code snippets are displayed in yellow boxes:

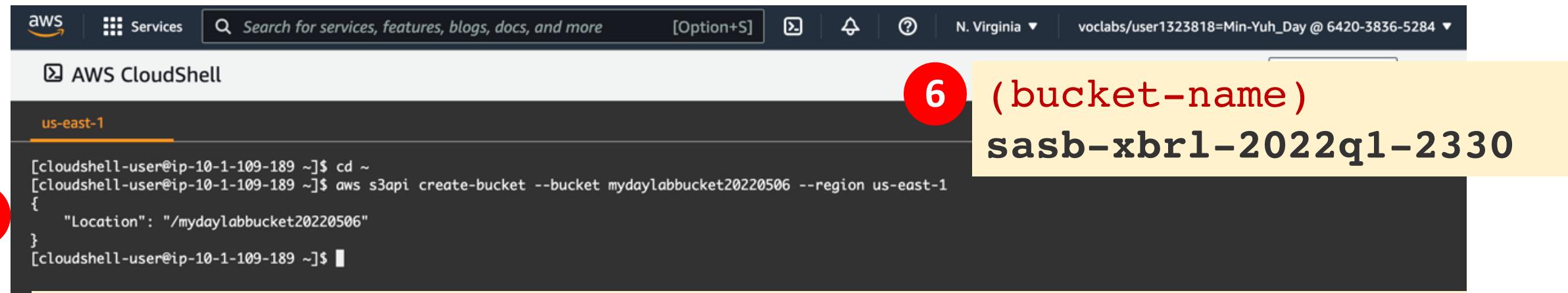
5. Copy and paste the following code into a text editor:

```
cd ~  
aws s3api create-bucket --bucket (bucket-name) --region us-east-1
```

5. Copy and paste the following code into a text editor:

```
cd ~  
aws s3api create-bucket --bucket sasb-xbrl-2330 --region us-east-1
```

AWS Hands-on : Using S3 Service for XBRL Cloud Storage



The screenshot shows the AWS CloudShell interface. The terminal window is titled "AWS CloudShell" and is set to the "us-east-1" region. The user has run the command "aws s3api create-bucket --bucket mydaylabbucket20220506 --region us-east-1". The output of this command is displayed, showing the new bucket's location: "/mydaylabbucket20220506". A red circle with the number "6" is overlaid on the terminal window, highlighting the bucket name. A red circle with the number "7" is overlaid on the left side of the terminal window.

6 (bucket-name)
sasb-xbrl-2022q1-2330

7

5. Copy and paste the following code into a text editor:

```
cd ~  
aws s3api create-bucket --bucket sasb-xbrl-2330 --region us-east-1
```

6. In the code that you copied, replace **(bucket-name)** with a unique Domain Name System (DNS)-compliant name for your new bucket.

7. Run the updated code in the CloudShell terminal.
If a pop-up window appears, choose **Paste**.
The output should look similar to the following:

```
{  
  "Location": "/mylabbucket12345"  
}
```

AWS Hands-on : Using S3 Service for XBRL Cloud Storage

Task 2. Add a bucket policy

In this task, you will add a bucket policy through the AWS CLI to make the content publicly available.

8.In the console, choose the **Services** menu, locate the **Storage** section, and choose **S3**.

9.Choose the name of the bucket that you just created.

10.Choose the **Permissions** tab.

11.In the **Bucket policy** section, choose **Edit**.

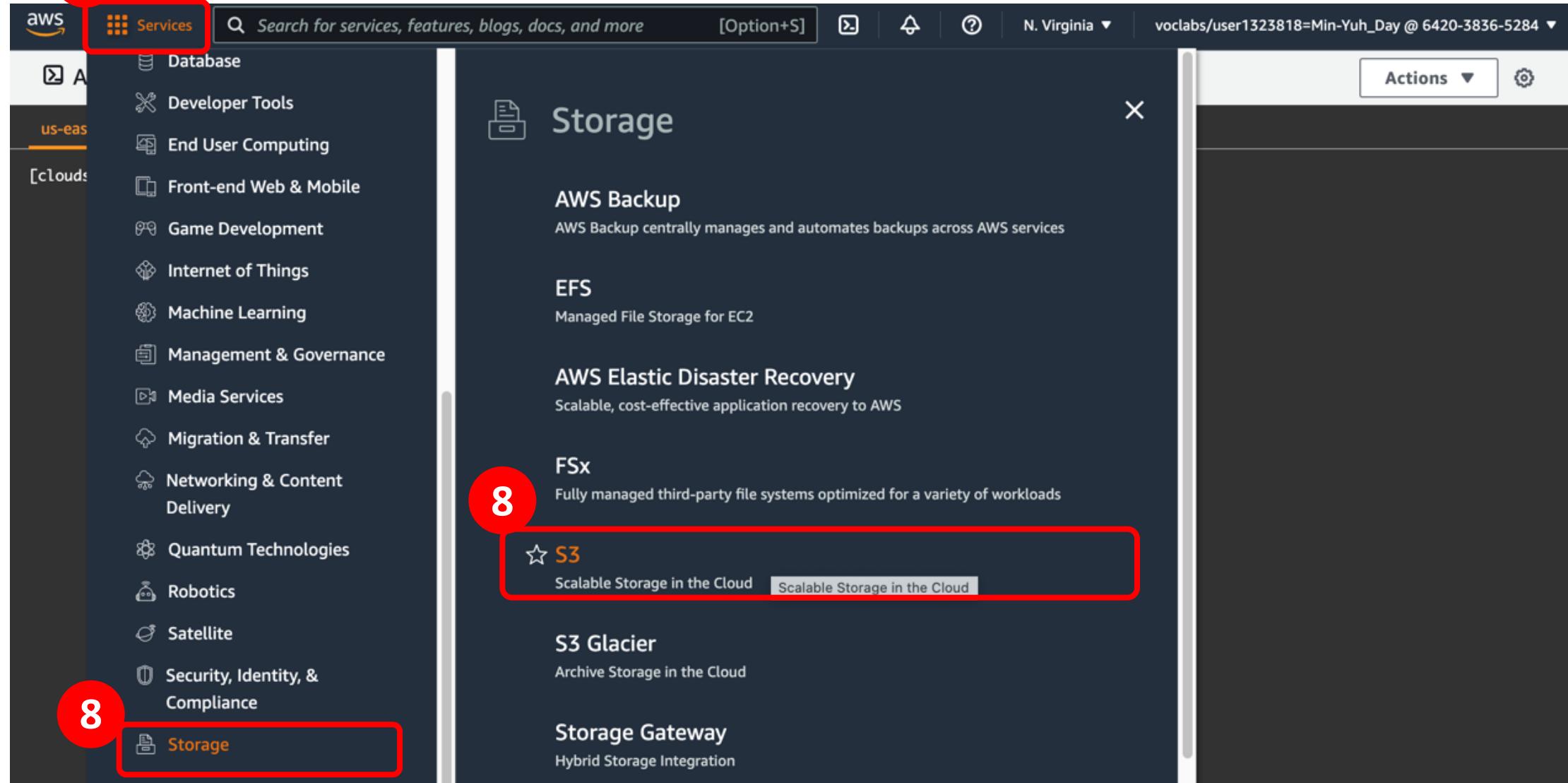
12.To grant public read access for your website, copy and paste the following bucket policy into the policy editor.

```
{
  "Version": "2012-10-17",
  "Statement": [
    {
      "Sid": "PublicReadForGetBucketObjects",
      "Effect": "Allow",
      "Principal": "*",
      "Action": [
        "s3:GetObject"
      ],
      "Resource": [
        "arn:aws:s3:::example-bucket/*"
      ]
    }
  ]
}
```

13.In the policy, replace **example-bucket** with the name of your bucket.

14.At the bottom of the page, choose **Save changes**.

AWS Hands-on : Using S3 Service for XBRL Cloud Storage



8.In the console, choose the **Services** menu, locate the **Storage** section, and choose **S3**.

<https://s3.amazonaws.com>

AWS Hands-on : Using S3 Service for XBRL Cloud Storage

The screenshot shows the AWS S3 service console. At the top, there is a green success message: "Successfully created bucket 'sasb-xbrl-2022q1-2330'. To upload files and folders, or to configure additional bucket settings choose [View details](#)". Below this, there is a blue banner with the text "Replicate your data to any storage class to save on storage costs." and a "Get started" button. On the left sidebar, under the "Buckets" section, the newly created bucket "sasb-xbrl-2022q1-2330" is listed. A red circle with the number "9" is overlaid on the first row of the table, highlighting the newly created bucket. The table columns are "Name", "AWS Region", "Access", and "Creation date". The bucket details are: Name - sasb-xbrl-2022q1-2330, AWS Region - US East (N. Virginia) us-east-1, Access - Bucket and objects not public, Creation date - June 24, 2022, 13:25:57 (UTC+08:00). A yellow callout box at the bottom says "9. Choose the name of the bucket that you just created."

Name	AWS Region	Access	Creation date
sasb-xbrl-2022q1-2330	US East (N. Virginia) us-east-1	Bucket and objects not public	June 24, 2022, 13:25:57 (UTC+08:00)

AWS Hands-on : Using S3 Service for XBRL Cloud Storage

The screenshot shows the AWS S3 console interface. On the left, there's a sidebar with various navigation links like 'Buckets', 'Access Points', and 'Storage Lens'. The main area shows a bucket named 'sasb-xbrl-2330'. The 'Permissions' tab is highlighted with a red box and a large red number '10' overlaid. A yellow callout box contains the text '10. Choose the Permissions tab'. Below the tabs, there's a section for 'Objects (0)' with buttons for 'Create folder' and 'Upload'. A search bar says 'Find objects by prefix' and a table header for 'Name', 'Type', 'Last modified', 'Size', and 'Storage class'. At the bottom, it says 'No objects' and 'You don't have any objects in this bucket.' with an 'Upload' button.

AWS Hands-on : Using S3 Service for XBRL Cloud Storage

The screenshot shows the AWS S3 console interface. In the top navigation bar, the user is in the 'Buckets' section of the 'Amazon S3' service. The breadcrumb path indicates they are viewing the 'sasb-xbrl-2330' bucket under 'Buckets'. The main content area displays the bucket details for 'sasb-xbrl-2330'. A red box highlights the 'Permissions' tab in the navigation bar, which is currently active. A large yellow callout box with the number '10' and the text '10. Choose the Permissions tab' is overlaid on the page. Below the navigation bar, there are tabs for 'Objects', 'Properties', 'Metrics', 'Management', and 'Access Points'. The 'Permissions' tab is highlighted with a red border. The main content area includes sections for 'Access' and 'Block public access (bucket settings)'. At the bottom, there are links for 'Edit' and 'Block all public access'.

Amazon S3 > Buckets > sasb-xbrl-2330

sasb-xbrl-2330 Info

Objects Properties **Permissions** Metrics Management Access Points

10 10. Choose the **Permissions** tab

Permissions overview

Access
Objects can be public

Block public access (bucket settings)

Public access is granted to buckets and objects through access control lists (ACLs), bucket policies, access point policies, or all. In order to ensure that public access to all your S3 buckets and objects is blocked, turn on Block all public access. These settings apply only to this bucket and its access points. AWS recommends that you turn on Block all public access, but before applying any of these settings, ensure that your applications will work correctly without public access. If you require some level of public access to your buckets or objects within, you can customize the individual settings below to suit your specific storage use cases. [Learn more](#)

Edit

Block all public access

Feedback Looking for language selection? Find it in the new Unified Settings [Edit](#)

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AWS Hands-on : Using S3 Service for XBRL Cloud Storage

The screenshot shows the AWS S3 Permissions overview page. On the left, there's a sidebar with options like Buckets, Access Points, Object Lambda Access Points, Multi-Region Access Points, Batch Operations, Access analyzer for S3, and Block Public Access settings for this account. Below that is a Storage Lens section with Dashboards and AWS Organizations settings. At the bottom, there's a Feature spotlight and a link to AWS Marketplace for S3.

Permissions overview

Access
Objects can be public

Block public access (bucket settings)

Public access is granted to buckets and objects through access control lists (ACLs), bucket policies, access point policies, or all. In order to ensure that public access to all your S3 buckets and objects is blocked, turn on Block all public access. These settings apply only to this bucket and its access points. AWS recommends that you turn on Block all public access, but before applying any of these settings, ensure that your applications will work correctly without public access. If you require some level of public access to your buckets or objects within, you can customize the individual settings below to suit your specific storage use cases. [Learn more](#)

Edit

Block all public access
Off

► Individual Block Public Access settings for this bucket

Bucket policy

The bucket policy, written in JSON, provides access to the objects stored in the bucket. Bucket policies don't apply to objects owned by other accounts. [Learn more](#)

11 **Edit** **Delete**

11. In the Bucket policy section, choose Edit.

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AWS Hands-on : Using S3 Service for XBRL Cloud Storage

The screenshot shows the AWS S3 service interface. On the left, there's a sidebar with various options like 'Buckets', 'Access Points', 'Object Lambda Access Points', etc. A red circle with the number '11' is placed over the 'Edit' button in the 'Bucket policy' section. The main area displays the following text:

Bucket policy
The bucket policy, written in JSON, provides access to the objects stored in the bucket. Bucket policies don't apply to objects owned by other accounts.
[Learn more](#)

Edit **Delete**

No policy to display.

11. In the **Bucket policy section, choose **Edit**.**

AWS Hands-on : Using S3 Service for XBRL Cloud Storage

The screenshot shows the AWS S3 console with the path: Amazon S3 > Buckets > sasb-xbrl-2330 > Edit bucket policy. On the left, there's a sidebar with 'Buckets' and other navigation options. The main area has a heading 'Edit bucket policy' with a red box around it. Below it is a 'Bucket policy' section with a JSON editor. A red box highlights the JSON code area. The code is as follows:

```
{  
  "Version": "2012-10-17",  
  "Statement": [  
    {  
      "Sid": "Statement1",  
      "Principal": "*",  
      "Effect": "Allow",  
      "Action": "s3:GetObject",  
      "Resource": "arn:aws:s3:::example-bucket/*"  
    }  
  ]}
```

12. To grant public read access for your website, copy and paste the following bucket policy into the policy editor.

AWS Hands-on : Using S3 Service for XBRL Cloud Storage

S | Services | Search for services, features, blogs, docs, and more [Option+S] | Global ▾ | vclabs/user1323818=Min-Yuh_Day @ 6420-3836-5284 ▾ | i

Amazon S3 X

Buckets

- Access Points
- Object Lambda Access Points
- Multi-Region Access Points
- Batch Operations
- Access analyzer for S3

Block Public Access settings for this account

▼ Storage Lens

- Dashboards
- AWS Organizations settings

Feature spotlight 3

▶ AWS Marketplace for S3

Bucket policy

The bucket policy, written in JSON, provides access to the objects stored in the bucket. Bucket policies don't apply to objects owned by other accounts.

[Learn more](#)

[Policy examples](#) | [Policy generator](#)

Bucket ARN

arn:aws:s3:::sasb-xbrl-2022q1-2330

Policy

```
1 {  
2   "Version": "2012-10-17",  
3   "Statement": [  
4     {  
5       "Sid":  
6         "PublicReadForGetBucketObject",  
7         "Effect": "Allow",  
8         "Principal": "*",  
9         "Action": [  
10           "s3:GetObject"  
11         ],  
12         "Resource": [  
13           "arn:aws:s3:::example-bucket/*"  
14         ]  
15     }  
16 }
```

13. In the policy, replace **example-bucket** with the name of your bucket.

13

Edit statement
PublicReadForGetBucketObject Remove

1. Add actions

Choose a service

Filter services

Included

S3

Available

AMP

API Gateway

API Gateway V2

Access Analyzer

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Source: AWS Academy Introduction to Cloud: Semester 1, <https://awsacademy.instructure.com/courses/18745>

AWS Hands-on : Using S3 Service for XBRL Cloud Storage

The bucket policy, written in JSON, provides access to the objects stored in the bucket. Bucket policies don't apply to objects owned by other accounts.
[Learn more](#)

Policy examples **Policy generator**

Bucket ARN
arn:aws:s3:::sasb-xbrl-2022q1-2330

Policy

```

1 {  

2   "Version": "2012-10-17",  

3   "Statement": [  

4     {  

5       "Sid": "PublicReadForGetBucketObjects",  

6       "Effect": "Allow",  

7       "Principal": "*",  

8       "Action": [  

9         "s3:GetObject"  

10      ],  

11      "Resource": [  

12        "arn:aws:s3:::sasb-xbrl-2022q1-2330/*"  

13      ]  

14    }  

15  }  

16 }

```

13. In the policy, replace **example-bucket** with the name of your bucket.

Edit statement
PublicReadForGetBucket

```

1 {  

2   "Version": "2012-10-17",  

3   "Statement": [  

4     {  

5       "Sid": "PublicReadForGetBucketObjects",  

6       "Effect": "Allow",  

7       "Principal": "*",  

8       "Action": [  

9         "s3:GetObject"  

10      ],  

11      "Resource": [  

12        "arn:aws:s3:::sasb-xbrl-2022q1-2330/*"  

13      ]  

14    }  

15  }  

16 }

```

Account

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AWS Hands-on : Using S3 Service for XBRL Cloud Storage

The screenshot shows the AWS IAM Policy Editor interface. On the left, there's a sidebar with 'Amazon S3' selected. The main area displays a JSON policy document with line numbers 13 through 16. A modal window is open, showing an 'Unexpected error' message: 'Network Failure - verify permissions to access-analyzer:ValidatePolicy in IAM to use policy validation.' At the bottom right of the modal, there are 'Save changes' and 'Cancel' buttons. A large red circle with the number '14' is overlaid on the 'Save changes' button.

13]
14 }]
15]}
16 }

Buckets

- Access Points
- Object Lambda Access Points
- Multi-Region Access Points
- Batch Operations
- Access analyzer for S3

Block Public Access settings for this account

Storage Lens

- Dashboards
- AWS Organizations settings

Feature spotlight 3

AWS Marketplace for S3

Search for services, features, blogs, docs, and more [Option+S] Global ▾ voclabs/user1323818=Min-Yuh_Day @ 6420-3836-5284 ▾

AppFlow
AppIntegrations
AppStream 2.0
AppSync
Application Auto Scaling
Application Cost Profiler

2. Add a resource Add

3. Add a condition (optional) Add

JSON Ln 12, Col 48

Security: 0 Errors: 0 Warnings: 0 Suggestions: 0 Preview external access

Unexpected error

- Network Failure - verify permissions to access-analyzer:ValidatePolicy in IAM to use policy validation.

14. At the bottom of the page, choose **Save changes**.

14 Save changes Cancel

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Source: AWS Academy Introduction to Cloud: Semester 1, <https://awsacademy.instructure.com/courses/18745>

AWS Hands-on : Using S3 Service for XBRL Cloud Storage

The screenshot shows the AWS S3 service interface. At the top, there's a navigation bar with the AWS logo, 'Services' (dropdown), a search bar ('Search for services, features, blogs, docs, and more'), keyboard shortcut '[Option+S]', and account information ('voclabs/user1323818=Min-Yuh_Day @ 6420-3836-5284'). A green success message box is displayed: 'Successfully edited bucket policy.' Below the navigation bar, the left sidebar shows 'Amazon S3' with a list of options: Buckets, Access Points, Object Lambda Access Points, Multi-Region Access Points, Batch Operations, Access analyzer for S3, Block Public Access settings for this account, Storage Lens (Dashboards, AWS Organizations settings), Feature spotlight (with a '3' badge), and AWS Marketplace for S3. The main content area shows the 'sasb-xbrl-2330' bucket details. The bucket is 'Publicly accessible'. The 'Permissions' tab is selected, showing a 'Permissions overview' section with 'Access' status 'Public'. Below this, a 'Block public access (bucket settings)' section explains how to block public access and provides a 'Learn more' link. At the bottom, there are links for Feedback, Unified Settings, Copyright (2022, Amazon Web Services, Inc. or its affiliates), Privacy, Terms, and Cookie preferences.

Feedback Looking for language selection? Find it in the new Unified Settings [Learn more](#)

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Source: AWS Academy Introduction to Cloud: Semester 1, <https://awsacademy.instructure.com/courses/18745>

AWS Hands-on : Using S3 Service for XBRL Cloud Storage

The screenshot shows the AWS S3 service console. In the top navigation bar, there are links for AWS, Services, a search bar with placeholder text "Search for services, features, blogs, docs, and more", a keyboard shortcut "[Option+S]", and account information "voclabs/user1323818=Min-Yuh_Day @ 6420-3836-5284". Below the navigation bar, the left sidebar lists various options: Buckets, Access Points, Object Lambda Access Points, Multi-Region Access Points, Batch Operations, Access analyzer for S3, Block Public Access settings for this account, Storage Lens (with sub-options Dashboards and AWS Organizations settings), Feature spotlight (with a blue circular badge showing '3'), and AWS Marketplace for S3.

The main content area shows the path "Amazon S3 > Buckets > sasb-xbrl-2330". The bucket name "sasb-xbrl-2330" is displayed with a "Info" link. Below the bucket name, it says "Publicly accessible". The top navigation bar for this page includes tabs for Objects (which is highlighted with a red box and the number 17), Properties, Permissions, Metrics, Management, and Access Points.

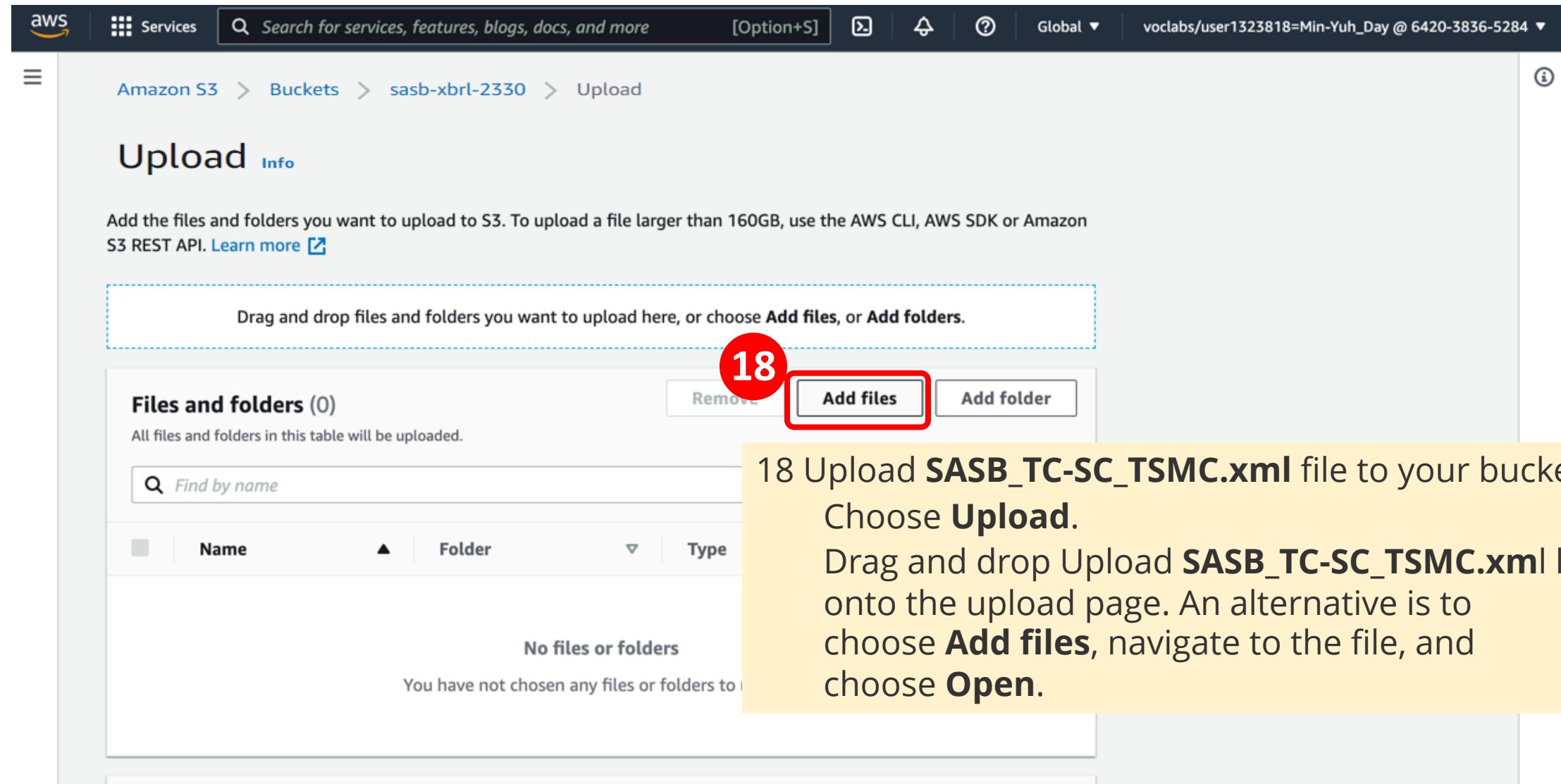
A large yellow callout box contains the instruction: "17. In the console, choose the **Objects** tab." A red circle with the number 17 points to the "Objects" tab.

Below the callout, the "Objects" section is shown with the heading "Objects (0)". It contains a description of what objects are and how to use Amazon S3 inventory to get a list of all objects in your bucket. It also includes buttons for Create folder, Upload (which is highlighted with a red box and the number 18), Copy URL, Download, Open, Delete, and Actions. A search bar "Find objects by prefix" is also present.

A second yellow callout box contains the instruction: "18. Upload the SASB_TC-SC_TSMC.xml file to your bucket. Choose **Upload**." A red circle with the number 18 points to the "Upload" button.

At the bottom of the page, there is a footer with links for Feedback, Unified Settings (with a note about language selection), Copyright notice (© 2022, Amazon Web Services, Inc. or its affiliates.), Privacy, Terms, and Cookie preferences.

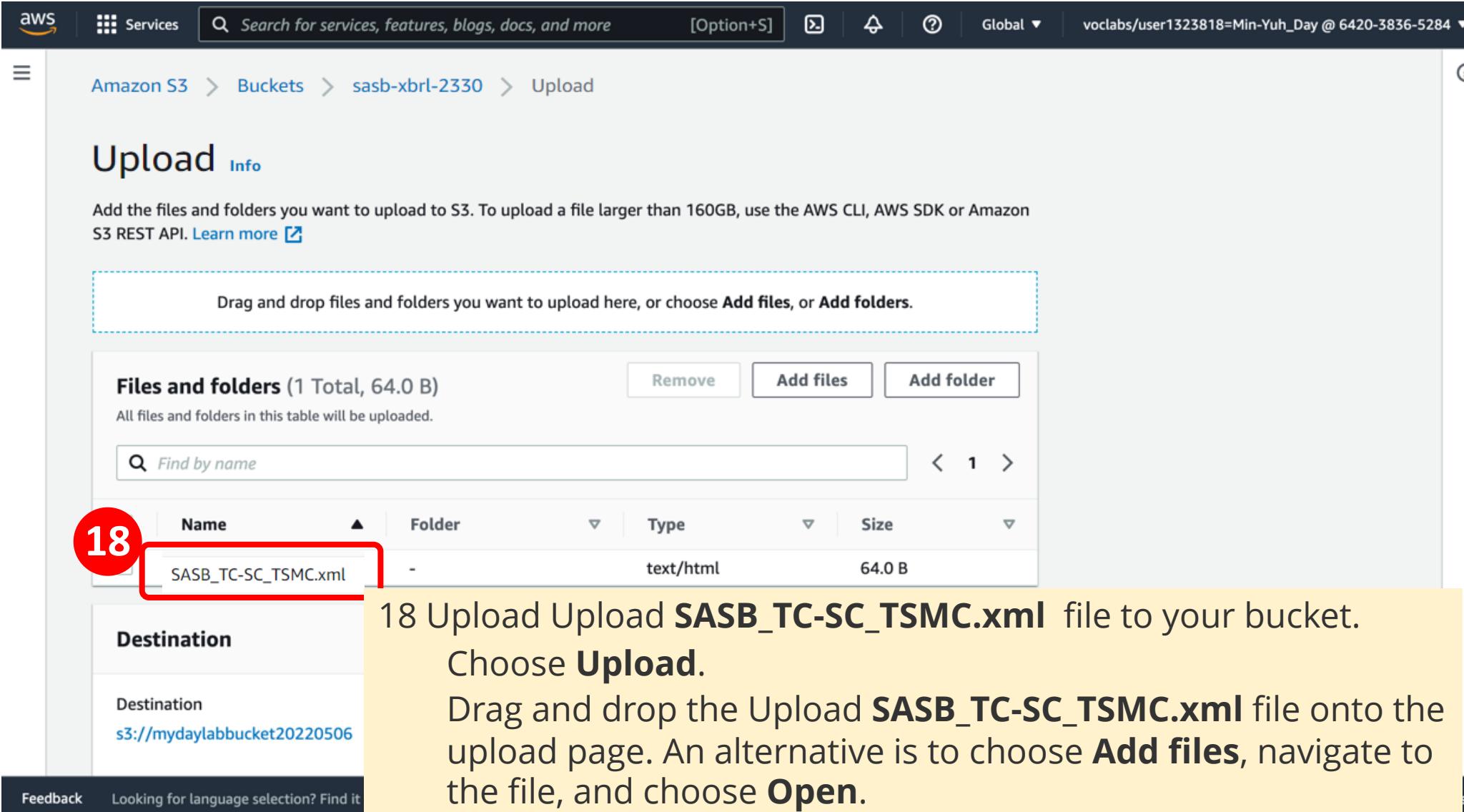
AWS Hands-on : Using S3 Service for XBRL Cloud Storage



The screenshot shows the AWS S3 'Upload' interface. At the top, there's a navigation bar with 'Services', a search bar, and user information. Below it, the breadcrumb path shows 'Amazon S3 > Buckets > sasb-xbrl-2330 > Upload'. The main area is titled 'Upload' with an 'Info' link. A large dashed box allows dragging and dropping files. Below it, a table lists 'Files and folders (0)' with columns for Name, Folder, and Type. A search bar and a 'Find by name' button are also present. On the right, there are 'Remove', 'Add files', and 'Add folder' buttons. A red circle with the number '18' is overlaid on the 'Add files' button.

18 Upload **SASB_TC-SC_TSMC.xml** file to your bucket.
Choose **Upload**.
Drag and drop Upload **SASB_TC-SC_TSMC.xml** I file onto the upload page. An alternative is to choose **Add files**, navigate to the file, and choose **Open**.

AWS Hands-on : Using S3 Service for XBRL Cloud Storage



The screenshot shows the AWS S3 'Upload' interface. At the top, the navigation bar includes the AWS logo, 'Services' (with a grid icon), a search bar ('Search for services, features, blogs, docs, and more'), keyboard shortcut '[Option+S]', and account information ('Global' dropdown and 'voclabs/user1323818=Min-Yuh_Day @ 6420-3836-5284'). Below the navigation is a breadcrumb trail: 'Amazon S3 > Buckets > sasb-xbrl-2330 > Upload'. The main area is titled 'Upload' with an 'Info' link. A large dashed blue box contains the instruction: 'Drag and drop files and folders you want to upload here, or choose Add files, or Add folders.' Below this is a table titled 'Files and folders (1 Total, 64.0 B)'. The table lists one item: 'SASB_TC-SC_TSMC.xml' (text/html, 64.0 B). To the left of the table, a red circle with the number '18' is overlaid on the 'Name' column header. The 'Destination' section shows 'Destination' set to 's3://mydaylabbucket20220506'. At the bottom, there are 'Feedback' and 'Looking for language selection? Find it' links.

18 Upload **SASB_TC-SC_TSMC.xml** file to your bucket. Choose **Upload**. Drag and drop the **SASB_TC-SC_TSMC.xml** file onto the upload page. An alternative is to choose **Add files**, navigate to the file, and choose **Open**.

AWS Hands-on : Using S3 Service for XBRL Cloud Storage

The screenshot shows the AWS S3 console interface. At the top, there's a navigation bar with the AWS logo, a search bar, and various global settings. Below the navigation bar is a table listing a single file: 'SASB_TC-SC_TSMC.xml'. The file is a 'text/xml' type, 10.7 KB in size, and has a '-' folder path. To the right of the table is an 'info' icon.

Below the table is a 'Destination' section. It shows the destination as 's3://sasb-xbrl-2330' and includes a 'Destination details' subsection with the subtext: 'Bucket settings that impact new objects stored in the specified destination.'

On the left side of the main content area, there's a red circle with the number '19' inside it, pointing to the 'Permissions' section. This section is highlighted with a red border and contains the subtext: 'Grant public access and access to other AWS accounts.'

Below the 'Permissions' section is the 'Access control list (ACL)' section, which includes a link to 'Learn more' and a note: 'AWS recommends using S3 bucket policies or IAM policies for access control. Learn more'.

At the bottom of the page, there are links for 'Feedback', 'Unified Settings' (with a note about language selection), 'Privacy', 'Terms', and 'Cookie preferences'.

19. Expand the Permissions section.

AWS Hands-on : Using S3 Service for XBRL Cloud Storage

Screenshot of the AWS Management Console showing the 'Permissions' section for an S3 bucket. A red box highlights the 'Grant public-read access' option under 'Predefined ACLs'. A red circle with the number '20' is overlaid on the left side.

Access control list (ACL)
Grant basic read/write permissions to other AWS accounts. [Learn more](#)

Predefined ACLs

Private (recommended)
Only the object owner will have read and write access.

Grant public-read access
Anyone in the world will be able to access the specified objects. The object owner will have read and write access. [Learn more](#)

20. Under Predefined ACLs, select Grant public-read access.

Properties
Specify storage class, encryption settings, tags, and more.

[Cancel](#) [Upload](#)

[Feedback](#) Looking for language selection? Find it in the new [Unified Settings](#)

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AWS Hands-on : Using S3 Service for XBRL Cloud Storage

← → ⌂ s3.console.aws.amazon.com/s3/upload/mydaylabbucket20220506?region=us-east-1

aws Services Search for services, features, blogs, docs, and more [Option+S] Global v vocabs/user1323818=Min-Yuh_Day @ 6420-3836-5284 ▾

Access control list (ACL)

Choose from predefined ACLs
 Specify individual ACL permissions

Predefined ACLs

Private (recommended)
Only the object owner will have read and write access.

20. Under **Predefined ACLs**, select **Grant public-read access**.
A warning message similar to **Granting public-read access is not recommend** appears below the setting you selected.

20 Grant public-read access
Anyone in the world will be able to access the specified objects. The object owner will have read and write access. [Learn more](#)

21 I understand the risk of granting public-read access to the specified objects.

21. Below the warning, check the box next to **I understand....**

22. At the bottom of the page, choose **Upload**.

Properties
Specify storage class, encryption settings, tags, and more.

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Source: AWS Academy Introduction to Cloud: Semester 1, <https://awsacademy.instructure.com/courses/18745>

AWS Hands-on : Using S3 Service for XBRL Cloud Storage

The screenshot shows the AWS S3 service interface. At the top, there's a green success message: "Upload succeeded" with a checkmark icon. Below it, the title "Upload: status" is displayed. A red circle with the number "23" is overlaid on the "Close" button. To the right, a yellow box contains the instruction "24. Choose Close.". A note below the summary table states: "The information below will no longer be available after you navigate away from this page." The "Summary" section shows the destination "s3://sasb-xbrl-2330" with one succeeded file (1 file, 64.0 B (100.00%)) and zero failed files (0 files, 0 B (0%)). The "Files and folders" tab is selected, showing a list of one item: "1 Total, 64.0 B". The table headers for the file list are Name, Folder, Type, Size, Status, and Error.

Upload succeeded
View details below.

Upload: status

23 Close

24. Choose Close.

The information below will no longer be available after you navigate away from this page.

Summary

Destination	Succeeded	Failed
s3://sasb-xbrl-2330	✓ 1 file, 64.0 B (100.00%)	✗ 0 files, 0 B (0%)

Files and folders (1 Total, 64.0 B)

Find by name

< 1 >

Name	Folder	Type	Size	Status	Error

Feedback Looking for language selection? Find it in the new Unified Settings [\[\]](#)

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AWS Hands-on : Using S3 Service for XBRL Cloud Storage

The screenshot shows the AWS S3 service interface. At the top, there's a navigation bar with the AWS logo, a search bar, and a user dropdown. A green success message box is displayed, stating "Upload succeeded" and "View details below." Below this, a note says "The information below will no longer be available after you navigate away from this page." The main area is titled "Summary" and contains a table of contents. The table has columns for Name, Type, Last modified, Size, and Storage class. It lists a single file: "SASB_TC-SC_TSMC.xml" (xml type, 10.7 KB, Standard storage class). Below this, there are tabs for "Files and folders" (which is selected) and "Configuration". Under "Files and folders", there's a sub-section titled "Files and folders (1 Total, 64.0 B)". It includes a search bar and a table of contents. This second table has columns for Name, Folder, Type, Size, Status, and Error. It shows the same file: "SASB_TC-SC_TSMC.xml" (xml type, 64.0 B, Status: Succeeded). The row for this file is highlighted with a red box.

Name	Folder	Type	Size	Status	Error
SASB_TC-SC_TSMC.xml		xml	64.0 B	Succeeded	-

AWS Hands-on : Using S3 Service for XBRL Cloud Storage

The screenshot shows the AWS S3 console interface. At the top, the URL is s3.console.aws.amazon.com/s3/buckets/mydaylabbucket20220506?region=us-east-1&tab=objects. The navigation bar includes the AWS logo, Services (dropdown), a search bar, and user information: `voclabs/user1323818=Min-Yuh_Day @ 6420-3836-5284`.

The main view shows the bucket `sasb-xbrl-2330`. Below it, the object `SASB_TC-SC_TSMC.xml` is listed under the **Objects (1)** section. The object is marked as **Publicly accessible**. The **Actions** menu includes options like Copy S3 URI, Copy URL, Download, Open, Delete, Create folder, and Upload.

A red box highlights the **Objects** tab in the navigation bar and the list of objects in the main content area.

Objects (1)

Name	Type	Last modified	Size	Storage class
SASB_TC-SC_TSMC.xml	xml	June 24, 2022, 18:27:24 (UTC+08:00)	10.7 KB	Standard

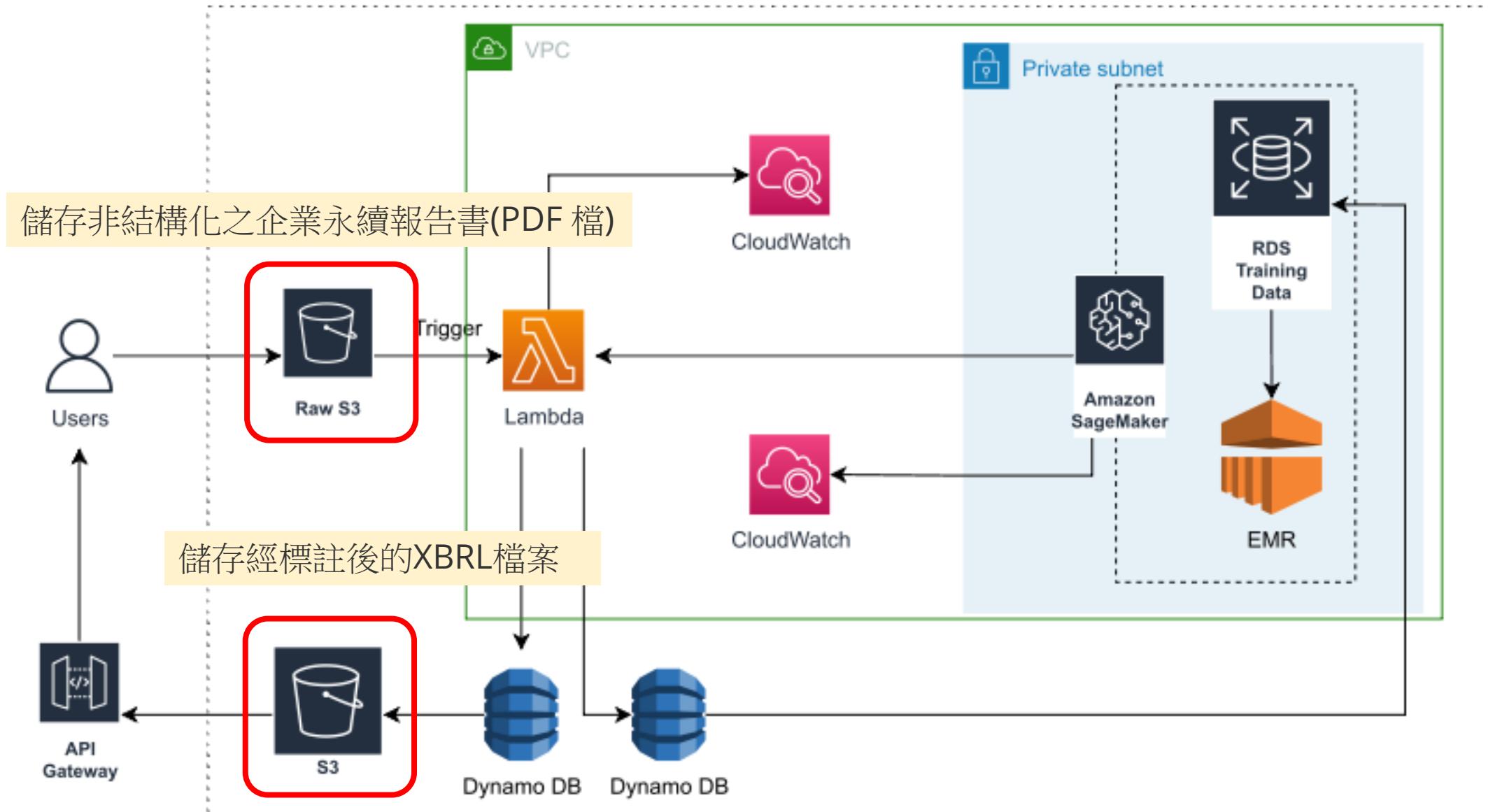
The SASB_TC-SC_TSMC.xml file appears in the Objects list.

Feedback Looking for language selection? Find it in the new Unified Settings [\[?\]](#)

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永續報告 XBRL 雲端架構圖 (AWS)



永續報告 XBRL 雲端儲存

- Amazon S3可做為資料前處理的**非結構化企業永續報告書**(.pdf)的儲存以及**經標註後的XBRL**的檔案儲存。
- 雲端儲存不僅可以將資料拓展給其他經授權的使用者使用，同時亦可以降低本地端的暫存空間，減少其基礎設施的儲存與成本。
- **未來趨勢與研究方向**：預計將Amazon S3串聯AWS其他服務(e.g. Lambda, API Gateway) 做為後續部屬完善整個雲端架構之用，並同時根據不同使用者的權限做好更有效的存取控制。

References

- <https://aws.amazon.com/certification/>
- <https://www.aws.training/>
- <https://aws.amazon.com/training/awsacademy/>
- <https://aws.amazon.com/education/awseducate/>
- **AWS Academy Introduction to Cloud: Semester 1**
 - <https://awsacademy.instructure.com/courses/18745>
- **AWS Certified Cloud Practitioner**
 - <https://aws.amazon.com/certification/certified-cloud-practitioner/>
- **AWS Certified Solutions Architect – Associate**
 - <https://aws.amazon.com/certification/certified-solutions-architect-associate/>
- **AWS Cloud Practitioner Essentials (Second Edition)**
 - <https://aws.amazon.com/training/course-descriptions/cloud-practitioner-essentials/>
- **Architecting on AWS**
 - <https://aws.amazon.com/training/course-descriptions/architect/>

Q & A

雲端儲存與永續資訊

Cloud Storage and Sustainability Information

Time: 2022/6/25 (Sat.) 9:40-10:15

Place: 台北世貿一館1樓B區 ESG沙龍 (B536)



aws
educate | Cloud
Ambassador
2020 Cohort



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<https://web.ntpu.edu.tw/~myday>

2022-06-25



意見調查

Thank You

QR code

(本會收到您的投影片後，將會加上問卷QR碼)

指導單位



金融監督管理委員會
Financial Supervisory Commission R.O.C.

主辦單位



財團法人
會計研究發展基金會
ACCOUNTING RESEARCH AND DEVELOPMENT FOUNDATION