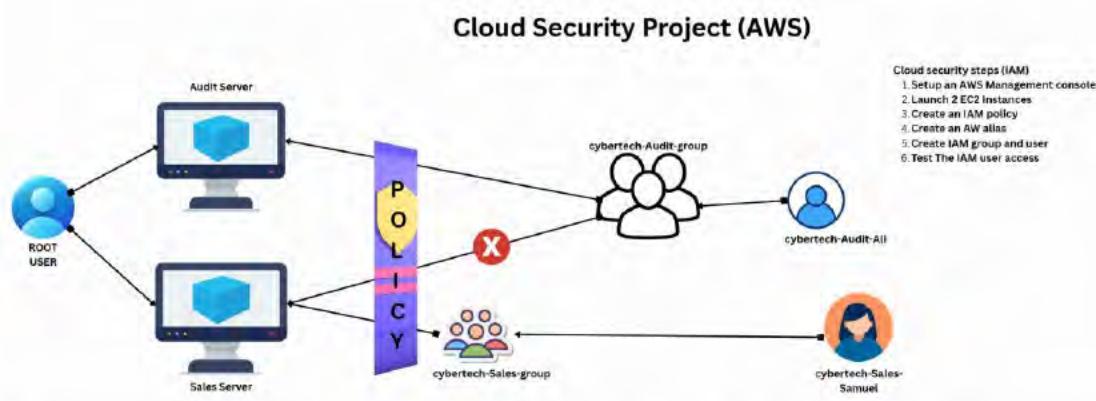


AWS IAM Cloud Security Project

1. Project Overview

I completed this project on cloud security controls in Amazon Web Services (AWS), focusing on Identity and Access Management (IAM). The goal was to create a least- privilege policy, attach it to a user or group, and verify that the policy correctly restricts actions on Amazon EC2 instance.



In this project, we will be creating Users, User groups, buckets, clouptrails, polices and implementing those policies and verifying them.

Standard practice prescribes that we don't do anything on root user, i.e we do not create EC2, S3 buckets from the root user, however we can use it to create a user with admin privileges. Once we are done with this, we log out and go to the login page where we will be given the option to log in as IAM user.. please proceed with this and you can now start creating all we need from this new login channel

In AWS, we use services to create everything

Firstly we can create an AWS trial account for 6 month on the website at [Cloud Computing Services - Amazon Web Services \(AWS\)](#), a credit card will be required however you will get a credit to use to run your simulation.

CREATING THE IAM USER AND GROUPS

Upon creating an account and logging in, it will be a root user, so we will set up MFA (to make it secure) and create a user with admin privileges.

Firstly, we need to change our geographical location to our closest location

The screenshot shows the AWS Console Home page. At the top right, there is a dropdown menu labeled "United States (Ohio)". Below it, a modal window titled "Regions" is displayed, listing various AWS regions categorized by continent. The "United States" section includes N. Virginia, Ohio (which is circled in red), N. California, and Oregon. The "Asia Pacific" section includes Mumbai, Osaka, Seoul, Singapore, Sydney, and Tokyo. The "Canada" section includes Central. The "Europe" section includes Frankfurt, Ireland, London, Paris, and Stockholm. The "South America" section includes São Paulo. At the bottom of the modal, a note states "There are 17 Regions that are not enabled for this account" and provides links to "Manage Regions" and "Manage Local Zones".

In the search bar, find the IAM service , as best practice, set up MFA

The screenshot shows the AWS search interface with the search term "IAM" entered. The "Services" section highlights the "IAM" service, which is described as "Manage access to AWS resources". Other services listed include IAM Identity Center and Resource Access Manager. The "Features" section shows IAM Access analyzer for S3, Groups, Roles, and Documentation for IAM.

Search for IAM from the search column

click on IAM

The screenshot shows the IAM Dashboard. On the left, there's a sidebar with navigation links like "Identity and Access Management (IAM)", "Access management", "Access reports", and "Tools". The main area displays "Security recommendations" with two items: "Add MFA for root user" (with a red arrow pointing to the "Add MFA" button) and "Root user has no active access keys". Below this is the "AWS Account" section, which includes fields for "Account ID", "Account Alias", and "Sign-in URL for IAM users in this account". There are also sections for "Quick Links" (My security credentials, Manage your access keys, multi-factor authentication (MFA) and other credentials) and "Tools" (Policy simulator).

Add MFA

Give the device a name and select a MFA device of your choice, in this instance we will use an Authentication app

MFA device name

Device name
This name will be used when identifying MFA for this device.

←

Maximum 64 characters. Valid characters: A-Z, a-z, 0-9, and !@_~#`!`!

MFA device

Device options
In addition to username and password, you will use this device to authenticate into your account.

 **Passkey or security key**
Authenticate using your fingerprint, face, or screen lock. Create a passkey on this device or use another device, like a FIDO2 security key.

 **Authenticator app**
Authenticate using a code generated by an app installed on your mobile device or computer.

 **Hardware TOTP token**
Authenticate using a code generated by Hardware TOTP token or other hardware devices.

Cancel **Next** ↓

Set up device Info

Authenticator app
A virtual MFA device is an application running on your device that you can configure by scanning a QR code.

1 Install a compatible application such as Google Authenticator, Duo Mobile, or Authy app on your mobile device or computer.
[See a list of compatible applications](#) ?

2  Open your authenticator app, choose **Show QR code** on this page, then use the app to scan the code. Alternatively, you can type a secret key. [Show secret key](#)

3 Type two consecutive MFA codes below
Enter a code from your virtual app below ←

Wait 30 seconds, and enter a second code entry ←

Cancel **Previous** **Add MFA**

SWS AWS Search Global

IAM Dashboard

Identity and Access Management (IAM)

Dashboard

Access management

User groups

Users

Roles

Policies

Identity providers

Account settings

Root access management

Access reports

Access Analyzer

Resource analysis New

Unused access

Analyzer settings

Credential report

Organization activity

Service control policies

CloudShell Feedback

IAM Dashboard

Security recommendations

- Root user has MFA
- Root user has no active access keys

IAM resources

Resources in this AWS Account

User groups	Users	Roles	Policies	Identity providers
0	0	3	0	0

What's new

Updates for features in IAM

- Amazon Bedrock introduces API keys for streamlined development. 7 months ago
- AWS Service Reference Information now supports annotations for service actions. 4 months ago
- AWS expands resource control policies (RCPs) support to two additional services. 4 months ago

AWS Account

Account ID: 50630

Account Alias: Create

Sign-in URL for IAM users in this account: https://381.amazonaws.com/console

Quick Links

My security credentials

Manage your access keys, multi-factor authentication (MFA) and other credentials.

Tools

Policy simulator

The simulator evaluates the policies that you choose and determines the effective permissions for each of the actions that you specify.

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SWS AWS Search Global

IAM Dashboard

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SWS AWS Search Global

IAM User groups Create user group

Identity and Access Management (IAM)

Dashboard

Access management

User groups

Users

Roles

Policies

Identity providers

Account settings

Root access management

Access reports

Access Analyzer

Resource analysis New

Unused access

Analyzer settings

Credential report

Organization activity

Service control policies

CloudShell Feedback

Create user group

Name the group

User group name: abatech-processing-documentation

Add users to the group - Optional (0)

An IAM user is an entity that you create in AWS to represent the person or application that uses it to interact with AWS.

User name	Group	Last activity	Creation time
No resources to display.			

Attach permissions policies - Optional (1077)

You can attach up to 10 policies to this user group. All the users in this group will have permissions that are defined in the selected policies.

Filter by Type

Policy name	Type	Used as	Description
No policies found.			

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Screenshot of the AWS IAM 'Create user group' page.

Add users to the group - Optional (0) Info
 An IAM user is an entity that you create in AWS to represent the person or application that uses it to interact with AWS.

Attach permissions policies - Optional (1/1077) Info
 You can attach up to 10 policies to this user group. All the users in this group will have permissions that are defined in the selected policies.

Filter by Type

Policy name	Type	Used as	Description
<input checked="" type="checkbox"/> AdministratorAccess	AWS managed - job function	None	Provides full access to AWS services an...
<input type="checkbox"/> AdministratorAccess-Amplify	AWS managed	None	Grants account administrative permisi...
<input type="checkbox"/> AdministratorAccess-AWSE...	AWS managed	None	Grants account administrative permisi...
<input type="checkbox"/> AIOpsAssistantIncidentRep...	AWS managed	None	Provides permissions required by the A...
<input type="checkbox"/> AIOpsAssistantPolicy	AWS managed	None	Provides ReadOnly permissions requir...

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Screenshot of the AWS IAM 'Create user group' page showing a large list of available AWS managed policies.

Available Policies

<input type="checkbox"/> AmazonSSOAdminPolicy	AWS managed	None	Grants full access to Amazon SSO Opera...
<input type="checkbox"/> AIOpsOperatorAccess	AWS managed	None	Grants access to the Amazon AI Opera...
<input type="checkbox"/> AIReadOnlyAccess	AWS managed	None	Grants ReadOnly permissions to the A...
<input type="checkbox"/> AlexaForBusinessDeviceSet...	AWS managed	None	Provide device setup access to AlexaFo...
<input type="checkbox"/> AlexaForBusinessFullAccess	AWS managed	None	Grants full access to AlexaForBusiness ...
<input type="checkbox"/> AlexaForBusinessGatewayE...	AWS managed	None	Provide gateway execution access to A...
<input type="checkbox"/> AlexaForBusinessLifesizeD...	AWS managed	None	Provide access to Lifesize AVS devices
<input type="checkbox"/> AlexaForBusinessPolyDeleg...	AWS managed	None	Provide access to Poly AVS devices
<input type="checkbox"/> AlexaForBusinessReadOnly...	AWS managed	None	Provide read only access to AlexaForBu...
<input type="checkbox"/> AmazonAPIGatewayAdmini...	AWS managed	None	Provides full access to create/edit/delete...
<input type="checkbox"/> AmazonAPIGatewayInvoke...	AWS managed	None	Provides full access to invoke APIs in A...
<input type="checkbox"/> AmazonAPIGatewayPushT...	AWS managed	None	Allows API Gateway to push logs to us...
<input type="checkbox"/> AmazonAppFlowFullAcces...	AWS managed	None	Provides full access to Amazon AppFlo...
<input type="checkbox"/> AmazonAppFlowReadOnly...	AWS managed	None	Provides read only access to Amazon A...
<input type="checkbox"/> AmazonAppStreamFullAcc...	AWS managed	None	Provides full access to Amazon AppStr...

Create user group

Screenshot of the AWS IAM 'User groups' page showing a newly created user group.

User groups (1) Info
 A user group is a collection of IAM users. Use groups to specify permissions for a collection of users.

abatech-processing-documentation user group created.

View group **Delete** **Create group**

Group name	Users	Permissions	Creation time
<input type="checkbox"/> abatech-processing-documentation	0	Defined	Now

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Step 1 Specify user details

User details

User name: abatech-processing-documentation-jude

Provide user access to the AWS Management Console - optional
If you're providing console access to a person, it's best practice [to manage their access in IAM Identity Center.](#)

Console password

Autogenerated password
You can view the password after you create the user.

Custom password
Enter a custom password for the user.

Must be at least 8 characters long
 Must include at least three of the following mix of character types: uppercase letters (A-Z), lowercase letters (a-z), numbers (0-9), and symbols (@ # \$ % ^ & * { } _ - [] { })

Show password

Users must create a new password at next sign-in - Recommended
Users automatically get the [IAMUserChangePassword](#) policy to allow them to change their own password.

If you are creating programmatic access through access keys or service-specific credentials for AWS CodeCommit or Amazon Keyspaces, you can generate them after you create this IAM user. [Learn more](#)

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[Cancel](#) [Next](#)

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Screenshot of the AWS IAM 'Create user' step 5: Review and create page.

Review and create
Review your choices. After you create the user, you can view and download the autogenerated password, if enabled.

User details

User name	abatech-processing-documentation-jude	Console password type	Custom password	Require password reset	Yes
-----------	---------------------------------------	-----------------------	-----------------	------------------------	-----

Permissions summary

Name	Type	Used as
AdministratorAccess	AWS managed	Permissions policy

Tags - optional
Tags are key-value pairs you can add to AWS resources to help identify, organize, or search for resources. Choose any tags you want to associate with this user.
No tags associated with this resource.

[Add new tag](#)

[Cancel](#) [Previous](#) [Create user](#)

Screenshot of the AWS IAM 'Create user' step 6: Confirmation page.

User created successfully

You can view and download the user's password and email instructions for signing in to the AWS Management Console.

[View user](#)

Retrieve password
You can view and download the user's password below or email users instructions for signing in to the AWS Management Console. This is the only time you can view and download this password.

Console sign-in details

Console sign-in URL	https://386397332453.signin.aws.amazon.com/console
User name	abatech-processing-documentation-jude
Console password	***** Show

[Email sign-in instructions](#)

[Cancel](#) [Download .CSV file](#) [Return to users list](#)

Screenshot of the AWS IAM 'User Details' page for 'abatech-processing-documentation-jude'.

User created successfully

You can view and download the user's password and email instructions for signing in to the AWS Management Console.

[View user](#)

Summary

ARN	arn:aws:iam::user/abatech-processing-documentation-jude	Console access	Enabled without MFA
Created	November 08, 2025, 08:47 (UTC+01:00)	Last console sign-in	Never

Permissions **Groups** **Tags** **Security credentials** **Last Accessed**

Permissions policies (1)

Permissions are defined by policies attached to the user directly or through groups.

[Add permissions](#)

Filter by Type

[Search](#) [All types](#)

[Policy name](#) [Type](#) [Attached via](#)

ADDING THE USER TO A GROUP

The screenshot shows the AWS IAM User groups page. On the left, there's a navigation sidebar with 'Access management' expanded, showing 'User groups' selected. The main area displays a table for 'User groups'. A single row is visible, with the group name 'abatech-processing-documentation' highlighted by a red box. The table has columns for 'Name', 'Users', 'Permissions', and 'Creation time'. The creation time is listed as '11 minutes ago'.

This screenshot shows the details for the 'abatech-processing-documentation' user group. The 'Summary' section includes the group name, creation time (November 03, 2025, 08:39 UTC+01:00), and ARN (arn:aws:iam::group/abatech-processing). Below this, the 'Users' tab is selected, showing a table with one entry: 'User name' (abatech-processing-documentation-jule). The table also includes columns for 'Groups', 'Last activity', and 'Creation time'.

This screenshot shows the 'Add users to abatech-processing-documentation' dialog. It lists 'Other users in this account (1)' with a single entry: 'User name' (abatech-processing-documentation-jule). The table includes columns for 'User name', 'Groups', 'Last activity', and 'Creation time'. At the bottom right, there are 'Cancel' and 'Add users' buttons. A red arrow points from the bottom of the previous screenshot to the 'User name' column of the current screenshot.

ADD abatech
processing-
documentation -
jude to the group

The screenshot shows the 'Add users to abatech-processing-documentation' page. At the top, there's a search bar and a table header with columns for 'User name', 'Group', 'Last activity', and 'Creation time'. Below the table, there are 'Cancel' and 'Add users' buttons. A red arrow points to the user 'abatech-processing-documentation-jude' in the search results table.



This screenshot is identical to the one above, showing the 'Summary' section of the 'abatech-processing-documentation' group. It includes the user group name, creation time, ARN, and the note about being part of a stack. The 'Users' tab is selected, showing the single user added to the group. A red arrow points to the '1 user added to this group.' message.

CREATING POLICIES

A screenshot of the AWS IAM Policies page. On the left, a sidebar shows 'Access management' with 'Policies' selected. A red arrow points from the top-left towards this selection. The main area lists 1399 policies, with one highlighted: 'AccessAnalyzerServiceRolePolicy'. The interface includes a search bar, a 'Filter by Type' dropdown, and a table with columns for 'Policy name', 'Type', 'Used as', and 'Description'. Buttons for 'Actions', 'Delete', and 'Create policy' are at the top right.

Click on policies

A screenshot of the 'Specify permissions' step in the 'Create policy' wizard. It shows a 'Policy editor' with a 'Visual' tab selected. A red arrow points from the top-right towards the 'Visual' tab. Below it, there's a 'Select a service' dropdown labeled 'Service' with 'Choose a service' and a '+ Add more permissions' button. At the bottom right are 'Cancel' and 'Next Step' buttons.

this is the visual icon if you want to click through or choose a policy

A screenshot of the 'Specify permissions' step in the 'Create policy' wizard. The 'JSON' tab is now selected, indicated by a red arrow pointing to it. The policy document is displayed in JSON format, showing a single statement. The 'Actions' dropdown menu is open, showing various AWS services like AI Operations, API Gateway, and Access Analyzer. At the bottom right are 'Cancel' and 'Next Step' buttons.

if you want to add a json script you can click the json portion and add the script

The screenshot shows the 'Specify permissions' step of creating a new IAM policy. The 'Policy editor' interface is displayed, allowing users to select services, actions, and resources. A red arrow highlights the 'EC2' service in the 'Commonly used services' dropdown.

Then select the service from the drop down you wish to add a policy - in this case 'EC2'

The screenshot shows the 'Specify actions' step, where the 'Read' section is selected. A red arrow points to the 'All read actions' checkbox, indicating it is selected for the EC2 service.

add the policies

The screenshot shows the 'Specify actions' step, with the 'Resources' section expanded. A red arrow points to the 'All' radio button under 'Specify resource ARNs for these actions'. A note below states: 'The all wildcard '*' may be overly permissive for the selected actions. Allowing specific ARNs for these service resources can improve security.'

The screenshot shows the 'Review and create' step of the IAM policy creation wizard. In the 'Policy details' section, the 'Policy name' field contains 'Access'. The 'Description - optional' field contains 'who has access to the documents'. Red arrows point from the text 'give your policy a name and description' to these fields.

give your policy a name and description

The screenshot shows the 'Permissions defined in this policy' section with one service listed: EC2 with 'Full: Read' access level. Below it is the 'Add tags - optional' section. A red arrow points from the text 'click create policy' to the orange 'Create policy' button at the bottom right.

click create policy

The screenshot shows the main IAM Policies page. A green banner at the top left says 'Policy Access created.' A red circle highlights this banner. The main table lists various policies, including the newly created 'Access' policy, which is highlighted with a blue border. A red arrow points from the text 'policy now created' to the 'View policy' link for the 'Access' policy.

policy now created

Identity and Access Management (IAM)

Access

Policy details

Type: Customer managed Creation time: November 03, 2025, 09:07 (UTC+01:00) Edited time: November 03, 2025, 09:07 (UTC+01:00) ARN: arn:aws:iam::386397332453:policy/Access

Permissions Entities attached Tags Policy versions Last Accessed

Permissions defined in this policy

Allow (1 of 450 services)

Service	Access level	Resource	Request condition
EC2	Full: Read	All resources	None

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go back to policy by the left hand side

Identity and Access Management (IAM)

Access

Permissions

Permissions defined in this policy

```
[{"Version": "2012-10-17", "Statement": [{"Effect": "Allow", "Action": "ec2:DescribeReservations", "Resource": "*"}, {"Effect": "Allow", "Action": "ec2:GetDefaultVpcSpecification", "Resource": "*"}, {"Effect": "Allow", "Action": "ec2:GetIpRangesForVlans", "Resource": "*"}, {"Effect": "Allow", "Action": "ec2:GetInstancePublicDnsName", "Resource": "*"}, {"Effect": "Allow", "Action": "ec2:GetImageBlockPublicAccessState", "Resource": "*"}, {"Effect": "Allow", "Action": "ec2:GetSerialConsoleAccess", "Resource": "*"}, {"Effect": "Allow", "Action": "ec2:GetSerialConsoleAccessState", "Resource": "*"}, {"Effect": "Allow", "Action": "ec2:GetSubnetEncryptionDefault", "Resource": "*"}, {"Effect": "Allow", "Action": "ec2:GetVirtualPrivateCloudConfiguration", "Resource": "*"}, {"Effect": "Allow", "Action": "ec2:GetCapacityReservationUsage", "Resource": "*"}, {"Effect": "Allow", "Action": "ec2:GetHostReservationPurchaseOfferings", "Resource": "*"}, {"Effect": "Allow", "Action": "ec2:GetHostReservationsVlans", "Resource": "*"}, {"Effect": "Allow", "Action": "ec2:GetRouteTablePropagations", "Resource": "*"}, {"Effect": "Allow", "Action": "ec2:GetSubnetIdReservations", "Resource": "*"}, {"Effect": "Allow", "Action": "ec2:GetTransitGatewayAttachments", "Resource": "*"}, {"Effect": "Allow", "Action": "ec2:GetConsoleOutput", "Resource": "*"}, {"Effect": "Allow", "Action": "ec2:ExportClientVpnClientCertificateRevocationList", "Resource": "*"}, {"Effect": "Allow", "Action": "ec2:GetSerialConsoleAccessStatus", "Resource": "*"}, {"Effect": "Allow", "Action": "ec2:GetFlowLogsIntegrationTemplate", "Resource": "*"}]
```

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Identity and Access Management (IAM)

Policies (1/1400)

A policy is an object in AWS that defines permissions.

Filter by Type: All types

Policy name	Type	Created as	Description
Access	Customer managed	None	who has access to the documents
AccessAnalyzerServiceRolePolicy	AWS managed	None	Allow Access Analyzer to analyze resou...
AdministratorAccess	AWS managed - job function	Permissions policy (1)	Provides full access to AWS services an...
AdministratorAccess-AWSSES...	AWS managed	None	Grants account administrative permis...
AIOpsAssistantIncidentReport...	AWS managed	None	Provides permissions required by the A...
AIOpsAssistantPolicy	AWS managed	None	Provides ReadOnly permissions requir...
AIOpsConsoleAdminPolicy	AWS managed	None	Grants full access to Amazon AI Opera...
AIOpsOperatorAccess	AWS managed	None	Grants access to the Amazon AI Opera...
AIOpsReadOnlyAccess	AWS managed	None	Grants ReadOnly permissions to the A...
AlexaForBusinessDeviceSetup	AWS managed	None	Provide device setup access to AlexaFo...
AlexaForBusinessFullAccess	AWS managed	None	Grants full access to AlexaForBusiness ...

Actions Delete Create policy

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Now to assign a policy to either a user or group, select the policy you created

click the action drop down and select attach

The screenshot shows the AWS IAM console with the URL <https://us-east-1.console.aws.amazon.com/iam/home?region=eu-west-2#/policies/details/arn%3Aaws%3Aiam%3A386397332453%3Apolicy%2FAccess/attach>. The page title is "Attach as a permissions policy". A red arrow points to the search bar where "abatech-processing-documentation-jude" is typed. Another red arrow points to the "Attach policy" button at the bottom right.

now select either
a user or a group
as you wish ... in
this case i am
selecting a user

The screenshot shows the AWS IAM Policies page with the URL <https://us-east-1.console.aws.amazon.com/iam/home?region=eu-west-2#/policies>. A green notification bar at the top says "Policy attached to entity abatech-processing-documentation-jude.". The main table lists 1400 policies. A red arrow points to this notification bar.

policy now
attached to
this user

A screenshot of the AWS CloudTrail search results page. The search bar at the top contains the query "CLOUDTRAIL". The results are displayed under the "Services" and "Features" sections. In the "Services" section, "CloudTrail" is listed with the subtext "Track User Activity and API Usage". In the "Features" section, there is a link to "Create a SFTP server" and a note about the "AWS Transfer Family feature". At the bottom, there are "Yes" and "No" buttons for feedback, and an "Insights" section with a "CloudTrail feature" link.

A screenshot of the AWS CloudTrail landing page. The main heading is "AWS CloudTrail" with the subtext "Continuously log your AWS account activity". Below this, there is a call-to-action button labeled "Create a trail with AWS CloudTrail". To the right of the button, there is a "Pricing" section and a "Getting started" section with a "What is AWS CloudTrail?" link. The left sidebar includes links for "Management & Governance", "How it works", and "CloudShell".

A screenshot of the AWS CloudTrail dashboard. The left sidebar shows navigation options: "CloudTrail" (selected), "Event history", "Insights", "Lake" (with sub-options: Dashboards, Query, Event data stores, Integrations, Traits), and "Settings". A blue banner at the top says "You can now enrich CloudTrail events with additional information by adding resource tags and IAM global keys in CloudTrail Lake. Learn more". The main area has sections for "Dashboard" (with a "Query results history" table showing "No queries" and "No queries to display"), "Trails" (with a table showing "Name" and "Status" columns, and a "Create trail" button), and "Lake" (with a "Copy events to Lake" button). The bottom of the page includes standard AWS footer links for "CloudShell" and "Feedback".

Screenshot of the AWS CloudTrail 'Create trail' wizard Step 1: Choose trail attributes.

The 'General details' section shows a 'Trail name' input field containing 'management-events'. A red arrow points to this field.

The 'Storage location' section has two options: 'Create new S3 bucket' (selected) and 'Use existing S3 bucket'. The 'Create new S3 bucket' field contains 'aws-cloudtrail-logs-386397332453-bb3e207c'.

Other settings include 'Log file SSE-KMS encryption' (disabled), 'Customer managed AWS KMS key' (New selected), and 'AWS Lambda function' (disabled).

Screenshot of the AWS CloudTrail 'Create trail' wizard Step 1: Choose trail attributes.

The 'General details' section shows a 'Trail name' input field containing 'documentation-trails'. A red arrow points to this field.

The 'Storage location' section has two options: 'Create new S3 bucket' (selected) and 'Use existing S3 bucket'. The 'Create new S3 bucket' field contains 'aws-cloudtrail-logs-386397332453-bb3e207c'.

Other settings include 'Log file SSE-KMS encryption' (disabled), 'Customer managed AWS KMS key' (New selected), and 'AWS Lambda function' (disabled).

Screenshot of the AWS CloudTrail 'Create trail' wizard Step 1: Choose trail attributes.

The 'AWS KMS alias' input field contains 'doc'. A red arrow points to this field.

The 'Additional settings' section includes 'Log file validation' (Enabled) and 'SNS notification delivery' (Enabled).

The 'CloudWatch Logs - optional' section includes 'CloudWatch Logs' (Enabled).

The 'Policy document' section is collapsed.

The 'Tags - optional' section includes a table for adding tags:

Key	Value - optional
Enter key	Enter value

Screenshot of the AWS CloudTrail 'Create trail' wizard Step 2: Choose log events.

The page shows options for capturing management, data, insights, and network activity events. The 'Management events' section is selected, indicated by a red arrow pointing to the checkbox.

Events Info
Record API activity for individual resources, or for all current and future resources in AWS account. Additional charges apply [?]

Event type
Choose the type of events that you want to log.

Management events
Capture management operations performed on your AWS resources.

Data events
Log the results of operations performed on or within a resource.

Insights events
Identify unusual activity, trends, or user behavior in your account.

Network activity events
Network activity events provide information about resource operations performed on a resource within a virtual private cloud endpoint.

Management events Info
Management events show information about management operations performed on resources in your AWS account.

No additional charges apply to log management events on this trail because this is your first copy of management events.

API activity
Choose the activities you want to log.

Read Write

Exclude AWS KMS events

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Screenshot of the AWS CloudTrail 'Create trail' wizard Step 2: Choose log events.

The 'Data events' section is selected, indicated by a red arrow pointing to the 'Advanced event selectors are enabled' link.

Data events Info
Data events show information about the resource operations performed on or within a resource. Additional charges apply [?]

Advanced event selectors are enabled
Use the following fields for fine-grained control over the data events captured by your trail.

Q: ec2 X Remove

EBS direct APIs
AWS: EC2:Snapshot

Select a resource type

► JSON view

Add data event type

Cancel Previous Next

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Screenshot of the AWS CloudTrail 'Create trail' wizard Step 2: Choose log events.

The 'Network activity events' section is selected, indicated by a red arrow pointing to the 'Next' button.

Network activity events Info
Network activity events provide information about resource operations performed on a resource within a virtual private cloud endpoint.

All services captured in the event source dropdown may not have VPC endpoint support in all regions. Make sure to check that PrivateLink supports VPC endpoints in the regions where events are expected.

▼ Network activity event: ec2.amazonaws.com

Network activity event source
Select a source for network activity events to log.
ec2.amazonaws.com

Log selector template
Log all events

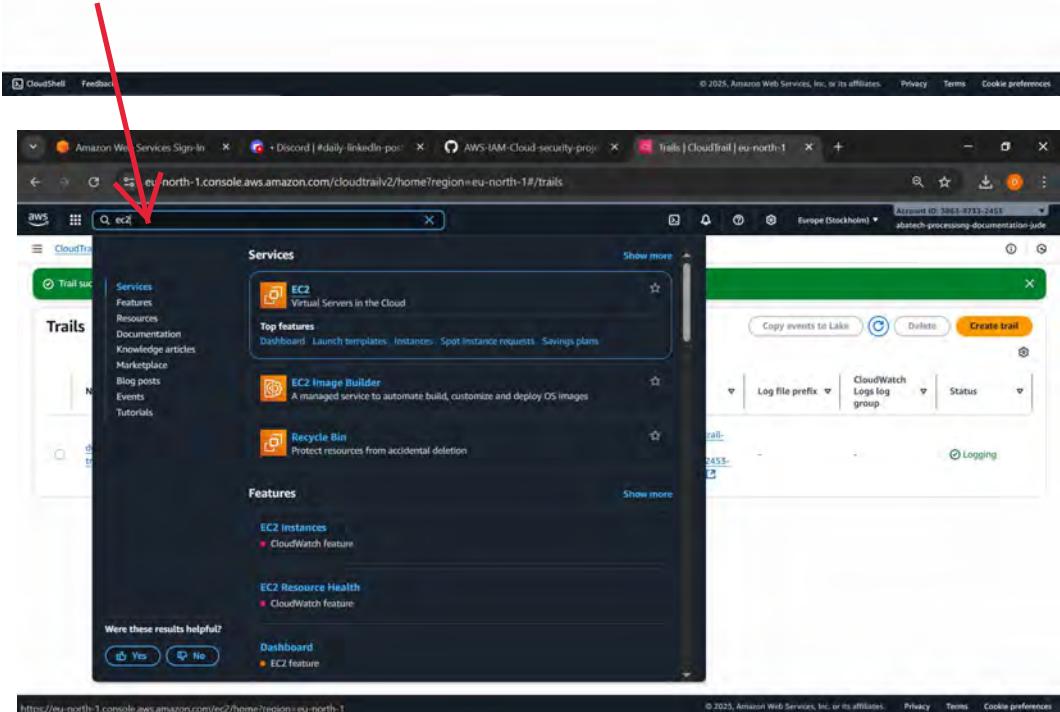
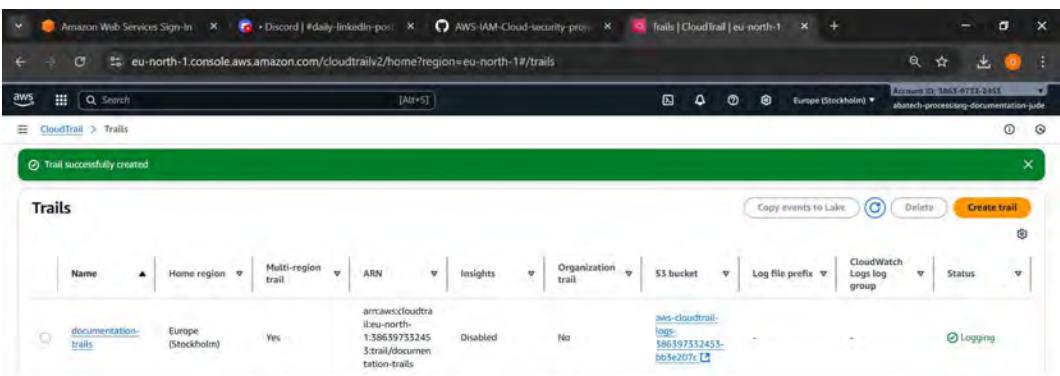
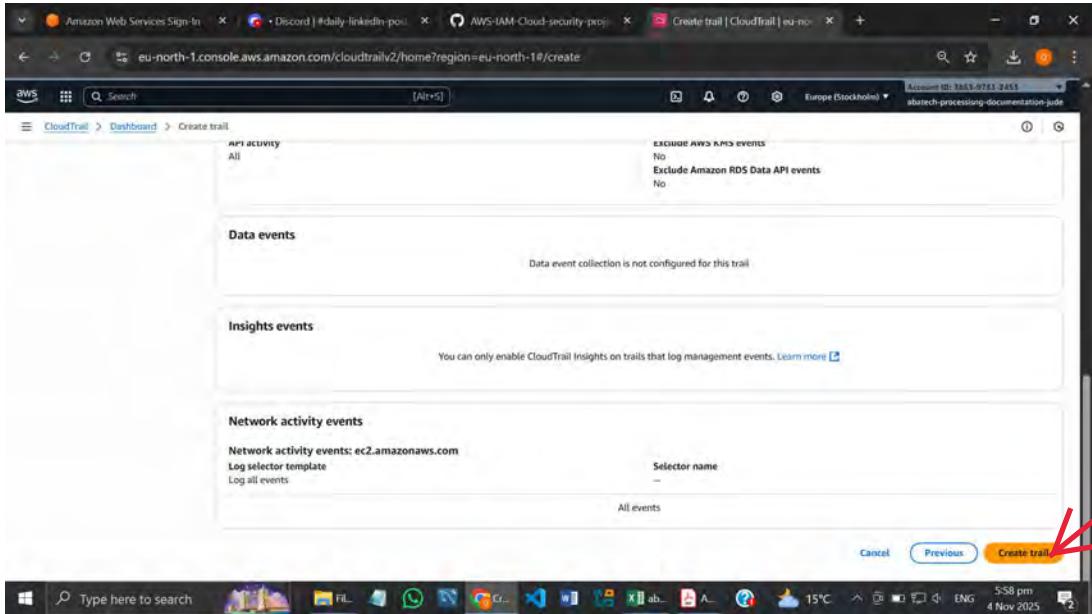
Selector name - optional
Enter a name
1,000 characters limit

► JSON view

Add network activity event selector

Cancel Previous Next

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The screenshot shows the AWS EC2 Dashboard. On the left, there's a sidebar with 'Instances' selected. In the main area, there's a 'Launch instance' section with a large orange 'Launch instance' button. To the right, there's a 'Service health' section and an 'EC2 cost' summary.

This screenshot shows the 'Launch an instance' wizard. It's step 1: Set instance details. The 'Software Image (AMI)' dropdown is set to 'Amazon Linux 2023 AMI 2023.9.2...'. The 'Virtual server type (instance type)' dropdown is set to 't3.micro'. The 'Launch instance' button at the bottom right is highlighted with an orange border.

This screenshot shows the 'Launch an instance' wizard. It's step 1: Set instance details. The 'Software Image (AMI)' dropdown is set to 'Microsoft Windows Server 2025 Datacenter edition. [English]'. The 'Virtual server type (instance type)' dropdown is set to 't3.micro'. The 'Launch instance' button at the bottom right is highlighted with an orange border. A red circle highlights the 'Windows' AMI option in the list.

The screenshot shows the 'Launch an instance' wizard. In the 'Network settings' section, the 'Subnet' dropdown is set to 'Custom' with the value 'My IP: 35.178.205.51/12'. A red arrow points from this dropdown to the 'Security group' dropdown below it. The 'Security group' dropdown also has 'Custom' selected with the value 'My IP: 35.178.205.51/12'. A second red arrow points from this dropdown to the 'Launch instance' button on the right. The 'Summary' panel on the right shows the selected software image (Windows Server 2025), instance type (t3.micro), and storage (1 volume(s) - 30 GB). The 'Launch instance' button is highlighted with a red box.

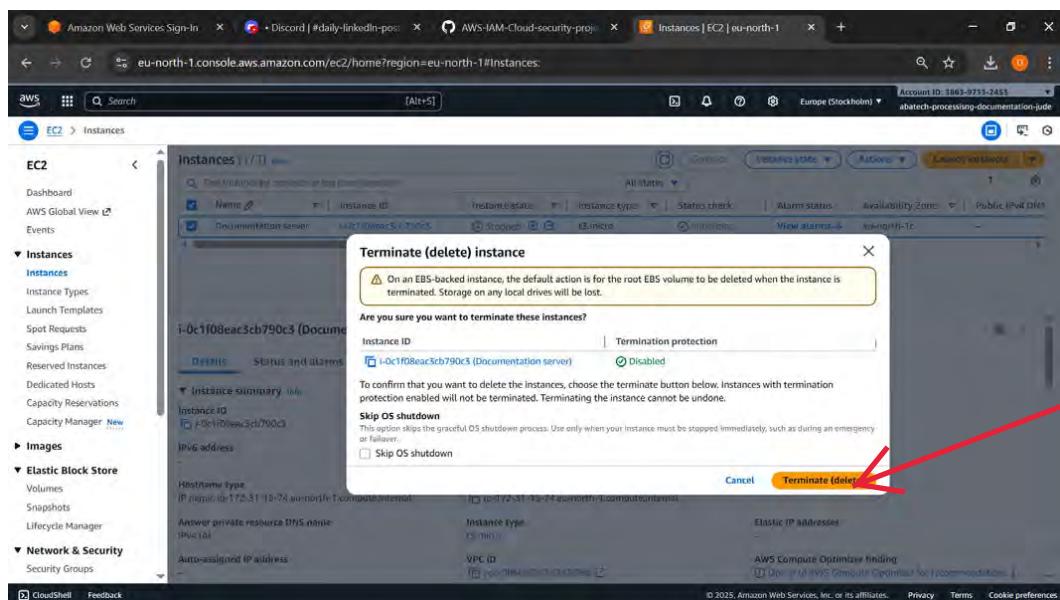
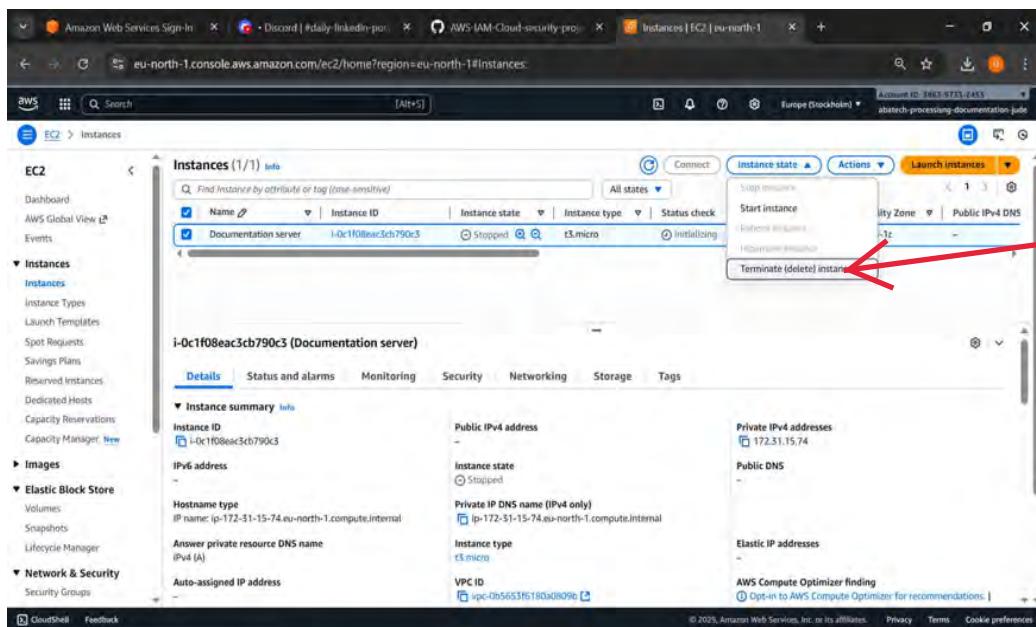
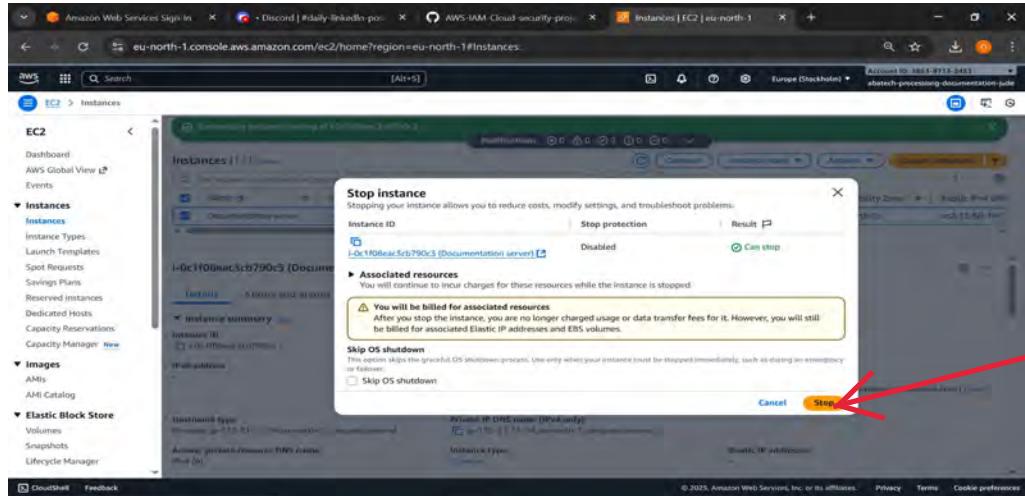
The screenshot shows the 'Success' message: 'Successfully initiated launch of instance i-0c1f08eac3cb790c3'. This message is circled in red. Below the message, there's a 'Launch log' link. The 'Next Steps' section contains several cards: 'Create billing usage alerts', 'Connect to your instance', 'Connect an RDS database', 'Create EBS snapshot policy', 'Manage detailed monitoring', 'Create Load Balancer', 'Create AWS budget', and 'Manage CloudWatch alarms'. Each card has a corresponding 'Create' or 'Learn more' button.

The screenshot shows the 'Instances' details page for the instance 'i-0c1f08eac3cb790c3'. The left sidebar highlights the 'Instances' section with a red arrow. The main pane displays the instance summary, including its instance ID, public and private IP addresses, instance state (Running), and public DNS name (ec2-13-48-3-136.eu-north-1.compute.amazonaws.com). The 'Details' tab is selected, showing the instance's AMI, IP address, and host name type.

The screenshot shows the AWS EC2 Instances page. On the left sidebar, under the 'Instances' section, there is a list of various EC2-related options like Dashboard, AWS Global View, Events, and Images. The main content area displays a table titled 'Instances (1/1) Info'. The first row in the table is for an instance named 'Documentation server' with the ID 'i-0c1f08eac3cb790c3'. The instance is currently 'Running'. The table includes columns for Name, Instance ID, Instance state, Instance type, Status check, Availability Zone, and Public IPv4 DNS. Below the table, there is a detailed view of the instance 'i-0c1f08eac3cb790c3', which is identified as a 'Documentation server'. It shows details such as Hostname type (IP name: ip-172-31-15-74.eu-north-1.compute.internal), Private IP DNS name (IPv4 only: ip-172-31-15-74.eu-north-1.compute.internal), and VPC ID (vpc-0b5653f6180a0809). The instance is associated with the subnet 'Subnet ID: subnet-0f01a5a1a1f0f0f0'. The right side of the screen shows Public DNS (ec2-13-48-3-15.eu-north-1.compute.amazonaws.com) and Elastic IP addresses.

This screenshot is from the same EC2 Instances page as the previous one, but the instance status has changed. The 'Documentation server' instance is now in the 'Stopped' state. The 'Actions' dropdown menu is open, and the 'Terminate (delete) instance' option is highlighted with a red arrow.

This screenshot shows the EC2 Instances page again. The 'Documentation server' instance is now back in the 'Running' state. The 'Actions' dropdown menu is open, and the 'Stop instance' option is highlighted with a red arrow. A green notification bar at the top of the page indicates that the instance was successfully initiated.



The screenshot shows the AWS EC2 Instances page. A green success message at the top states: "Successfully initiated termination (deletion) of i-0c1f08eac3cb790c3". The main table lists one instance:

Name	Instance ID	Instance state	Instance type	Status check	Alarm status	Availability Zone	Public IPv4 DNS
Documentation server	i-0c1f08eac3cb790c3	Shutting-down	t3.micro	initializing		eu-north-1c	

The "Instance state" column for the instance is circled in red. Below the table, the instance details are shown under the "i-0c1f08eac3cb790c3 (Documentation server)" heading. The "Details" tab is selected.

The screenshot shows the AWS EC2 Instances page. A green success message at the top states: "Successfully initiated termination (deletion) of i-0c1f08eac3cb790c3". The main table lists one instance:

Name	Instance ID	Instance state	Instance type	Status check	Alarm status	Availability Zone	Public IPv4 DNS
Documentation server	i-0c1f08eac3cb790c3	Terminated	t3.micro			eu-north-1c	

The "Instance state" column for the instance is circled in red. Below the table, the instance details are shown under the "i-0c1f08eac3cb790c3 (Documentation server)" heading. The "Details" tab is selected.

CREATING S3 BUCKET

type in s3 into the AWS search box

The screenshot shows the AWS EC2 console interface. At the top, there is a search bar with the text 'eu-north-1.console.aws.amazon.com/ec2/home?region=eu-north-1#Instances'. Below the search bar, the main navigation menu includes 'Services' (with 'S3 Scalable Storage in the Cloud' highlighted), 'Features', 'Resources', 'Documentation', 'Knowledge articles', 'Marketplace', 'Blog posts', 'Events', 'Launch Tutorials', 'AWS Snow Family Large Scale Data Transport', 'S3 on Outposts', 'AWS Outposts feature', 'Exports to S3', 'DynamoDB feature', and 'S3 Access Grants'. On the left, there are sections for 'Instances' (with 'Instances' selected), 'Images', 'Elastic Block Volumes', 'Network & Security Groups', and 'Feedback'. A red arrow points to the search bar.

The screenshot shows the AWS S3 buckets page. The URL is 'eu-north-1.console.aws.amazon.com/s3/buckets?region=eu-north-1'. The left sidebar has 'Amazon S3' selected under 'General purpose buckets'. The main area shows 'General purpose buckets (1)' with a table containing one item: 'aws-cloudtrail-logs-386397352455-b63e207c' (Europe (Stockholm) eu-north-1, November 4, 2025, 17:59:25 UTC+01:00). To the right, there are sections for 'Account snapshot' and 'External access summary - new'. A red arrow points to the 'Create bucket' button at the bottom of the 'General purpose buckets' section.

create a bucket

The screenshot shows the 'Create S3 bucket' configuration page. The URL is 'eu-north-1.console.aws.amazon.com/s3/bucket/create?region=eu-north-1'. The left sidebar shows 'Amazon S3 > Buckets > Create bucket'. The main form has a 'General configuration' section with 'Bucket type' set to 'General purpose'. The 'Bucket name' field is highlighted with a red arrow and contains the value 'documentation-bucket'. Other fields include 'Object Ownership' (set to 'ACLS disabled (recommended)'), 'Copy settings from existing bucket - optional' (with a 'Choose bucket' button), and 'Object Ownership' (with 'ACLS enabled' checked). A red arrow also points to the 'Bucket name' field.

create bucket name

Block Public Access settings for this bucket

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 this bucket and its 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 this bucket or objects within, you can customize the individual settings below to suit your specific storage use cases. [Learn more](#)

Block all public access

Turning this setting on is the same as turning on all four settings below. Each of the following settings are independent of one another.

- Block public access to buckets and objects granted through new access control lists (ACLs)**
- Block public access to buckets and objects granted through any access control lists (ACLs)**
- Block public access to buckets and objects granted through new public bucket or access point policies**
- Block public and cross-account access to buckets and objects through any public bucket or access point policies**

Bucket Versioning

Versioning is a means of keeping multiple variants of an object in the same bucket. You can use versioning to preserve, retrieve, and restore every version of every object stored in your Amazon S3 bucket. With versioning, you can easily recover from both unintended user actions and application failures. [Learn more](#)

Bucket Versioning

Disable

Enable

[CloudShell](#) [Feedback](#)

Default encryption [Info](#)

Server-side encryption is automatically applied to new objects stored in this bucket.

Encryption type [Info](#)

Sure your objects with two separate layers of encryption. For details on pricing, see [DSSE-KMS pricing](#) on the Storage tab of the [Amazon S3 pricing page](#).

Server-side encryption with Amazon S3 managed keys (SSE-S3)

Server-side encryption with AWS Key Management Service keys (SSE-KMS)

Dual-Layer server-side encryption with AWS Key Management Service keys (DSSE-KMS)

Bucket Key

Using an S3 Bucket Key for SSE-KMS reduces encryption costs by bypassing calls to AWS KMS. S3 Bucket Keys aren't supported for DSSE-KMS. [Learn more](#)

Disable

Enable

Advanced settings

After creating the bucket, you can upload files and folders to the bucket, and configure additional bucket settings.

[Cancel](#) [Create bucket](#)

[CloudShell](#) [Feedback](#)

Successfully created bucket "docum-bucket"

To upload files and folders, or to configure additional bucket settings, choose [View details](#)

General purpose buckets [All AWS Regions](#) [Directory buckets](#)

General purpose buckets (2) [Info](#)

Buckets are containers for data stored in S3.

Name	AWS Region	Creation date
aws-cloudtrail-logs-386397352453-b63c207c	Europe (Stockholm) eu-north-1	November 4, 2025, 17:59:25 (UTC+01:00)
docum-bucket	Europe (Stockholm) eu-north-1	November 4, 2025, 18:37:35 (UTC+01:00)

Account snapshot [Info](#)

Updated daily

Storage Lens provides visibility into storage usage and activity trends.

External access summary - new [Info](#)

Updated daily

External access findings help you identify bucket permissions that allow public access or access from other AWS accounts.

[View details](#)

[CloudShell](#) [Feedback](#)

Amazon Web Services Sign-In

eu-north-1.console.aws.amazon.com/s3/buckets/docum-bucket?region=eu-north-1&tab=objects

aws Search [Alt+S]

Amazon S3 > Buckets > docum-bucket

docum-bucket Info

Objects Properties Permissions Metrics Management Access Points

Objects (0)

No objects

You don't have any objects in this bucket.

Upload

upload a desired file

CloudShell Feedback

Amazon Web Services Sign-In

eu-north-1.console.aws.amazon.com/s3/upload/docum-bucket?region=eu-north-1

aws Search [Alt+S]

Amazon S3 > Buckets > docum-bucket > Upload

Upload Info

Add the files and folders you want to upload to S3. To upload a file larger than 160GB, use the AWS CLI, AWS SDKs or Amazon S3 REST API. [Learn more](#)

Drag and drop files and folders you want to upload here, or choose Add files or Add folder.

Files and folders (0)

All files and folders in this table will be uploaded.

Add files Add folder

Find by name

Name Folder Type Size

No files or folders

You have not chosen any files or folders to upload.

Destination Info

Destination [s3://docum-bucket](#)

Destination details Bucket settings that impact new objects stored in the specified destination.

Permissions

add file

CloudShell Feedback

Amazon Web Services Sign-In

eu-north-1.console.aws.amazon.com/s3/upload/docum-bucket?region=eu-north-1

aws Search [Alt+S]

Amazon S3 > Buckets > docum-bucket > Upload

Upload Info

Add the files and folders you want to upload to S3. To upload a file larger than 160GB, use the AWS CLI, AWS SDKs or Amazon S3 REST API. [Learn more](#)

Drag and drop files and folders you want to upload here, or choose Add files or Add folder.

Files and folders (1 total, 1.5 MB)

All files and folders in this table will be uploaded.

Name	Folder	Type	Size
1754390746405.png	-	image/png	1.5 MB

Remove Add files Add folder

Find by name

Name Folder Type Size

Destination Info

Destination [s3://docum-bucket](#)

Destination details Bucket settings that impact new objects stored in the specified destination.

Permissions

file now added

The screenshot shows the AWS S3 'Upload objects' interface. At the top, there are several browser tabs: 'Amazon Web Services Sign-In', 'Discord | #daily-linkedin-post', 'AWS-IAM-Cloud-security-project', and 'Upload objects - S3 bucket docum-bucket'. The main window title is 'eu-north-1.console.aws.amazon.com/s3/upload/docum-bucket?region=eu-north-1'. The interface includes a search bar, a navigation bar with 'Amazon S3 > Buckets > docum-bucket > Upload', and a top right corner showing 'Account ID: 3863-9733-2453' and 'Europe (Stockholm)'. A large central area is labeled 'Upload' with a 'Info' link. Below it, a note says 'Add the files and folders you want to upload to S3. To upload a file larger than 160GB, use the AWS CLI, AWS SDKs or Amazon S3 REST API. [Learn more](#)'. A dashed box indicates where files can be dragged or selected. A red circle highlights the 'Remove' button in the top right of the 'Files and folders' table. Another red circle highlights the 'T754390746405.png' file row in the table. The table has columns for Name, Folder, Type, and Size. The file 'T754390746405.png' is listed with a checked checkbox, a folder icon, 'image/png' as the type, and '1.5 MB' as the size. Below the table, the 'Destination' section shows 's3://docum-bucket' and 'Destination details' (Bucket settings). The 'Permissions' section is also visible. At the bottom, there are links for 'CloudShell', 'Feedback', and copyright information: '© 2025, Amazon Web Services, Inc. or its affiliates.' and 'Privacy Terms Cookie preferences'.

you can also decide to remove file from the bucket