

AWS cloud assignment

- Create a virtual network with 2 subnets. Each subnet should have 16 ips only.

The screenshot shows the AWS Console Home page. At the top, there's a navigation bar with tabs for AWS Management, Services, and a search bar. Below the navigation bar is a "Recently visited" section containing links to VPC, S3, and EC2. There are buttons for "Reset to default layout" and "+ Add widgets". The main content area is currently empty. At the bottom, there's a footer with links for CloudShell, Feedback, Language, and various browser icons. The footer also includes copyright information for 2023, privacy terms, and cookie preferences, along with system status like temperature (37°C) and time (06-06-2023).

The screenshot shows the VPC Management dashboard. On the left, there's a sidebar with options like VPC dashboard, EC2 Global View, Filter by VPC, Virtual private cloud (with sub-options like Your VPCs, Subnets, Route tables, etc.), and a JavaScript void(0) message. The main content area has sections for "Create VPC" and "Launch EC2 Instances". It displays "Service Health" and "View complete service health details". The "Resources by Region" section shows metrics for VPCs, Subnets, Route Tables, Internet Gateways, Egress-only Internet Gateways, DHCP option sets, Elastic IPs, Managed prefix lists, Endpoints, Endpoint services, and NAT gateways across the US East region. To the right, there are sections for "Settings" (Zones, Console Experiments), "Additional Information" (VPC Documentation, All VPC Resources, Forums, Report an Issue), and "AWS Network Manager" (describing its purpose). The footer is identical to the one in the previous screenshot.

VPC Management | spring-aws-demo- | (3) Deploy Spring | Create EC2 Instance | Connect to AWS EC | Amazon S3 Bucket | +

← → C us-east-2.console.aws.amazon.com/vpc/home?region=us-east-2#CreateVpc:createMode=vpcOnly

Services Search [Alt+S]

VPC settings

Resources to create [Info](#)
Create only the VPC resource or the VPC and other networking resources.

VPC only VPC and more

Name tag - *optional*
Creates a tag with a key of 'Name' and a value that you specify.

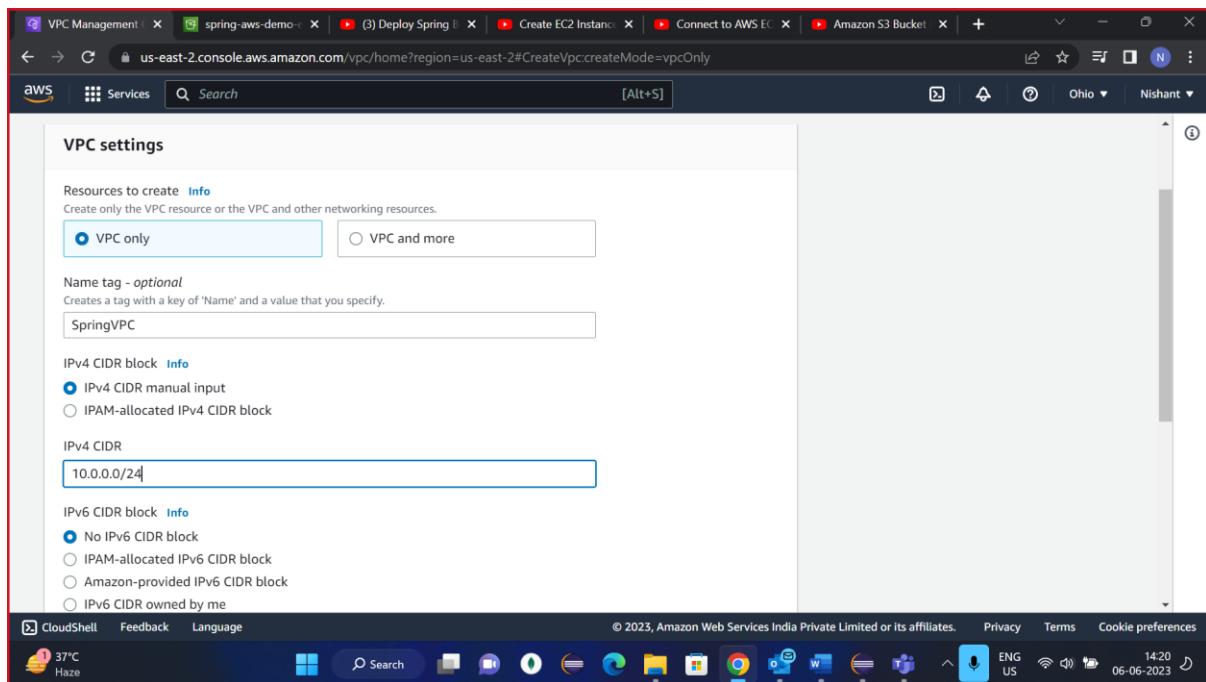
IPv4 CIDR block [Info](#)
 IPv4 CIDR manual input IPAM-allocated IPv4 CIDR block

IPv4 CIDR

IPv6 CIDR block [Info](#)
 No IPv6 CIDR block IPAM-allocated IPv6 CIDR block Amazon-provided IPv6 CIDR block IPv6 CIDR owned by me

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37°C Haze 14:20 06-06-2023



VPC Management | spring-aws-demo- | (3) Deploy Spring | Create EC2 Instance | Connect to AWS EC | Amazon S3 Bucket | +

← → C us-east-2.console.aws.amazon.com/vpc/home?region=us-east-2#VpcDetails:VpcId=vpc-0531ff9a7e299798a

Services Search [Alt+S]

VPC dashboard X

EC2 Global View [New](#)

Filter by VPC: Select a VPC

Virtual private cloud

Your VPCs [New](#)

Subnets

Route tables

Internet gateways

Egress-only internet gateways

DHCP option sets

Elastic IPs

Managed prefix lists

Endpoints

Endpoint services

NAT gateways

You successfully created vpc-0531ff9a7e299798a / SpringVPC

VPC > Your VPCs > vpc-0531ff9a7e299798a

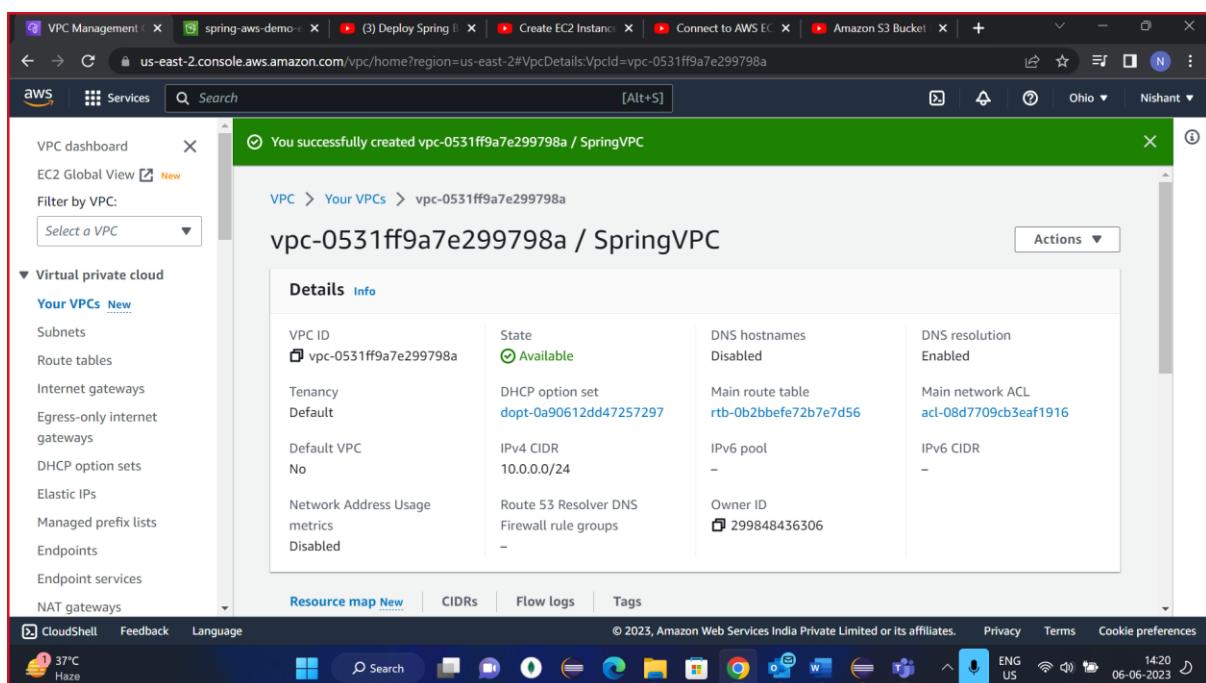
vpc-0531ff9a7e299798a / SpringVPC Actions ▾

Details Info	
VPC ID	vpc-0531ff9a7e299798a
State	Available
DNS hostnames	Disabled
DNS resolution	Enabled
Tenancy	DHCP option set
Default	dopt-0a90612dd47257297
Main route table	rtb-0b2bbefc72b7e7d56
Main network ACL	acl-08d7709cb3eaf1916
Default VPC	IPv4 CIDR
No	10.0.0.0/24
IPv6 pool	-
IPv6 CIDR	-
Network Address Usage metrics	Route 53 Resolver DNS Firewall rule groups
Disabled	Owner ID 299848436306

Resource map [New](#) | CIDRs | Flow logs | Tags

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Screenshots of the AWS VPC Management console showing the Subnets page and a new subnet creation dialog.

Subnets Page:

Name	Subnet ID	State	VPC	IPv4 CIDR
-	subnet-079b12832aeb098ce	Available	vpc-0b1a9e74edd907039	172.31.0.0/24
-	subnet-0cc3b972ba9b602de	Available	vpc-0b1a9e74edd907039	172.31.16.0/24
-	subnet-09ae9fd81ba653180	Available	vpc-0b1a9e74edd907039	172.31.32.0/24

Create New Subnet Dialog:

Subnet 1 of 1

Subnet name
Create a tag with a key of 'Name' and a value that you specify.

The name can be up to 256 characters long.

Availability Zone Info
Choose the zone in which your subnet will reside, or let Amazon choose one for you.

IPv4 CIDR block Info

Tags - optional

Key	Value - optional
<input type="text" value="Name"/>	<input type="text" value="sub1"/>

Add new tag
Remove

The screenshot shows the AWS VPC Subnets page. A success message at the top states: "You have successfully created 2 subnets: subnet-06d0ff1439493560d, subnet-0d88137ed7cc5e17". The main table displays two subnets:

Subnet ID	Subnet ID	Status	VPC	CIDR Range
subnet-06d0ff1439493560d	subnet-0d88137ed7cc5e17	Available	vpc-0531ff9a7e299798a Spring	10.0.0.0/24
sub1	subnet-06d0ff1439493560d	Available	vpc-0531ff9a7e299798a Spring	10.0.0.0/24
sub2	subnet-0d88137ed7cc5e17	Available	vpc-0531ff9a7e299798a Spring	10.0.0.16/24

- Inside one of the subnets, create a VM and deploy an application code inside it (any existing application created by you before). Make sure to use appropriate NACLs and SGs.

The screenshot shows the AWS Network ACLs page. A success message at the top states: "You have successfully deleted acl-0af07ccb45b142bf / MySpringNacl". The main table displays two network ACLs:

Name	Network ACL ID	Associated with	Default	VPC ID
-	acl-08d7709cb3eaf1916	2 Subnets	Yes	vpc-0531ff9a7e299798a
-	acl-0c0ab56460ef04d23	3 Subnets	Yes	vpc-0b1a

Create network ACL

spring-aws-demo

(3) Deploy Spring

Create EC2 Instance

Connect to AWS EC

Amazon S3 Bucket

us-east-2.console.aws.amazon.com/vpc/home?region=us-east-2#CreateNetworkAcl:

Services Search [Alt+S]

VPC Network ACLs Create network ACL

Create network ACL [Info](#)

A network ACL is an optional layer of security that acts as a firewall for controlling traffic in and out of a subnet.

Network ACL settings

Name - optional
Creates a tag with a key of 'Name' and a value that you specify.

VPC
VPC to use for this network ACL.

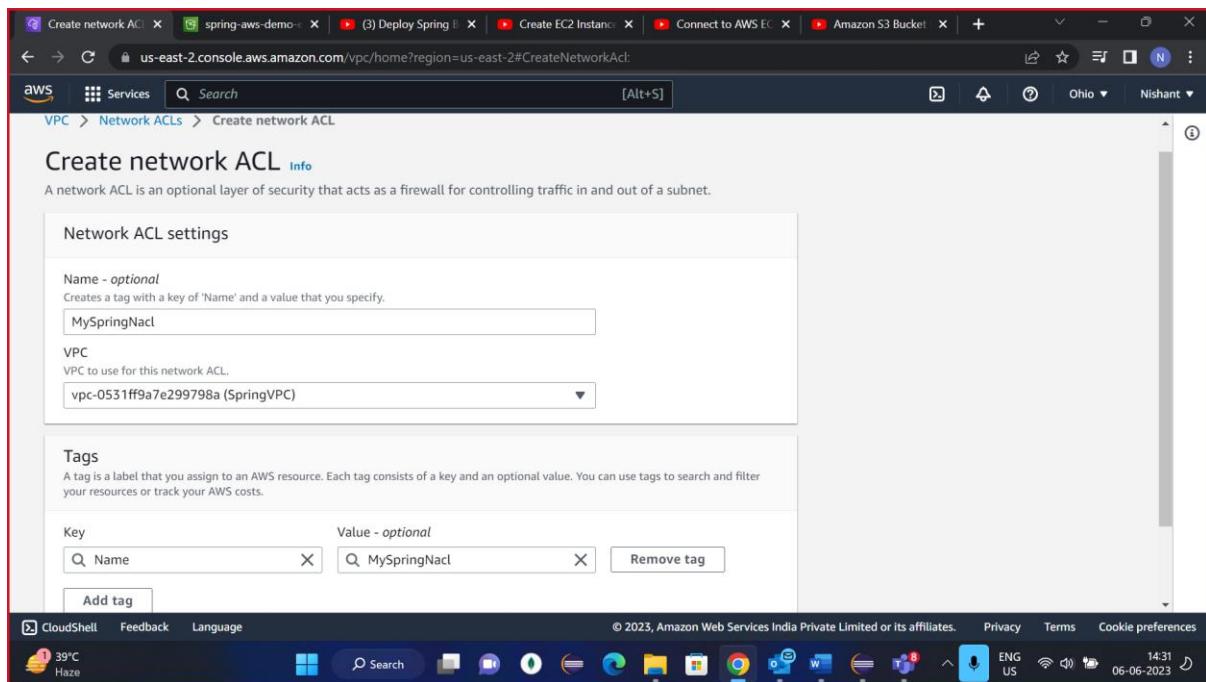
Tags
A tag is a label that you assign to an AWS resource. Each tag consists of a key and an optional value. You can use tags to search and filter your resources or track your AWS costs.

Key	Value - optional
<input type="text" value="Name"/>	<input type="text" value="MySpringNacl"/>

[Add tag](#)

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VPC Management

spring-aws-demo

(3) Deploy Spring

Create EC2 Instance

Connect to AWS EC

Amazon S3 Bucket

us-east-2.console.aws.amazon.com/vpc/home?region=us-east-2#EditInboundRules:networkAclId=acl-0709020debe352f25

Services Search [Alt+S]

VPC Network ACLs acl-0709020debe352f25 / MySpringNacl Edit inbound rules

Edit inbound rules [Info](#)

Inbound rules control the incoming traffic that's allowed to reach the VPC.

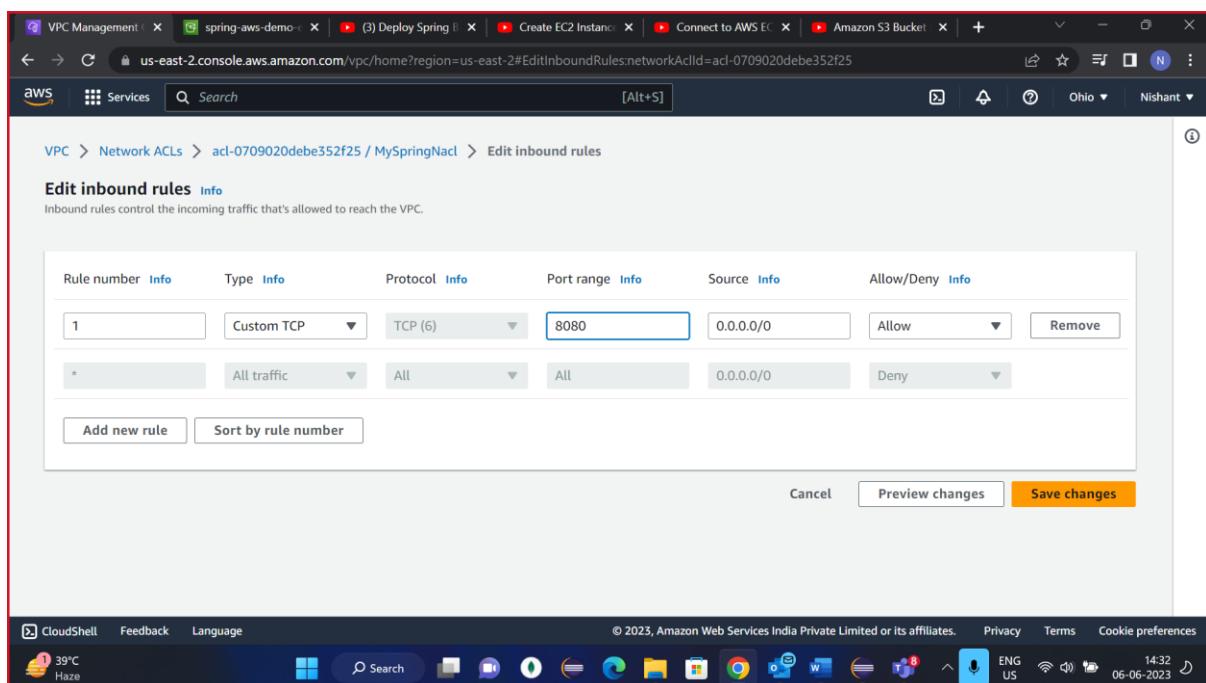
Rule number	Type	Protocol	Port range	Source	Allow/Deny
1	Custom TCP	TCP (6)	8080	0.0.0.0/0	Allow
*	All traffic	All	All	0.0.0.0/0	Deny

[Add new rule](#) [Sort by rule number](#)

Cancel [Preview changes](#) [Save changes](#)

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39°C Haze



VPC Management | spring-aws-demo- | (3) Deploy Spring | Create EC2 Instance | Connect to AWS EC | Amazon S3 Bucket | +

← → C us-east-2.console.aws.amazon.com/vpc/home?region=us-east-2#EditOutboundRules.networkAclId=acl-0709020debe352f25

Services Search [Alt+S]

VPC Network ACLs acl-0709020debe352f25 / MySpringNACL Edit outbound rules

Edit outbound rules Info

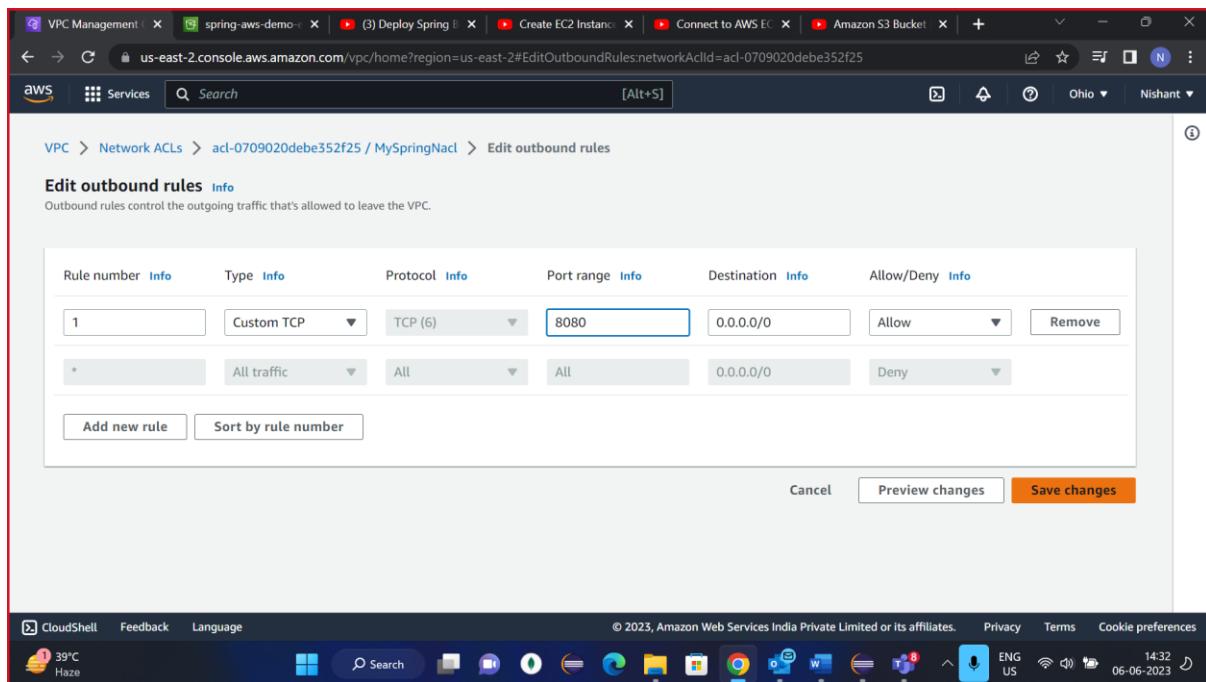
Outbound rules control the outgoing traffic that's allowed to leave the VPC.

Rule number	Type	Protocol	Port range	Destination	Allow/Deny
1	Custom TCP	TCP (6)	8080	0.0.0.0/0	Allow
*	All traffic	All	All	0.0.0.0/0	Deny

Add new rule Sort by rule number

Cancel Preview changes Save changes

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VPC Management | spring-aws-demo- | (3) Deploy Spring | Create EC2 Instance | Connect to AWS EC | Amazon S3 Bucket | +

← → C us-east-2.console.aws.amazon.com/vpc/home?region=us-east-2#SecurityGroups:

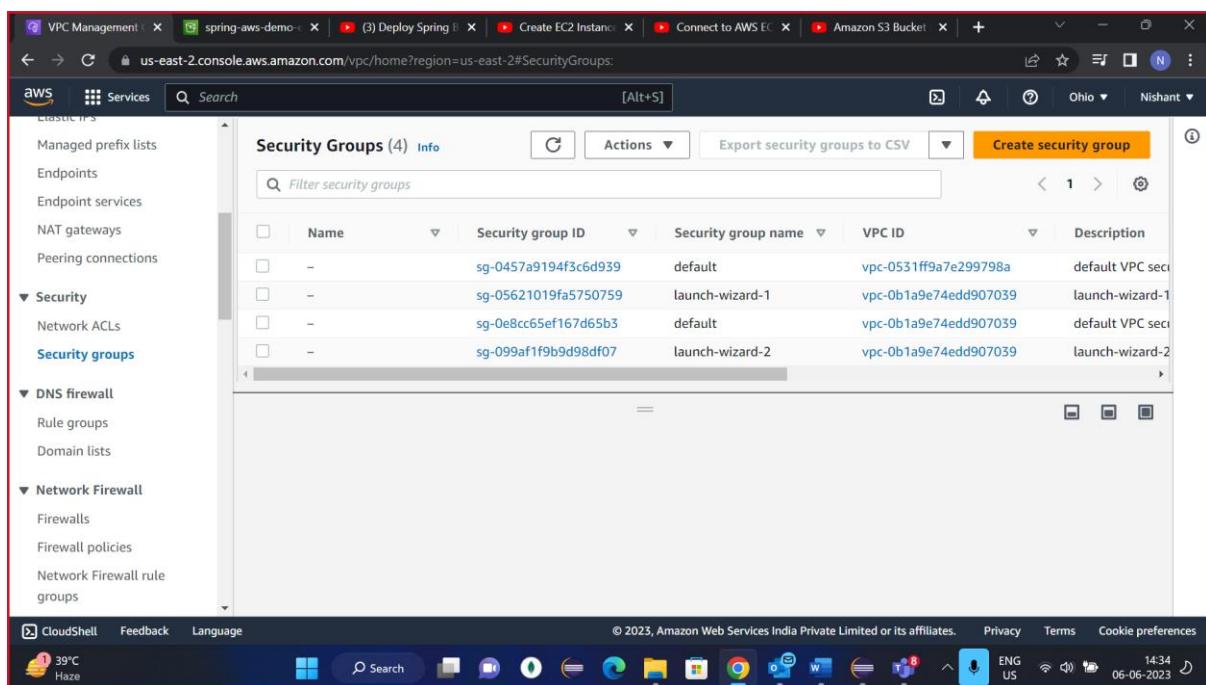
Services Search [Alt+S]

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Security Groups (4) Info Actions Export security groups to CSV Create security group

Name	Security group ID	Security group name	VPC ID	Description
-	sg-0457a9194f3c6d939	default	vpc-0531ff9a7e299798a	default VPC sec
-	sg-05621019fa5750759	launch-wizard-1	vpc-0b1a9e74edd907039	launch-wizard-1
-	sg-0e8cc65ef167d65b3	default	vpc-0b1a9e74edd907039	default VPC sec
-	sg-099af1f9b9d98df07	launch-wizard-2	vpc-0b1a9e74edd907039	launch-wizard-2

Managed prefix lists Endpoints Endpoint services NAT gateways Peering connections Security Network ACLs Security groups DNS firewall Rule groups Domain lists Network Firewall Firewalls Firewall policies Network Firewall rule groups



The screenshot shows the 'Create security group' wizard in the AWS VPC Management console. The 'Basic details' section is filled out with:

- Security group name:** MySG
- Description:** SG group for Spring Demo
- VPC:** vpc-0531ff9a7e299798a

The 'Inbound rules' section is currently empty. The browser address bar shows the URL: `us-east-2.console.aws.amazon.com/vpc/home?region=us-east-2#CreateSecurityGroup`.

The screenshot shows the 'sg-0c7d50e05280d5e95 - MySG' security group page. A green success message at the top states: "Security group (sg-0c7d50e05280d5e95 | MySG) was created successfully".

The 'Details' section displays the following information:

Security group name	Security group ID	Description	VPC ID
MySG	sg-0c7d50e05280d5e95	SG group for Spring Demo	vpc-0531ff9a7e299798a

The 'Inbound rules' tab is selected. The browser address bar shows the URL: `us-east-2.console.aws.amazon.com/vpc/home?region=us-east-2#SecurityGroup;groupId=sg-0c7d50e05280d5e95`.

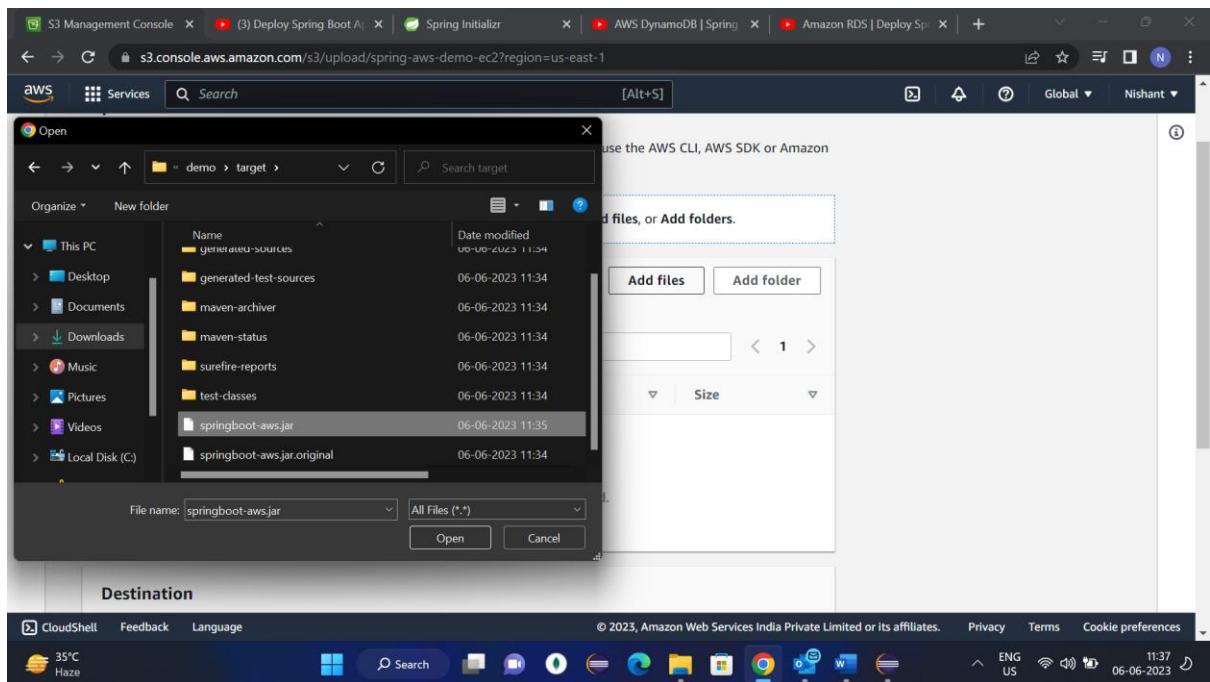
=====

The screenshot shows the AWS Management Console search results for the query 's3'. The search bar at the top contains 's3'. Below it, a sidebar titled 'Services (7)' lists various AWS services: Features (19), Resources (New), Blogs (1,245), Documentation (20,808), Knowledge Articles (30), Tutorials (12), Events (26), and Marketplace (1,155). The main content area displays three service cards: 'S3' (Scalable Storage in the Cloud), 'S3 Glacier' (Archive Storage in the Cloud), and 'AWS Snow Family' (Large Scale Data Transport). A link 'View all services' is located at the bottom of the card list.

The screenshot shows the S3 Management Console at the URL s3.console.aws.amazon.com/s3/buckets?region=us-east-1. A green success message box at the top states: 'Successfully created bucket "spring-aws-demo-ec2"' and 'To upload files and folders, or to configure additional bucket settings choose View details.' Below this, the 'Amazon S3 > Buckets' page is shown. On the left, a sidebar includes sections for 'Buckets', 'Access Points', 'Object Lambda Access Points', 'Multi-Region Access Points', 'Batch Operations', 'IAM Access Analyzer for S3', 'Block Public Access settings for this account', and 'Storage Lens' (with 'Dashboards' and 'AWS Organizations settings'). The main content area features an 'Account snapshot' section with a 'View Storage Lens dashboard' button. The 'Buckets (1)' section shows a table with one row:

Name	AWS Region	Access	Creation date
spring-aws-demo-ec2	US East (N. Virginia) us-east-1	Objects can be public	June 6, 2023, 11:36:35 (UTC+05:30)

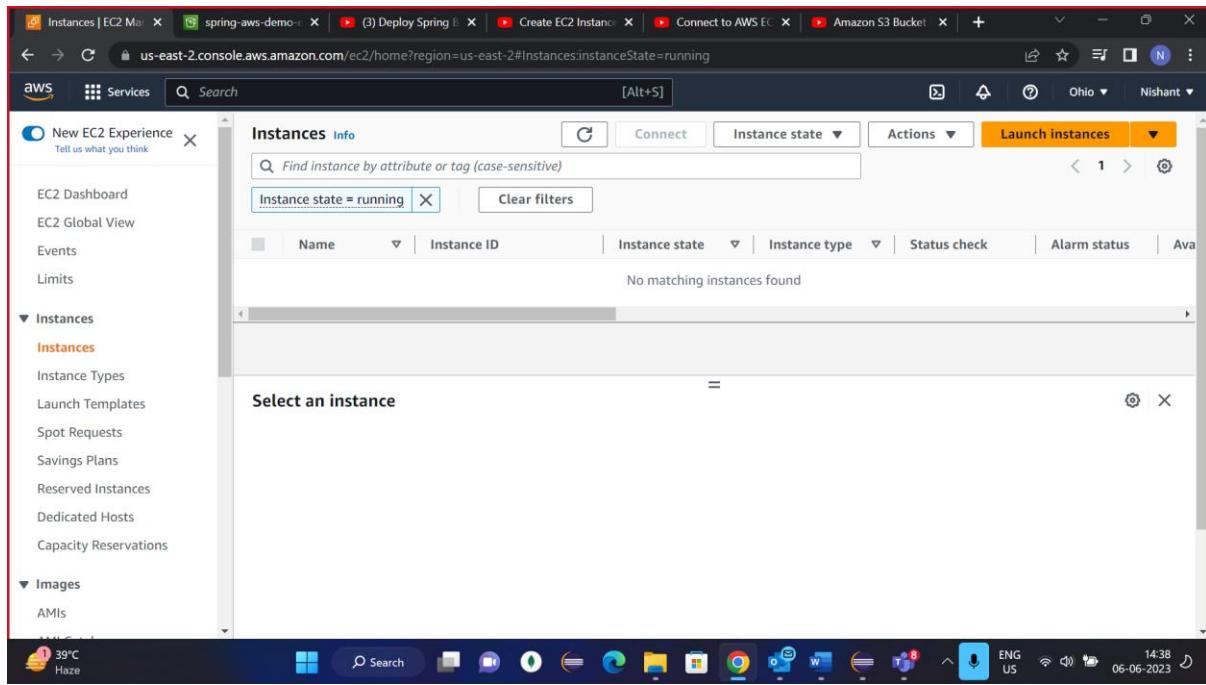
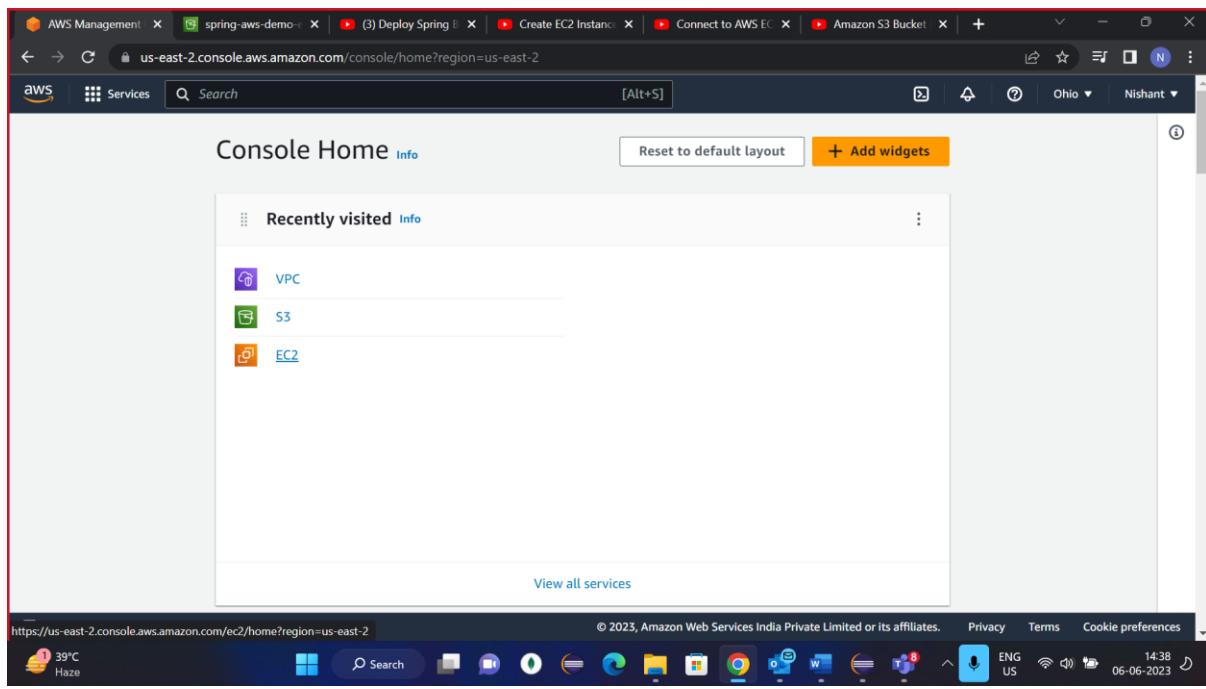
At the bottom of the page, there are links for 'CloudShell', 'Feedback', and 'Language', along with copyright information: '© 2023, Amazon Web Services India Private Limited or its affiliates.' and navigation links for 'Privacy', 'Terms', and 'Cookie preferences'.



The screenshot shows the AWS S3 Management Console after a successful upload. A green banner at the top indicates 'Upload succeeded'. Below it, the 'Upload: status' page displays a summary table:

Destination	Succeeded	Failed
s3://spring-aws-demo-ec2	1 file, 18.0 MB (100.00%)	0 files, 0 B (0%)

The 'Files and folders' section shows 1 total item, 18.0 MB. The status bar at the bottom indicates the upload was completed at 11:37 on 06-06-2023.



The screenshot shows the 'Launch an instance' wizard in the AWS Management Console. The left sidebar shows the navigation path: EC2 > Instances > Launch an instance. The main content area is titled 'Launch an instance' with a sub-section 'Name and tags'. A text input field contains 'SpringDemoEc2' with a 'Add additional tags' button next to it. Below this is a section titled 'Application and OS Images (Amazon Machine Image)'. A search bar at the top of this section contains the placeholder 'Search our full catalog including 1000s of application and OS images'. To the right, a summary panel displays the configuration details:

- Number of instances: 1
- Software Image (AMI): Canonical, Ubuntu, 22.04 LTS, ami-024e6efaf93d85776
- Virtual server type (instance type): t2.micro
- Firewall (security group): New security group
- Storage (volumes): 1 volume(s) - 8 GiB

At the bottom right are 'Cancel', 'Launch instance', and 'Review commands' buttons.

This screenshot continues the 'Launch an instance' wizard, focusing on 'Network settings'. The left sidebar shows the navigation path: EC2 > Instances > Launch an instance. The main content area is titled 'Network settings' with a sub-section 'VPC - required'. A dropdown menu shows 'vpc-0531ff9a7e299798a (SpringVPC) 10.0.0.0/24'. Below this is a 'Subnet info' section showing 'subnet-06d0ff1439493560d' (sub1), VPC: vpc-0531ff9a7e299798a, Owner: 299848456306, Availability Zone: us-east-2a, IP addresses available: 11, CIDR: 10.0.0.0/28. There is also a 'Create new subnet' button. Under 'Auto-assign public IP', the dropdown is set to 'Disable'. In the 'Firewall (security groups)' section, a note says 'A security group is a set of firewall rules that control the traffic for your instance. Add rules to allow specific traffic to reach your instance.' It includes 'Create security group' and 'Select existing security group' buttons, with 'Select existing security group' being selected. In the 'Common security groups' section, a dropdown shows 'Select security groups' with 'MySG sg-0c7d50e05280d5e95' listed. A note at the bottom states 'Security groups that you add or remove here will be added to or removed from all your network interfaces.' To the right, a summary panel displays the configuration details, including a note about the free tier: 'Free tier: In your first year includes 750 hours of t2.micro (or t3.micro in the Regions in which t2.micro is unavailable) instance usage on free'. At the bottom right are 'Cancel', 'Launch instance', and 'Review commands' buttons.

The screenshot shows the AWS EC2 Instances Launch log page. At the top, there is a success message: "Successfully initiated launch of instance (i-07a88e6e3011e7398)". Below this, there is a link to "Launch log".

Next Steps

A search bar at the top of the next steps section asks, "What would you like to do next with this instance, for example 'create alarm' or 'create backup'?" Below the search bar are six numbered steps:

- Create billing and free tier usage alerts
- Connect to your instance
- Connect an RDS database
- Create EBS snapshot policy
- Learn more
- Connect to instance

The taskbar at the bottom shows various icons and the date/time: 06-06-2023 14:40.

The screenshot shows the AWS EC2 Instances SSH client page. The title bar indicates the URL is us-east-2.console.aws.amazon.com/ec2/home?region=us-east-2#ConnectToInstance:instanceId=i-07a88e6e3011e7398. The page header includes "Services" and a search bar.

The main content area displays instructions for connecting to the instance:

Connect to your instance i-07a88e6e3011e7398 (SpringDemoEc2) using any of these options

EC2 Instance Connect | Session Manager | **SSH client** | EC2 serial console

Warning: You may not be able to connect to this instance as ports 22 may need to be open in order to be accessible. The current associated security groups don't have ports 22 open.

Instance ID: i-07a88e6e3011e7398 (SpringDemoEc2)

- Open an SSH client.
- Locate your private key file. The key used to launch this instance is spring-demo.pem
- Run this command, if necessary, to ensure your key is not publicly viewable.
chmod 400 spring-demo.pem
- Connect to your instance using its Private IP:
10.0.0.12

Command copied: ssh -i "spring-demo.pem" ubuntu@10.0.0.12

Note: In most cases, the guessed user name is correct. However, read your AMI usage instructions to check if

The taskbar at the bottom shows various icons and the date/time: 06-06-2023 14:41.

The screenshot shows the 'Edit inbound rules' section of the AWS EC2 Management Console. It lists two security group rules:

Security group rule ID	Type	Protocol	Port range	Source	Description - optional
sgr-0ea9a39667d8a203f	Custom TCP	TCP	8080	Custom	0.0.0.0/0
-	SSH	TCP	22	My IP	103.170.91.15/32

Buttons for 'Add rule', 'Cancel', 'Preview changes', and 'Save rules' are visible at the bottom.

A Windows PowerShell window titled 'Windows PowerShell' is open. The command entered is:

```
PS C:\Users\nishantchaudhary02\Downloads> ssh -i "newEC2.pem" ubuntu@ec2-13-58-196-168.us-east-2.compute.amazonaws.com
```

```
PS C:\Users\nishantchaudhary02\Downloads> ssh -i "newEC2.pem" ubuntu@ec2-13-58-196-168.us-east-2.compute.amazonaws.com
Welcome to Ubuntu 22.04.2 LTS (GNU/Linux 5.19.0-1025-aws x86_64)

 * Documentation: https://help.ubuntu.com
 * Management: https://landscape.canonical.com
 * Support: https://ubuntu.com/advantage

System information as of Tue Jun  6 14:10:15 UTC 2023

System load: 0.39892578125   Processes:          101
Usage of /: 25.9% of 7.57GB  Users logged in:      0
Memory usage: 25%           IPv4 address for eth0: 10.0.0.4
Swap usage:  0%

Expanded Security Maintenance for Applications is not enabled.

48 updates can be applied immediately.
33 of these updates are standard security updates.
To see these additional updates run: apt list --upgradable

Enable ESM Apps to receive additional future security updates.
See https://ubuntu.com/esm or run: sudo pro status

Last login: Tue Jun  6 14:06:18 2023 from 103.170.91.15
ubuntu@ip-10-0-0-4:~$ wget https://spring-demo-ec2.s3.amazonaws.com/springboot-aws.jar
```

```
PS C:\Users\nishantchaudhary02\Downloads> ssh -i "newEC2.pem" ubuntu@ec2-13-58-196-168.us-east-2.compute.amazonaws.com
Welcome to Ubuntu 22.04.2 LTS (GNU/Linux 5.19.0-1025-aws x86_64)

 * Documentation: https://help.ubuntu.com
 * Management: https://landscape.canonical.com
 * Support: https://ubuntu.com/advantage

System information as of Tue Jun  6 14:10:15 UTC 2023

System load: 0.39892578125   Processes:          101
Usage of /: 25.9% of 7.57GB  Users logged in:      0
Memory usage: 25%           IPv4 address for eth0: 10.0.0.4
Swap usage:  0%

Expanded Security Maintenance for Applications is not enabled.

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Enable ESM Apps to receive additional future security updates.
See https://ubuntu.com/esm or run: sudo pro status

Last login: Tue Jun  6 14:06:18 2023 from 103.170.91.15
ubuntu@ip-10-0-0-4:~$ ls
springboot-aws.jar
ubuntu@ip-10-0-0-4:~$ |
```

```
ubuntu@ip-10-0-0-4: ~ + ^

PS C:\Users\nishantchaudhary02\Downloads> ssh -i "newEC2.pem" ubuntu@ec2-13-58-196-168.us-east-2.compute.amazonaws.com
Welcome to Ubuntu 22.04.2 LTS (GNU/Linux 5.19.0-1025-aws x86_64)

 * Documentation:  https://help.ubuntu.com
 * Management:     https://landscape.canonical.com
 * Support:        https://ubuntu.com/advantage

System information as of Tue Jun  6 14:10:15 UTC 2023

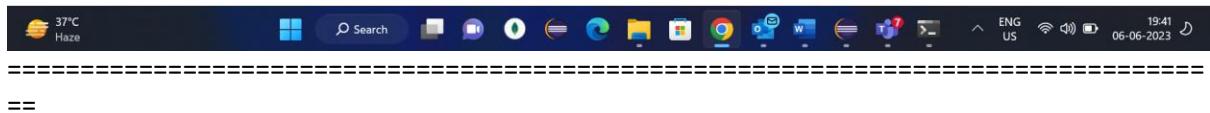
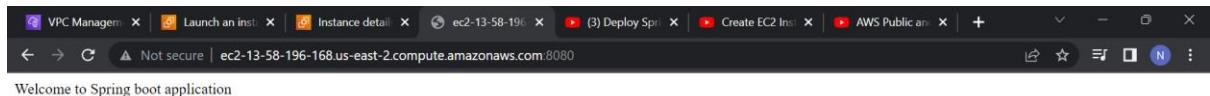
System load:  0.39892578125   Processes:           101
Usage of /:  25.9% of 7.57GB  Users logged in:    0
Memory usage: 25%            IPv4 address for eth0: 10.0.0.4
Swap usage:   0%

VM: Expanded Security Maintenance for Applications is not enabled.

48 updates can be applied immediately.
33 of these updates are standard security updates.
To see these additional updates run: apt list --upgradable

B Enable ESM Apps to receive additional future security updates.
See https://ubuntu.com/esm or run: sudo pro status

Last login: Tue Jun  6 14:06:18 2023 from 103.170.91.15
ubuntu@ip-10-0-0-4:~$ ls
springboot-aws.jar
ubuntu@ip-10-0-0-4:~$ java -jar springboot-aws.jar |
```

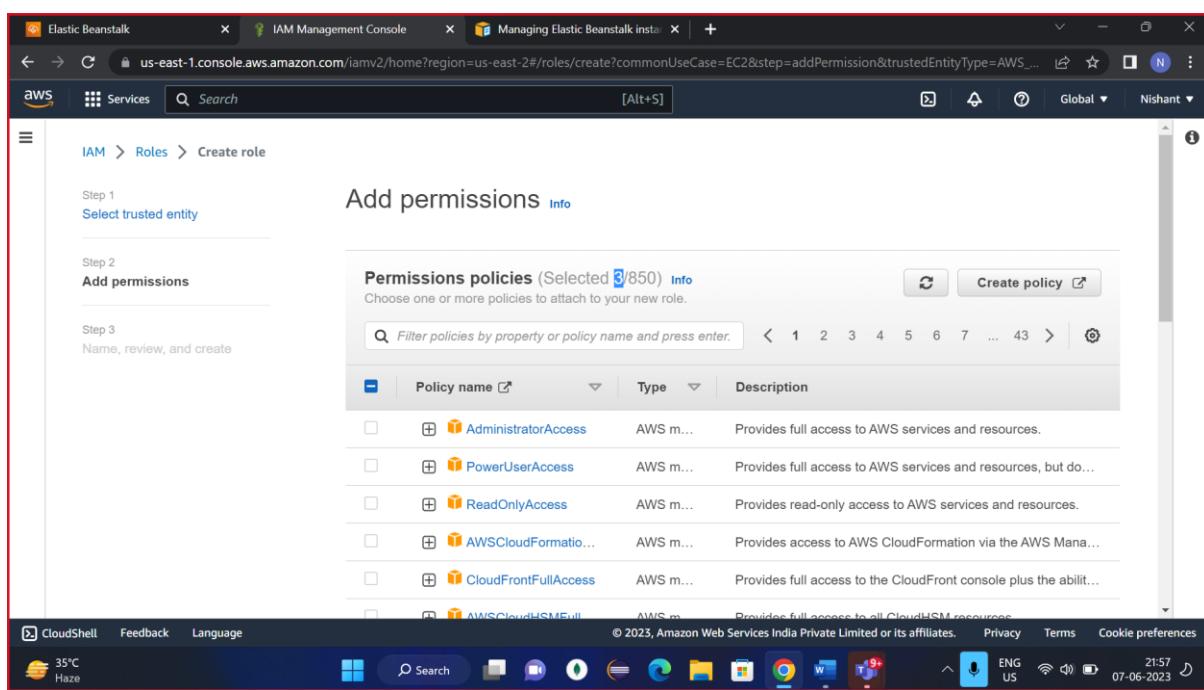
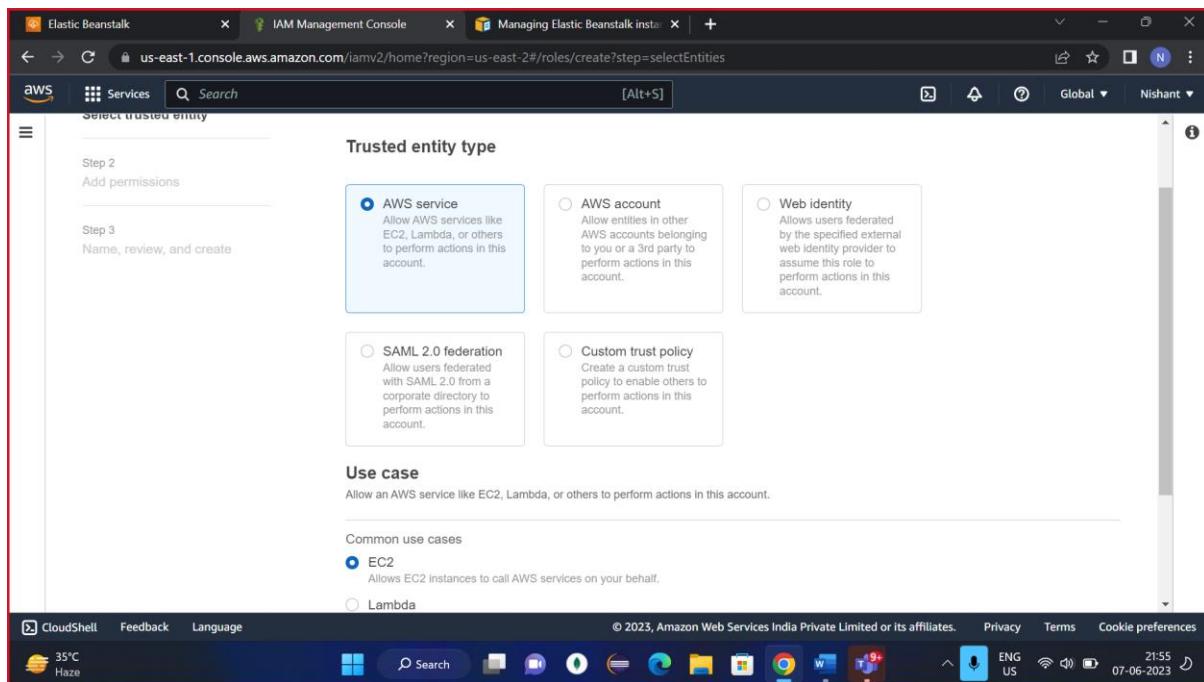


- Deploy the same application to Elastic beanstalk Service.

The screenshot shows the AWS IAM Management Console. The left sidebar has a tree view with 'Identity and Access Management (IAM)' selected. Under 'Access management', 'Roles' is also selected. The main content area shows a table of roles:

Role name	Trusted entities
AWSServiceRoleForSupport	AWS Service: support (Service-Linked Role)
AWSServiceRoleForTrustedAdvisor	AWS Service: trustedadvisor (Service-Linked Role)

Below the table, there are links for 'Roles Anywhere' and 'Temporary credentials'.



Elastic Beanstalk IAM Management Console Managing Elastic Beanstalk instances

us-east-1.console.aws.amazon.com/iamv2/home?region=us-east-2#/roles/create?commonUseCase=EC2&policies=arn%3Aaws%3Aiam%3Aaws%3Ap... Nishant

Services Search [Alt+S]

IAM > Roles > Create role

Step 1 Select trusted entity

Step 2 Add permissions

Step 3 Name, review, and create

Name, review, and create

Role details

Role name Enter a meaningful name to identify this role.
SpringDemoElastic-delete

Description Add a short explanation for this role.
Allows EC2 instances to call AWS services on your behalf.

Maximum 1000 characters. Use alphanumeric and '+-=._-' characters.

Step 1: Select trusted entities Edit

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Elastic Beanstalk IAM Management Console Managing Elastic Beanstalk instances

us-east-1.console.aws.amazon.com/iamv2/home?region=us-east-2#/roles/create?commonUseCase=EC2&policies=arn%3Aaws%3Aiam%3Aaws%3Ap... Nishant

Services Search [Alt+S]

Policy name	Type	Attached as
AWSElasticBeanstalkMulticontainerDocker	AWS managed	Permissions policy
AWSElasticBeanstalkWorkerTier	AWS managed	Permissions policy
AWSElasticBeanstalkWebTier	AWS managed	Permissions policy

Tags

Add tags - optional Info
Tags are key-value pairs that you can add to AWS resources to help identify, organize, or search for resources.

No tags associated with the resource.

Add tag You can add up to 50 more tags.

Cancel Previous Create role

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Elastic Beanstalk IAM Management Console Managing Elastic Beanstalk insta... +

us-east-1.console.aws.amazon.com/iamv2/home?region=us-east-2#/roles

aws Services Search [Alt+S] Global Nishant

Identity and Access Management (IAM)

Search IAM

Dashboard

Access management

User groups

Users

Roles

Policies

Identity providers

Account settings

Access reports

Access analyzer

Archive rules

CloudShell Feedback Language

35°C Haze

IAM > Roles

Roles (Selected 1/3) Info

An IAM role is an identity you can create that has specific permissions with credentials that are valid for short durations. Roles can be assumed by entities that you trust.

Search

Role name Trusted entities Last acti...

Role name	Trusted entities
AWSServiceRoleForSupport	AWS Service: support (Service-Linked Role)
AWSServiceRoleForTrustedAdvisor	AWS Service: trustedadvisor (Service-Linked Role)
SpringDemoElastic-delete	AWS Service: ec2

Roles Anywhere Info

Authenticate your non AWS workloads and securely provide access to AWS services.

Manage

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Cloud Shell ENG US 22:00 07-06-2023

The screenshot shows the AWS IAM Management Console. A green success banner at the top indicates that the role 'SpringDemoElastic-delete' was created successfully. The main pane displays a list of roles, with the newly created one selected. The role details show it is associated with the AWS Service 'ec2'. Below the roles list, there is a section for 'Roles Anywhere' which allows non-AWS workloads to access AWS services.

Elastic Beanstalk IAM Management Console Managing Elastic Beanstalk insta... +

us-east-2.console.aws.amazon.com/elasticbeanstalk/home?region=us-east-2#/applications

aws Services Search [Alt+S] Global Ohio Nishant

Elastic Beanstalk

Applications

Environments

Change history

Recent environments

SpringDemo-env

SpringDemoApp application is being deleted

Elastic Beanstalk > Applications

Applications (0) Info

Filter results matching the display value

Application name Environments Date created Last modified

No applications

No applications to display

Cloud Shell ENG US 22:00 07-06-2023

The screenshot shows the AWS Elastic Beanstalk console. A blue info banner at the top states that the 'SpringDemoApp application is being deleted'. The main pane shows the 'Applications' section, which currently displays '(0)' applications. The application list table has columns for 'Application name', 'Environments', 'Date created', and 'Last modified'. The message 'No applications' and 'No applications to display' is centered below the table.

The screenshot shows the Amazon Elastic Beanstalk landing page. At the top, there are three tabs: 'IAM Management Console', 'Elastic Beanstalk', and 'Managing Elastic Beanstalk instances'. The main content area has a dark header with the text 'Compute' and 'Amazon Elastic Beanstalk' followed by 'End-to-end web application management.' Below this, a sub-header states: 'Amazon Elastic Beanstalk is an easy-to-use service for deploying and scaling web applications and services developed with Java, .NET, PHP, Node.js, Python, Ruby, Go, and Docker on familiar servers such as Apache, Nginx, Passenger, and IIS.' To the right, there's a 'Get started' section with a 'Create application' button. Another section titled 'Pricing' indicates that there's no additional charge for Elastic Beanstalk. The bottom of the page includes a 'Get started' button, a note about file upload handling, and standard footer links like Privacy, Terms, and Cookie preferences.

The screenshot shows the 'Configure environment' step of the Elastic Beanstalk setup wizard. On the left, a sidebar lists steps: Step 1 (Configure environment), Step 2 (Configure service access), Step 3 - optional (Set up networking, database, and tags), Step 4 - optional (Configure instance traffic and scaling), Step 5 - optional (Configure updates, monitoring, and logging), and Step 6 (Review). The main content area is titled 'Configure environment' and contains two sections: 'Environment tier' and 'Application information'. Under 'Environment tier', it says 'Amazon Elastic Beanstalk has two types of environment tiers to support different types of web applications.' with two options: 'Web server environment' (selected) and 'Worker environment'. Under 'Application information', the 'Application name' field is filled with 'SpringDemoEBS'. The bottom of the page includes a note about character limits, a 'Application tags (optional)' link, and standard footer links.

IAM Management Console Elastic Beanstalk Managing Elastic Beanstalk insta | +

us-east-2.console.aws.amazon.com/elasticbeanstalk/home?region=us-east-2#/create-environment

Services Search [Alt+S]

Platform Info

Platform type

Managed platform
Platforms published and maintained by Amazon Elastic Beanstalk. Learn more ↗

Custom platform
Platforms created and owned by you. This option is unavailable if you have no platforms.

Platform

Tomcat

Platform branch

Tomcat 8.5 with Corretto 11 running on 64bit Amazon Linux 2

Platform version

4.3.8 (Recommended)

Application code

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35°C Haze

22:05 07-06-2023

This screenshot shows the 'Platform Info' section of the AWS Elastic Beanstalk console. It includes fields for Platform type (set to Managed platform), Platform (Tomcat), Platform branch (Tomcat 8.5 with Corretto 11 running on 64bit Amazon Linux 2), and Platform version (4.3.8 (Recommended)). The interface is dark-themed with white text on a dark background.

IAM Management Console Elastic Beanstalk Managing Elastic Beanstalk insta | +

us-east-2.console.aws.amazon.com/elasticbeanstalk/home?region=us-east-2#/create-environment

Services Search [Alt+S]

Application code

Sample application

Existing version

Application versions that you have uploaded.

Upload your code

Upload a source bundle from your computer or copy one from Amazon S3.

Version label

Unique name for this version of your application code.

Version label

Source code origin. Maximum size 2 GB

Local file

Upload application

Choose file

File name: **springboot-aws.war**

File must be less than 2GB max file size

Public S3 URL

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35°C Haze

22:04 07-06-2023

This screenshot shows the 'Application code' section of the AWS Elastic Beanstalk console. It includes options for Sample application, Existing version, and Upload your code (which is selected). Under 'Upload your code', it shows a local file named 'springboot-aws.war'. The interface is dark-themed with white text on a dark background.

IAM Management Console Elastic Beanstalk Managing Elastic Beanstalk insta | +

us-east-2.console.aws.amazon.com/elasticbeanstalk/home?region=us-east-2#/create-environment

Services Search [Alt+S]

Set up networking, database, and tags

Step 4 - optional Configure instance traffic and scaling

Step 5 - optional Configure updates, monitoring, and logging

Step 6 Review

Service role

Create and use new service role

Use an existing service role

Existing service roles

Choose an existing IAM role for Elastic Beanstalk to assume as a service role. The existing IAM role must have the required IAM managed policies.

SpringDemoElastic-delete

EC2 key pair

Select an EC2 key pair to securely log in to your EC2 instances. [Learn more](#)

newEC2

EC2 instance profile

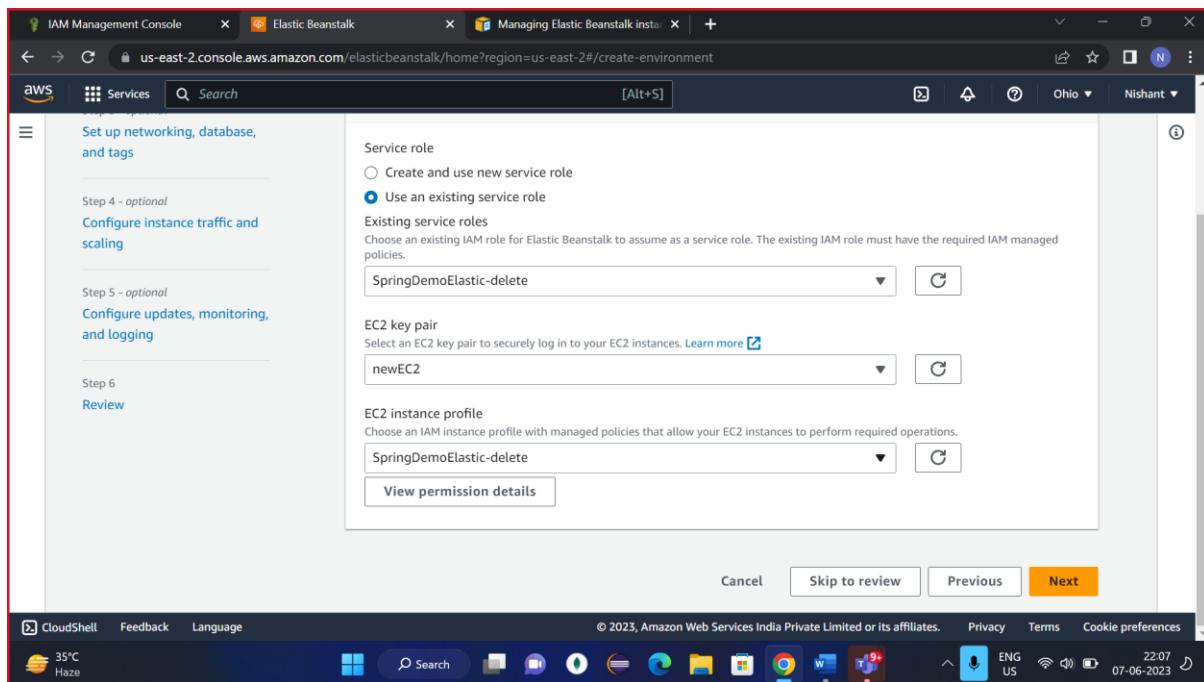
Choose an IAM instance profile with managed policies that allow your EC2 instances to perform required operations.

SpringDemoElastic-delete

[View permission details](#)

Cancel Skip to review Previous Next

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IAM Management Console Elastic Beanstalk Managing Elastic Beanstalk insta | +

us-east-2.console.aws.amazon.com/elasticbeanstalk/home?region=us-east-2#/create-environment

Services Search [Alt+S]

Step 1 Configure environment

Step 2 Configure service access

Step 3 - optional Set up networking, database, and tags

Step 4 - optional Configure instance traffic and scaling

Step 5 - optional Configure updates, monitoring, and logging

Step 6 Review

Configure updates, monitoring, and logging - optional [Info](#)

▼ Monitoring [Info](#)

Health reporting

Enhanced health reporting provides free real-time application and operating system monitoring of the instances and other resources in your environment. The [EnvironmentHealth](#) custom metric is provided free with enhanced health reporting. Additional charges apply for each custom metric. For more information, see [Amazon CloudWatch Pricing](#)

System

Basic

Enhanced

CloudWatch Custom Metrics - Instance

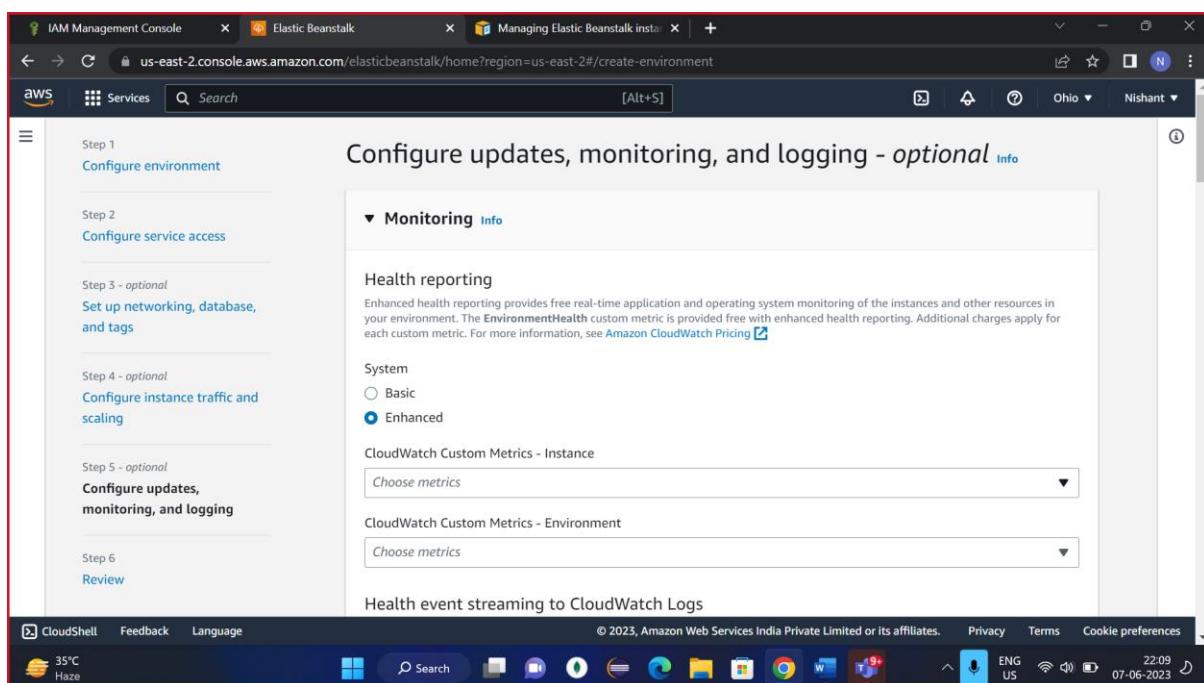
Choose metrics

CloudWatch Custom Metrics - Environment

Choose metrics

Health event streaming to CloudWatch Logs

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The screenshot shows the 'Managing Elastic Beanstalk instances' page in the AWS Management Console. The 'Environment properties' section is highlighted, showing two properties: 'JDBC_CONNECTION_STRING' and 'PORT'. The 'PORT' property has a value of '8080'.

Name	Value
JDBC_CONNECTION_STRING	
PORT	8080

The screenshot shows the 'Managing Elastic Beanstalk instances' page in the AWS Management Console. The 'Environment properties' section is highlighted, showing two properties: 'JDBC_CONNECTION_STRING' and 'PORT'. The 'PORT' property has a value of '8080'.

Key	Value
JDBC_CONNECTION_STRING	
PORT	8080

- Create a Lambda that should trigger as soon as you upload a file in the S3 bucket.
Function should be able to print the name of the file uploaded in the function.

IAM Management Console | Elastic Beanstalk | S3 Management Console | Managing Elastic Beanstalk insta | +

s3.console.aws.amazon.com/s3/buckets?region=us-east-1

Amazon S3

Buckets

Access Points

Object Lambda Access Points

Multi-Region Access Points

Batch Operations

IAM Access Analyzer for S3

Block Public Access settings for this account

Storage Lens

Dashboards

AWS Organizations settings

Feature spotlight

CloudShell Feedback Language

29°C Clear

Successfully created bucket "scripts404"
To upload files and folders, or to configure additional bucket settings choose [View details](#).

Buckets (3) [Info](#)

Buckets are containers for data stored in S3. [Learn more](#)

[Create bucket](#)

[Find buckets by name](#)

Name	AWS Region	Access	Creation date
elasticbeanstalk-us-east-2-299848436306	US East (Ohio) us-east-2	can be public	June 6, 2023, 19:52:59 (
scripts404	US East (N. Virginia) us-east-1	Bucket and objects not public	June 7, 2023, 23:08:17 (
spring-aws-demo-ec2	US East (N. Virginia) us-east-1	Objects can be public	June 6, 2023, 11:36:35 (

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ENG US 23:08 07-06-2023

The screenshot shows the AWS S3 Management Console interface. A green success message at the top right states 'Successfully created bucket "scripts404"' and provides a link to 'View details'. Below this, the 'Buckets' section lists three buckets: 'elasticbeanstalk-us-east-2-299848436306', 'scripts404', and 'spring-aws-demo-ec2'. The 'scripts404' bucket is highlighted. The table includes columns for Name, AWS Region, Access level, and Creation date. The 'scripts404' row shows it was created in 'US East (N. Virginia) us-east-1' on June 7, 2023, 23:08:17 (UTC+05:30). The 'Access' column indicates 'Bucket and objects not public'.

IAM Management Console | Elastic Beanstalk | scripts404 - S3 bucket | Managing Elastic Beanstalk insta | +

s3.console.aws.amazon.com/s3/buckets/scripts404?region=us-east-1&tab=properties

Amazon S3

Buckets

Access Points

Object Lambda Access Points

Multi-Region Access Points

Batch Operations

IAM Access Analyzer for S3

Block Public Access settings for this account

Storage Lens

Dashboards

AWS Organizations settings

Feature spotlight

https://s3.console.aws.amazon.com/s3/#

29°C Clear

scripts404 [Info](#)

Properties

Permissions

Metrics

Management

Access Points

Bucket overview

AWS Region US East (N. Virginia) us-east-1	Amazon Resource Name (ARN) arn:aws:s3:::scripts404	Creation date June 7, 2023, 23:08:17 (UTC+05:30)
---	---	---

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](#)

Edit

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ENG US 23:08 07-06-2023

The screenshot shows the 'Properties' tab of the AWS S3 bucket 'scripts404'. It displays basic information about the bucket: 'AWS Region' is 'US East (N. Virginia) us-east-1', 'Amazon Resource Name (ARN)' is 'arn:aws:s3:::scripts404', and 'Creation date' is 'June 7, 2023, 23:08:17 (UTC+05:30)'. Below this, the 'Bucket Versioning' section is visible, explaining its purpose and how it can help recover from errors. The 'Edit' button is shown for modifying these settings.

The screenshot shows the 'Create function' wizard in the AWS Lambda console. The first step, 'Author from scratch', is selected. It includes a 'Hello World example' link. The second step, 'Use a blueprint', is described as building a Lambda application from sample code and configuration presets. The third step, 'Container image', involves selecting a container image for deployment.

Create function Info

AWS Serverless Application Repository applications have moved to [Create application](#).

Author from scratch
Start with a simple Hello World example.

Use a blueprint
Build a Lambda application from sample code and configuration presets for common use cases.

Container image
Select a container image to deploy for your function.

Basic information

Function name
Enter a name that describes the purpose of your function.

Runtime Info
Choose the language to use to write your function. Note that the console code editor supports only Node.js, Python, and Ruby.

Architecture Info

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CloudShell Feedback Language 29°C Clear Search ENG US 23:10 07-06-2023

The screenshot shows the 'Create role' wizard in the AWS IAM console. The first step, 'Create a new role from AWS policy templates', is selected. It includes a note that role creation might take a few minutes. The second step, 'Attach existing policies directly', allows selecting policies from a dropdown. The third step, 'Create a new policy directly', allows creating a new policy. A note at the bottom says 'Amazon S3 object read-only permissions'.

Create a new role from AWS policy templates

ⓘ Role creation might take a few minutes. Please do not delete the role or edit the trust or permissions policies in this role.

Role name
Enter a name for your new role.

Policy templates - optional Info
Choose one or more policy templates.

Amazon S3 object read-only permissions X

Advanced settings

Cancel **Create function**

CloudShell Feedback Language 29°C Clear Search ENG US 23:11 07-06-2023

S | IAM Management Console | Elastic Beanstalk | S3 Management Console | LambdaTrigger - Lambda | Managing Elastic Beansta | + | us-east-2.console.aws.amazon.com/lambda/home?region=us-east-2#/functions/LambdaTrigger?newFunction=true&tab=code | Services | Search | [Alt+S] | Ohio | Nishant | ⓘ

Successfully created the function LambdaTrigger. You can now change its code and configuration. To invoke your function with a test event, choose "Test".

Lambda > Functions > LambdaTrigger

LambdaTrigger

Throttle | Copy ARN | Actions

Function overview | Info

LambdaTrigger | Layers (0)

+ Add trigger | + Add destination

Description
-
Last modified
6 seconds ago
Function ARN
arn:aws:lambda:us-east-2:299848436506:function:LambdaTrigger
Function URL | Info

CloudShell | Feedback | Language | © 2023, Amazon Web Services India Private Limited or its affiliates. | Privacy | Terms | Cookie preferences | ENG US | 23:11 | 07-06-2023

S | IAM Management Console | Elastic Beanstalk | scripts404 - S3 bucket | LambdaTrigger - Lambda | Managing Elastic Beansta | + | s3.console.aws.amazon.com/s3/buckets/scripts404?region=us-east-1&tab=properties | Services | Search | [Alt+S] | Global | Nishant | ⓘ

Amazon S3

Buckets
Access Points
Object Lambda Access Points
Multi-Region Access Points
Batch Operations
IAM Access Analyzer for S3

Block Public Access settings for this account

Storage Lens
Dashboards
AWS Organizations settings

Event notifications (0)
Send a notification when specific events occur in your bucket. Learn more | Create event notification

No data events
No data events to display.

Configure in CloudTrail

No event notifications
Choose Create event notification to be notified when a specific event occurs.

Create event notification

Amazon EventBridge
For additional capabilities, use Amazon EventBridge to build event-driven applications at scale using S3 event notifications. Learn more | see Eventbridge pricing | Edit

https://s3.console.aws.amazon.com/s3/# | © 2023, Amazon Web Services India Private Limited or its affiliates. | Privacy | Terms | Cookie preferences | ENG US | 23:12 | 07-06-2023

To enable notifications, you must first add a notification configuration that identifies the events you want Amazon S3 to publish and the destinations where you want Amazon S3 to send the notifications.

General configuration

Event name
NewS3Trigger

Event name can contain up to 255 characters.

Prefix - optional
Limit the notifications to objects with key starting with specified characters.
images/

Suffix - optional
Limit the notifications to objects with key ending with specified characters.
.jpg

Event types

Specify at least one event for which you want to receive notifications. For each group, you can choose an event type for all events, or you can choose one or more individual events.

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Before Amazon S3 can publish messages to a destination, you must grant the Amazon S3 principal the necessary permissions to call the relevant API to publish messages to an SNS topic, an SQS queue, or a Lambda function. [Learn more](#)

Destination
Choose a destination to publish the event. [Learn more](#)

Lambda function
Run a Lambda function script based on S3 events.

SNS topic
Fanout messages to systems for parallel processing or directly to people.

SQS queue
Send notifications to an SQS queue to be read by a server.

Specify Lambda function

Choose from your Lambda functions

Enter Lambda function ARN

Lambda function
LambdaTrigger

Cancel [Save changes](#)

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The screenshot shows the AWS Lambda console interface. The top navigation bar includes links for IAM Management, Elastic Beanstalk, LambdaTrigger - La, CloudWatch Manager, AWS Lambda, Managing Elastic B, and more. The main menu has options like Services, Search, and [Alt+S]. The left sidebar shows tabs for Code, Test, Monitor, Configuration, Aliases, and Versions, with 'Code' selected. The main area is titled 'Code source' with an 'Info' link. It features a toolbar with File, Edit, Find, View, Go, Tools, Window, Test (dropdown), Deploy, and a status message 'Changes not deployed'. A search bar says 'Go to Anything (Ctrl-P)'. On the left, there's an 'Environment' section and a file tree showing a folder 'LambdaTrigger' containing 'lambda_function.py'. The code editor displays the following Python code:

```
1 import json
2
3 def lambda_handler(event, context):
4     print(event)
```

The screenshot shows the AWS CloudWatch console interface. The top navigation bar is identical to the Lambda console. The left sidebar under 'CloudWatch' has sections for Favorites and recents, Dashboards, Alarms, Logs (selected), Metrics, X-Ray traces, Events, Application monitoring, and Insights. Under 'Logs', it shows Log groups, Logs Insights, and a 'Live tail' button. The main area shows the path 'CloudWatch > Log groups > /aws/lambda/LambdaTrigger'. It has buttons for Actions, View in Logs Insights, Start tailing, and a prominent orange 'Search log group' button. Below this is a section titled 'Log group details' with the following data:

ARN	Metric filters	Data protection
arn:aws:logs:us-east-2:299848436306:log-group:/aws/lambda/LambdaTrigger:*	0	-
Subscription filters	0	Sensitive data count
Creation time	-	Contributor Insights rules
2 minutes ago	-	KMS key ID
Retention	Never expire	-
Stored bytes	-	-

The screenshot shows the AWS CloudWatch Logs console. The left sidebar has 'Logs' selected under 'Log groups'. A log group named 'LambdaTrigger' is expanded, showing several log entries. One entry from June 2023 at 17:56:05 is expanded, revealing a JSON object containing S3 event details. The 'Copy' button is visible next to the log message. The bottom status bar indicates 'No newer events at this moment. Auto retry paused.'

CloudWatch

Favorites and recents

CloudWatch Metrics

CloudWatch Events

CloudWatch Application monitoring

CloudWatch Insights

CloudWatch Settings

CloudShell Feedback Language

CloudWatch Logs

Log groups

Logs Insights

Live tail New

CloudWatch Metrics

CloudWatch X-Ray traces

CloudWatch Events

CloudWatch Application monitoring

CloudWatch Insights

CloudWatch Settings

CloudWatch Filter events

Clear 1m 30m 1h 12h Custom Display

No older events at this moment. Retry

2023-06-07T23:36:17.473+05:30 INIT_START Runtime Version: python:3.9.v23 Runtime Version ARN: arn:aws:lambda:us-east-2:308066103yau:function:LambdaTrigger

2023-06-07T23:36:17.567+05:30 START RequestId: 83c8586f-e774-43fe-9a53-91de55cafc87 Version: \$LATEST

2023-06-07T23:36:17.568+05:30 ({"Records": [{"eventVersion": "2.1", "eventSource": "aws:s3", "awsRegion": "us-east-2", "s3": {"region": "us-east-2", "bucket": "lambda-trigger-new", "objectKey": "new.txt", "size": 30, "eTag": "scd09847064f22604fb0e825fb904e84", "sequencer": "006480C7184058178"}]})

END RequestId: 83c8586f-e774-43fe-9a53-91de55cafc87 Duration: 1.03 ms Billed Duration: 1.03 ms

REPORT RequestId: 83c8586f-e774-43fe-9a53-91de55cafc87 Duration: 1.03 ms Billed Duration: 1.03 ms

No newer events at this moment. Auto retry paused. Resume Back to top

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CloudShell Feedback Language

CloudWatch IAM Management Elastic Beanstalk LambdaTrigger CloudWatch Metrics S3 Management AWS Lambda Managing Elastic Nishant

The screenshot shows the AWS Lambda function code editor for 'LambdaTrigger'. The code source tab is selected, showing the 'lambda_function.py' file. The code is a simple Lambda handler that prints S3 event details and retrieves the object content. The AWS Lambda interface includes tabs for 'Code source' and 'Info', and buttons for 'Test' and 'Deploy'.

Code source Info

File Edit Find View Go Tools Window Test Deploy

lambda_function.py

```
1 import json
2 import boto3
3 def lambda_handler(event, context):
4     def lambda_handler(event, context):
5         s3 = boto3.client("s3")
6         bucketname = event["Records"][0]["s3"]["bucket"]["name"]
7         bucketobject = event["Records"][0]["s3"]["object"]["key"]
8         print(bucketname)
9         print(bucketobject)
10        response = s3.get_object(Bucket=bucketname, Key=bucketobject)
11        print(response)
12        data = response["Body"].read()
13        print(data)
```

Upload from

Environment

CloudShell Feedback Language

CloudWatch IAM Management Elastic Beanstalk LambdaTrigger CloudWatch Metrics S3 Management AWS Lambda Managing Elastic Nishant

The screenshot shows the AWS S3 console at the URL s3.console.aws.amazon.com/s3/upload/lambdatriggernewdemo?region=us-east-2. A green banner at the top indicates "Upload succeeded". Below it, the "Upload: status" page shows a summary table with one succeeded file (30.0 B) and zero failed files. The "Files and folders" tab is selected, showing one item total (30.0 B). The AWS navigation bar and a Windows taskbar are visible at the bottom.

The screenshot shows the AWS CloudWatch Logs console at the URL [us-east-2.console.aws.amazon.com/cloudwatch/home?region=us-east-2#logsV2:log-groups/log-group/\\$252Faws\\$252FLambda\\$252FLambdaTrigger...](https://us-east-2.console.aws.amazon.com/cloudwatch/home?region=us-east-2#logsV2:log-groups/log-group/$252Faws$252FLambda$252FLambdaTrigger...). The left sidebar shows the CloudWatch service with "Logs" selected. The main pane displays log events from a log group, with the most recent entry being an INIT_START message. The AWS navigation bar and a Windows taskbar are visible at the bottom.

Note: • Delete the resources after taking the screenshots