

## Demonstrating Directory Service:

### AWS Directory Service:

- Managed Microsoft active directory
- Managed Simple Active Directory
- AD Connector
- Distributed service with automatic failover
- Compatible with other AWS services



## IAM LAB:

The screenshot shows the AWS IAM console dashboard. The left sidebar contains navigation links for Identity and Access Management (IAM), Access management, Access reports, and Settings. The main content area displays the IAM dashboard with security recommendations and IAM resources.

**IAM dashboard**

**Security recommendations** 2

- Add MFA for root user**  
Sign in as the root user (or contact your administrator) and register a multi-factor authentication (MFA) device for the root user to improve security for this account.
- Add MFA for yourself**  
Add multi-factor authentication (MFA) for yourself to improve security for this account. [Add MFA](#)
- Your user, cloud\_user, does not have any active access keys that have been unused for more than a year.**  
Deactivating or deleting unused access keys improves security.

**IAM resources**

User groups	Users	Roles	Policies	Identity providers
3	4	35	5	0

**AWS Account**

- Account ID: 665655323374
- Account Alias: 665655323374 [Create](#)
- Sign-in URL for IAM user account: <https://665655323374.console.aws.amazon.com/console>

**Quick Links**

- [My security credentials](#)  
Manage your access keys, multi-factor authentication (MFA), and other credentials.

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## Add the Users to the Proper Groups:

us-east-1.console.aws.amazon.com/iamv2/home#/groups/details/S3-Support?section=users

Identity and Access Management (IAM)

S3-Support

Summary

User group name: S3-Support

Creation time: June 30, 2022, 17:12 (UTC+05:30)

ARN: arn:aws:iam::665655323374:group/S3-Support

Users

Users in this group (0)

Remove users

Add users

Search

User name

Groups

Last activity

Creation time

Feedback

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us-east-1.console.aws.amazon.com/iamv2/home#/groups/details/S3-Support/add-users

Identity and Access Management (IAM)

Add users to S3-Support

Other users in this account (Selected 1/4)

Search

	User name	Groups	Last activity	Creation time
<input type="checkbox"/>	cloud_user	0	10 minutes ago	26 minutes ago
<input checked="" type="checkbox"/>	user-1	0	None	26 minutes ago
<input type="checkbox"/>	user-2	0	None	26 minutes ago
<input type="checkbox"/>	user-3	0	None	26 minutes ago

Cancel Add users

Feedback

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Identity and Access Management (IAM)

S3-Support

Summary

User group name: S3-Support

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ARN: arn:aws:iam::665655323374:group/S3-Support

Users

Users in this group (1)

Remove users

Add users

Search

User name

Groups

Last activity

Creation time

Feedback

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us-east-1.console.aws.amazon.com/iamv2/home#/groups/details/EC2-Support?section=users

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aws

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🔔

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Global

cloud\_user @ 6656-5532-3374

iam

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
- Analyzers
- Settings

iam > User groups > EC2-Support

EC2-Support

Delete

Summary

EC2-Support

Creation time

June 30, 2022, 17:12 (UTC+05:30)

ARN

arn:aws:iam::665655323374:group/EC2-Support

Users

Permissions

Access Advisor

Users in this group (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.

Remove users

Add users

Search

1

Feedback

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us-east-1.console.aws.amazon.com/iamv2/home#/groups/details/EC2-Support/add-users

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iam

Identity and Access Management (IAM)

Search IAM

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- Settings

iam > User groups > EC2-Support > Add users

Add users to EC2-Support

Other users in this account (Selected 1/4) Info

Search

1

	User name	Groups	Last activity	Creation time
<input type="checkbox"/>	cloud_user	0	11 minutes ago	27 minutes ago
<input type="checkbox"/>	user-1	1	None	27 minutes ago
<input checked="" type="checkbox"/>	user-2	0	None	27 minutes ago
<input type="checkbox"/>	user-3	0	None	27 minutes ago

Cancel

Add users

Feedback

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us-east-1.console.aws.amazon.com/iamv2/home#/groups/details/EC2-Admin?section=users

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iam

Identity and Access Management (IAM)

Search IAM

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iam > User groups > EC2-Admin

EC2-Admin

Delete

Summary

EC2-Admin

Creation time

June 30, 2022, 17:12 (UTC+05:30)

ARN

arn:aws:iam::665655323374:group/EC2-Admin

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Permissions

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us-east-1.console.aws.amazon.com/iamv2/home#/groups/details/EC2-Admin/add-users

Identity and Access Management (IAM)

Search IAM

Dashboard

Access management

User groups

Users

Roles

Policies

Identity providers

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Analyzers

Settings

EC2-Admin > Add users

### Add users to EC2-Admin

Other users in this account (Selected 1/4) Info

Search

	User name	Groups	Last activity	Creation time
<input type="checkbox"/>	cloud_user	0	12 minutes ago	28 minutes ago
<input type="checkbox"/>	user-1	1	None	28 minutes ago
<input type="checkbox"/>	user-2	0	None	28 minutes ago
<input checked="" type="checkbox"/>	user-3	0	None	28 minutes ago

Cancel Add users

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us-east-1.console.aws.amazon.com/iamv2/home#/groups/details/EC2-Admin?section=users

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

Analyzers

Settings

Users added to this group.

EC2-Admin

Delete

Edit

Summary

User group name	Creation time	ARN
EC2-Admin	June 30, 2022, 17:12 (UTC+05:30)	arn:aws:iam::665655323374:group/EC2-Admin

Users Permissions Access Advisor

Users in this group (1) 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.

Remove users

Add users

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us-east-1.console.aws.amazon.com/iamv2/home#/groups/details/EC2-Admin?section=permissions

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

Analyzers

Settings

ec2-admin

Copy Edit

```
1- {
2-   "Version": "2012-10-17",
3-   "Statement": [
4-     {
5-       "Action": [
6-         "ec2:Describe*",
7-         "ec2:StartInstances",
8-         "ec2:StopInstances"
9-       ],
10-      "Resource": "*",
11-      "Effect": "Allow"
12-    },
13-    {
14-      "Action": "elasticloadbalancing:Describe*",
15-      "Resource": "*",
16-      "Effect": "Allow"
17-    },
18-    {
19-      "Action": [
20-        "cloudwatch:ListMetrics",
21-        "cloudwatch:GetMetricStatistics",
22-        "cloudwatch:Describe*"
23-      ],
24-      "Resource": "*",
25-      "Effect": "Allow"
26-    }
27-  ]
28- }
```

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## Use the IAM Sign-In Link to Sign In as a User

This screenshot shows the 'Get started' page for Amazon S3 in the AWS console. The page has a dark blue header with the AWS logo, a search bar, and a user profile dropdown. The main content area features a large 'Amazon S3' heading with the tagline 'Store and retrieve any amount of data from anywhere'. Below this, there's a 'Create a bucket' section with a brief explanation and a 'Create bucket' button. To the right, a 'Pricing' section explains that there are no minimum fees and provides a link to the 'AWS Simple Monthly Calculator'. At the bottom, there's a 'How it works' section with a video thumbnail titled 'Introduction to Amazon S3' and a 'Copy link' button. The footer contains a feedback link, language selection options, and copyright information for 2022.

Storage

# Amazon S3

Store and retrieve any amount of data from anywhere

Amazon S3 is an object storage service that offers industry-leading scalability, data availability, security, and performance.

### Create a bucket

Every object in S3 is stored in a bucket. To upload files and folders to S3, you'll need to create a bucket where the objects will be stored.

[Create bucket](#)

### Pricing

With S3, there are no minimum fees. You only pay for what you use. Prices are based on the location of your S3 bucket.

Estimate your monthly bill using the [AWS Simple Monthly Calculator](#)

### How it works

[Introduction to Amazon S3](#) [Copy link](#)

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## User-1

This screenshot shows the 'Create bucket' page in the AWS console. The breadcrumb navigation shows 'Amazon S3 > Buckets > Create bucket'. The page title is 'Create bucket' with an 'Info' link. Below the title, it states 'Buckets are containers for data stored in S3.' and provides a 'Learn more' link. The 'General configuration' section contains a 'Bucket name' input field with the text 'mys3bucket2407'. A note below the field states: 'Bucket name must be unique and must not contain spaces or uppercase letters. See rules for bucket naming'. The 'AWS Region' is set to 'US East (N. Virginia) us-east-1'. There is an optional section for 'Copy settings from existing bucket' with a 'Choose bucket' button. The footer is identical to the previous screenshot, including the feedback link, language selection, and copyright information.

Amazon S3 > Buckets > Create bucket

## Create bucket

[Info](#)

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

### General configuration

Bucket name

Bucket name must be unique and must not contain spaces or uppercase letters. [See rules for bucket naming](#)

AWS Region

US East (N. Virginia) us-east-1

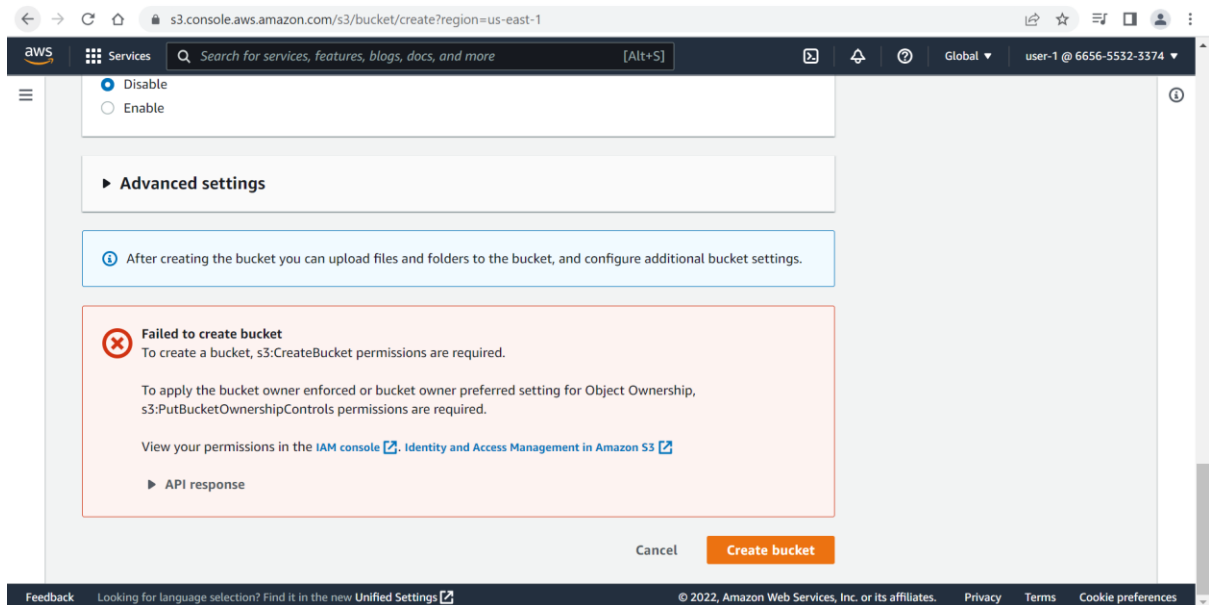
Copy settings from existing bucket - optional

Only the bucket settings in the following configuration are copied.

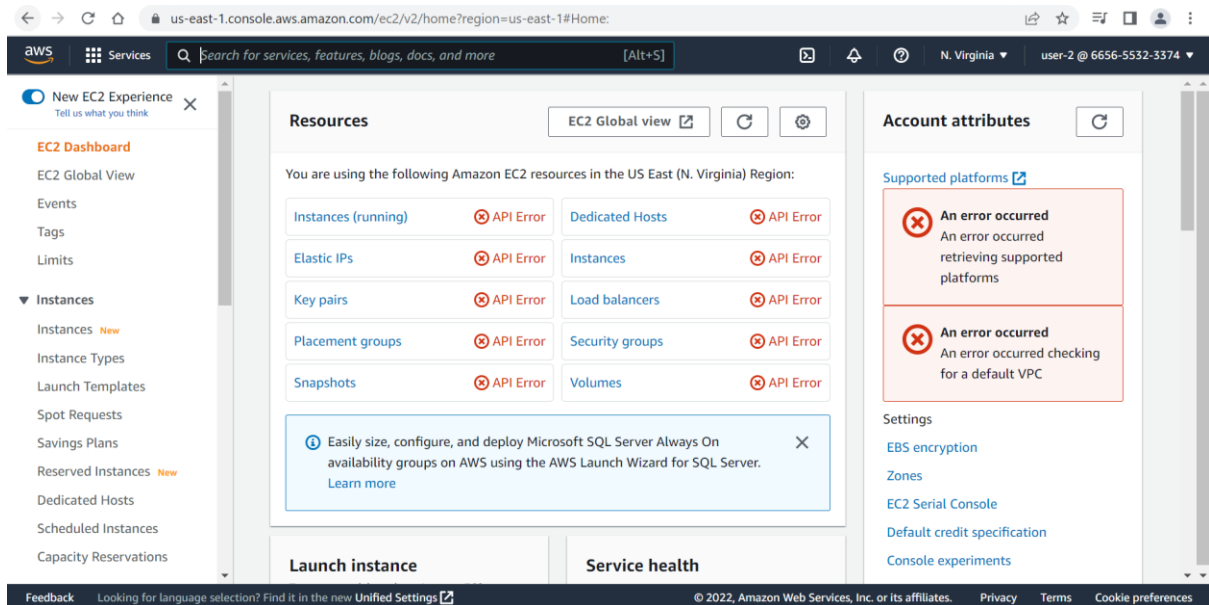
[Choose bucket](#)

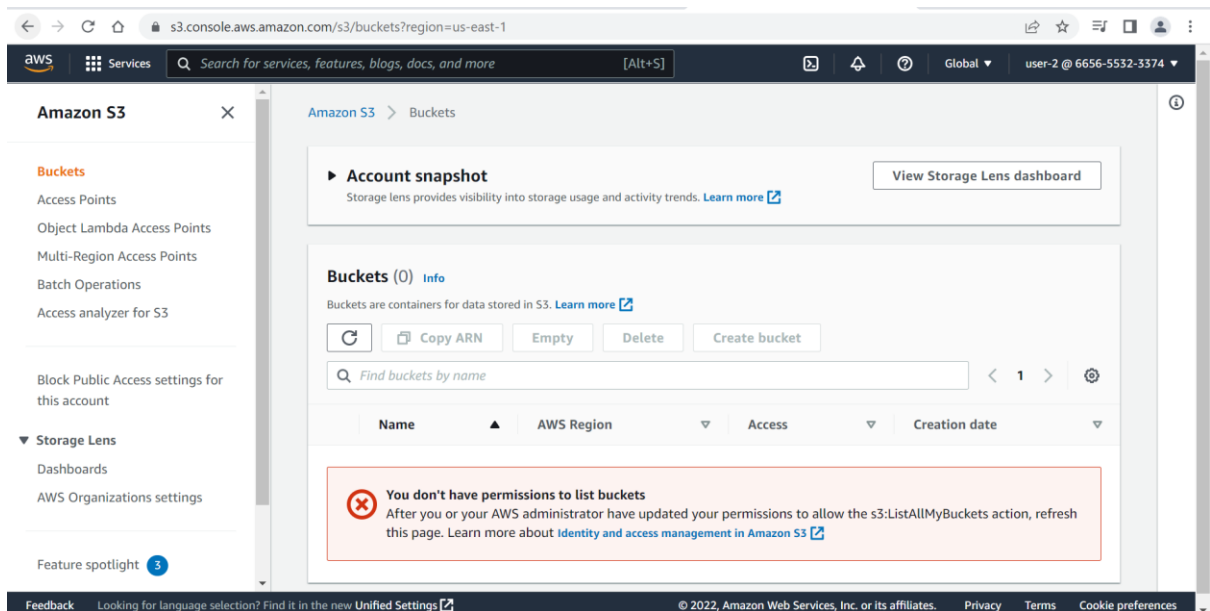
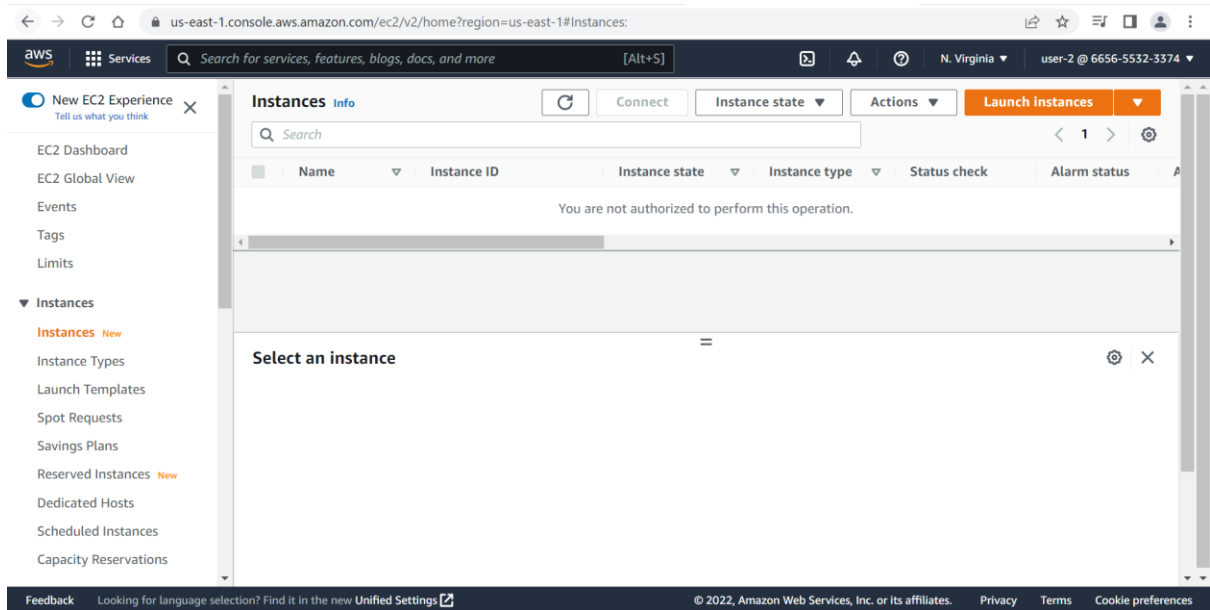
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## User-2





User 3:

us-east-1.console.aws.amazon.com/ec2/v2/home?region=us-east-1#Home:

aws Services Search for services, features, blogs, docs, and more [Alt+S] N. Virginia user-3 @ 6656-5532-3374

New EC2 Experience Tell us what you think

EC2 Dashboard

EC2 Global View

Events

Tags

Limits

Instances

Instances **New**

Instance Types

Launch Templates

Spot Requests

Savings Plans

Reserved Instances **New**

Dedicated Hosts

Scheduled Instances

Capacity Reservations

Resources

EC2 Global view

You are using the following Amazon EC2 resources in the US East (N. Virginia) Region:

Instances (running)	1	Dedicated Hosts	0
Elastic IPs	0	Instances	1
Key pairs	0	Load balancers	0
Placement groups	0	Security groups	2
Snapshots	0	Volumes	1

Easily size, configure, and deploy Microsoft SQL Server Always On availability groups on AWS using the AWS Launch Wizard for SQL Server. [Learn more](#)

Launch instance

Service health

Account attributes

Supported platforms

- VPC

Default VPC

none

Settings

EBS encryption

Zones

EC2 Serial Console

Default credit specification

Console experiments

Explore AWS

Save Up to 45% on ML Inference

EC2 Inf1 instances provide high

Waiting for us-east-1.console.aws.amazon.com... Find it in the new Unified Settings

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us-east-1.console.aws.amazon.com/ec2/v2/home?region=us-east-1#Instances:

aws Services Search for services, features, blogs, docs, and more [Alt+S] N. Virginia user-3 @ 6656-5532-3374

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Instances **New**

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Reserved Instances **New**

Dedicated Hosts

Scheduled Instances

Capacity Reservations

Instances (1/1) Info

Search

Name	Instance ID	Instance state
-	i-0090b6d25c91cc03d	Running

Instance state

- Stop instance
- Start instance
- Reboot instance
- Hibernate instance
- Terminate instance

Launch Instances

Status check

Alarm status

2/2 checks passed No alarms

Instance: i-0090b6d25c91cc03d

Details Security Networking Storage Status checks Monitoring Tags

Instance summary Info

Instance ID	Public IPv4 address	Private IPv4 addresses
i-0090b6d25c91cc03d	3.228.6.225   <a href="#">open address</a>	10.0.2.100
IPv6 address	Instance state	Public IPv4 DNS
-	Running	ec2-3-228-6-225.compute-1.amazonaws.com   <a href="#">open address</a>

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← → ↻ 🏠 🔒 us-east-1.console.aws.amazon.com/ec2/v2/home?region=us-east-1#Instances:

aws Services 🔍 Search for services, features, blogs, docs, and more [Alt+S] 📧 🔔 ⓘ N. Virginia user-3 @ 6656-5532-3374

New EC2 Experience  
Tell us what you think

EC2 Dashboard  
EC2 Global View  
Events  
Tags  
Limits

▼ Instances  
Instances New  
Instance Types  
Launch Templates  
Spot Requests  
Savings Plans  
Reserved Instances New  
Dedicated Hosts  
Scheduled Instances  
Capacity Reservations

✔ Successfully stopped i-0090b6d25c91cc03d

Instances (1/1) Info

🔄 Connect Instance state ▼ Actions ▼ Launch instances

🔍 Search

<input checked="" type="checkbox"/>	Name ▼	Instance ID	Instance state ▼	Instance type ▼	Status check	Alarm status	
<input checked="" type="checkbox"/>	-	i-0090b6d25c91cc03d	⏸ Stopping 🔍	t3.micro	✔ 2/2 checks passed	No alarms	+

Instance: i-0090b6d25c91cc03d

Details Security Networking Storage Status checks Monitoring Tags

▼ Instance summary Info

Instance ID 📄 i-0090b6d25c91cc03d	Public IPv4 address 📄 3.228.6.225   <a href="#">open address</a>	Private IPv4 addresses 📄 10.0.2.100
IPv6 address -	Instance state ⏸ Stopping	Public IPv4 DNS 📄 ec2-3-228-6-225.compute-1.amazonaws.com   <a href="#">open address</a>

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