

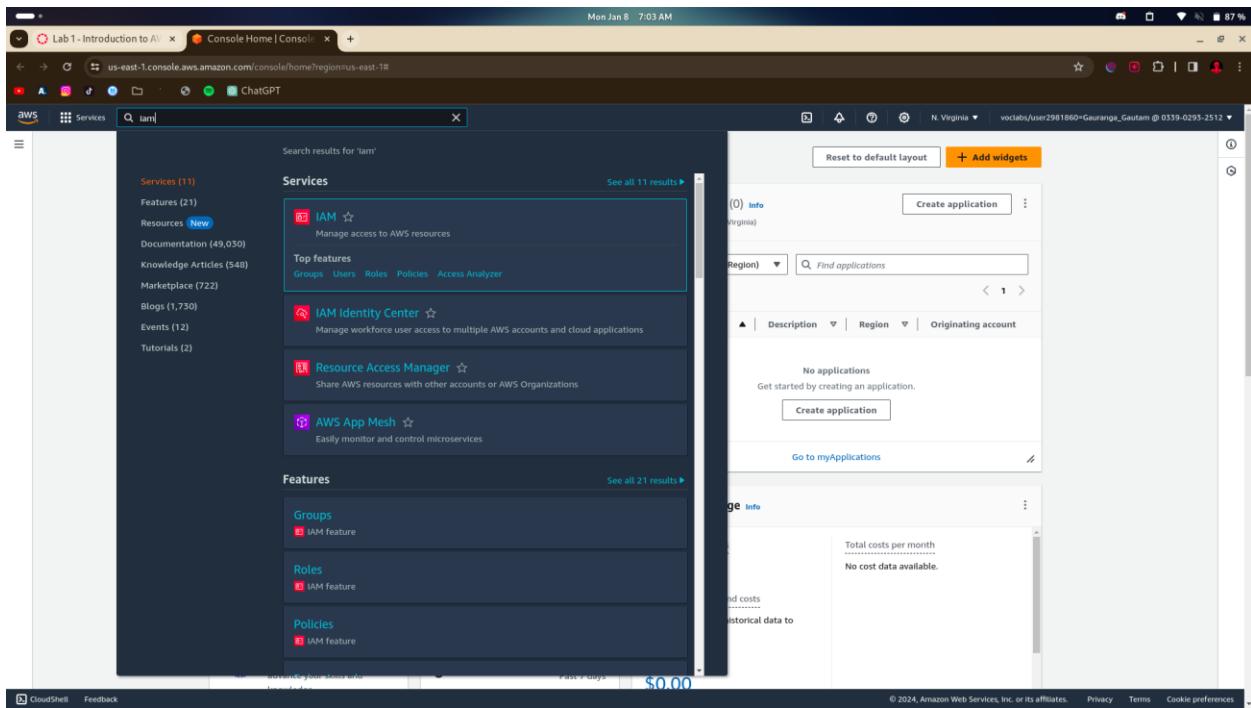
AWS lab by Gauranga Gautam

Lab1

Task 1: Explore Users and Groups

1. Users:

- user-1, user-2, user-3 created.
- No permissions assigned.



The screenshot shows the AWS IAM User Details page for a user named 'user-1'. The 'Groups' tab is selected. A tooltip is open over the 'Console access' section, which is set to 'Enabled without MFA'. Other sections visible include ARN (arn:aws:iam:033902932512:user/spl66/user-1), Created (January 08, 2024, 07:01 (UTC+05:45)), Last console sign-in (Never), Access key 1 (Done, AKIAQPZGFWLQBJOSM7I - ACTIVE, Never used. Created today), and Access key 2 (Create access key). The 'User groups membership (0)' section indicates that this user does not belong to any groups.

Groups:

- EC2-Admin, EC2-Support, S3-Support created.

Group Permissions:

- EC2-Support: AmazonEC2ReadOnlyAccess policy.
- S3-Support: AmazonS3ReadOnlyAccess policy.
- EC2-Admin: Inline policy for EC2 Describe, Start, Stop.

Mon Jan 8 7:12 AM

Lab 1 - Introduction to AWS IAM | User groups | Global

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

ChatGPT

aws Services Search [Alt+S]

Identity and Access Management (IAM)

Search IAM

Dashboard

Access management

- User groups
- Users
- Roles
- Policies
- Identity providers
- Account settings

Access reports

- Access Analyzer
- External access
- Unused access
- Analyzer settings
- Credential report
- Organization activity
- Service control policies (SCPs)

Related consoles

- IAM Identity Center
- AWS Organizations

<https://us-east-1.console.aws.amazon.com/iam/home?region=us-east-1#/groups/details/EC2-Support>

Mon Jan 8 7:12 AM 82 %

IAM > User groups

User groups (3) Info

A user group is a collection of IAM users. Use groups to specify permissions for a collection of users.

Search

Group name	Users	Permissions	Creation time
EC2-Admin	0	Defined	9 minutes ago
EC2-Support	0	Defined	9 minutes ago
S3-Support	0	Defined	9 minutes ago

Create group

1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20

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Mon Jan 8 7:14 AM

Lab 1 - Introduction to AWS IAM | EC2-Support | Global

us-east-1.console.aws.amazon.com/iam/home?region=us-east-1#/groups/details/EC2-Support?section=permissions

ChatGPT

aws Services Search [Alt+S]

Identity and Access Management (IAM)

Search IAM

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- Service control policies (SCPs)

Related consoles

- IAM Identity Center
- AWS Organizations

<https://us-east-1.console.aws.amazon.com/iam/home?region=us-east-1#/groups/details/EC2-Support?section=permissions>

Mon Jan 8 7:14 AM 81 %

User group name: EC2-Support Creation time: January 08, 2024, 07:02 (UTC+05:45) ARN: arn:aws:iam::033902932512:group/sp166/EC2-Support

Users Permissions Access Advisor

Permissions policies (1/1) Info

You can attach up to 10 managed policies.

Filter by Type

Search All types

Policy name Type Attached entities

AmazonEC2ReadOnlyAccess AWS managed

AmazonEC2ReadonlyAccess

Provides read only access to Amazon EC2 via the AWS Management Console.

```
1- {
  "Version": "2012-10-17",
  "Statement": [
    {
      "Effect": "Allow",
      "Action": "ec2:Describe",
      "Resource": "*"
    },
    {
      "Effect": "Allow",
      "Action": "elasticloadbalancing:Describe",
      "Resource": "*"
    },
    {
      "Effect": "Allow",
      "Action": [
        "cloudwatch:ListMetrics",
        "cloudwatch:GetMetricStatistics",
        "cloudwatch:Describe"
      ],
      "Resource": "*"
    }
  ]
}
```

Copy JSON

CloudShell Feedback

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The screenshot shows the AWS IAM Groups Permissions page. The group name is S3-Support, created on January 08, 2024, at 07:02 UTC+05:45. The ARN is arn:aws:iam::033902932512:group/spl66/S3-Support. The Permissions tab is selected, showing one policy attached: AmazonS3ReadOnlyAccess. The JSON for this policy is:

```
1- [ { 2-   "Version": "2012-10-17", 3-     "Statement": [ 4-       { 5-         "Effect": "Allow", 6-           "Action": [ 7-             "s3:List*", 8-             "s3:Describe*", 9-             "s3-object-lambda:Get*", 10-            "s3-object-lambda>List*" 11-          ], 12-         "Resource": "*" 13-       } 14-     ] 15-   ] 16- ]
```

The screenshot shows the AWS IAM Groups Permissions page. The group name is EC2-Admin, created on January 08, 2024, at 07:02 UTC+05:45. The ARN is arn:aws:iam::033902932512:group/spl66/EC2-Admin. The Permissions tab is selected, showing one policy attached: EC2-Admin-Policy. The JSON for this policy is:

```
1- [ { 2-   "Version": "2012-10-17", 3-     "Statement": [ 4-       { 5-         "Action": [ 6-           "ec2:Describe*", 7-           "ec2:StartInstances", 8-           "ec2:StopInstances" 9-         ], 10-        "Resource": [ 11-          "*" 12-        ], 13-        "Effect": "Allow" 14-      } 15-    ] 16-  ]
```

Task 2: Add Users to Groups

Add user-1 to S3-Support:

- Users > S3-Support > Users tab > Add user-1.

Add user-2 to EC2-Support:

- Users > EC2-Support > Users tab > Add user-2.

Add user-3 to EC2-Admin:

- Users > EC2-Admin > Users tab > Add user-3.

The screenshot shows the 'Add users to S3-Support' dialog box in the AWS IAM console. The URL in the address bar is `us-east-1.console.aws.amazon.com/iam/home?region=us-east-1#/groups/details/S3-Support/add-users`. The page title is 'Add users | IAM | Global'. The breadcrumb navigation shows 'IAM > User groups > S3-Support > Add users'. The main content area is titled 'Add users to S3-Support' with a sub-section 'Other users in this account (1/4)'. A search bar is present. A table lists four users: 'awsstudent' (selected), 'user-1' (checked), 'user-2', and 'user-3'. The table columns are 'User name', 'Groups', 'Last activity', and 'Creation time'. At the bottom right are 'Cancel' and 'Add users' buttons.

User name	Groups	Last activity	Creation time
awsstudent	0	None	21 minutes ago
<input checked="" type="checkbox"/> user-1	0	None	22 minutes ago
<input type="checkbox"/> user-2	0	None	22 minutes ago
<input type="checkbox"/> user-3	0	None	22 minutes ago

The screenshot shows the 'Add users' page for the 'EC2-Admin' group in the AWS IAM console. The user 'user-3' is selected for addition. The table lists three other users: 'awsstudent', 'user-1', and 'user-2'. All users have 0 Groups, None Last activity, and 22 minutes ago Creation time.

User Name	Groups	Last Activity	Creation Time
awsstudent	0	None	22 minutes ago
user-1	1	None	22 minutes ago
user-2	0	None	22 minutes ago
user-3	0	None	22 minutes ago

Add users

The screenshot shows the summary page for the 'EC2-Support' group in the AWS IAM console. A success message indicates '1 user added to this group.' The user 'user-2' is listed in the 'Users in this group' table. The table shows 'user-2' has 1 Group, None Last activity, and 23 minutes ago Creation time.

User Name	Groups	Last Activity	Creation Time
user-2	1	None	23 minutes ago

Task 3: Sign-In and Test Users

Test user-1 (S3-Support):

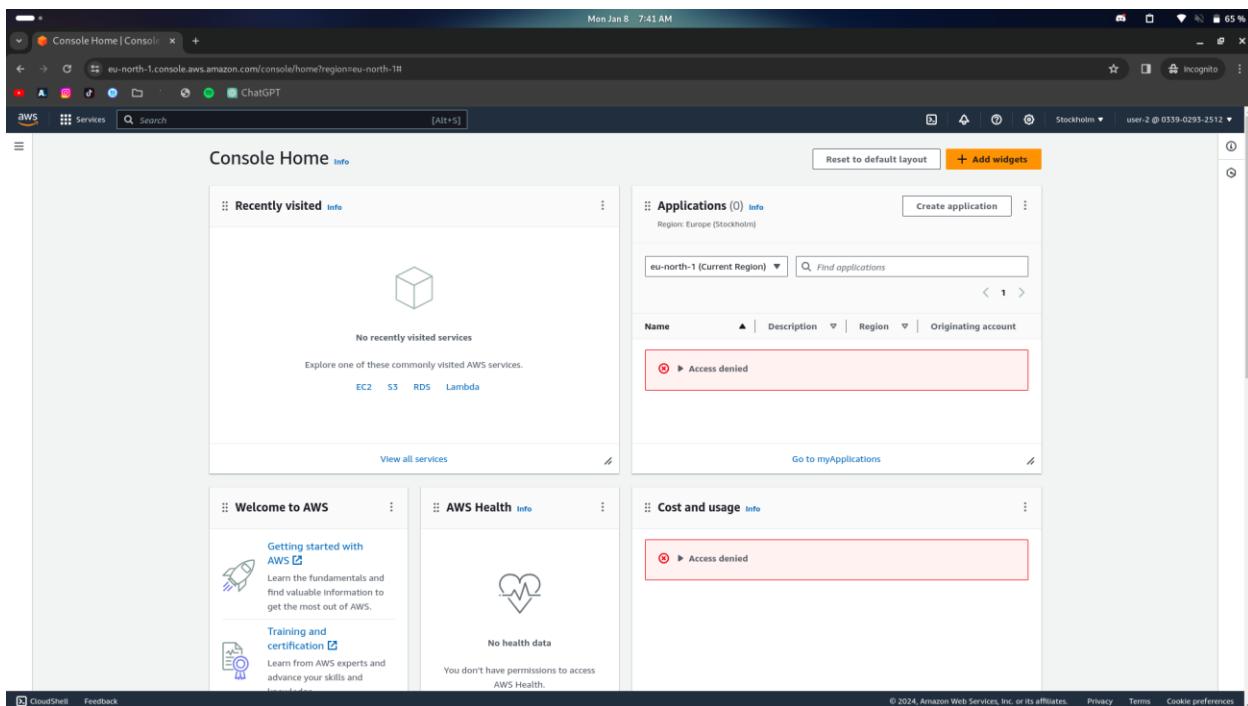
Sign in with IAM user-1.
S3 access granted, EC2 access denied.

Test user-2 (EC2-Support):

Sign out user-1.
Sign in with IAM user-2.
EC2 read-only access, no S3 access.

Test user-3 (EC2-Admin):

Sign out user-2.
Sign in with IAM user-3.
EC2 start/stop permissions, no S3 access.



Mon Jan 8 7:45 AM

Instances | EC2 | us-east-1

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

Failed to stop the instance i-0f45dda05bc1ae0b5

You are not authorized to perform this operation. User arn:aws:iam::035902952512:user/jg66/user-2 is not authorized to perform: ec2:StopInstances on resource: arn:aws:ec2:us-east-1:035902952512:instance/i-0f45dda05bc1ae0b5 because no identity-based policy allows the ec2:StopInstances action. Encoded authorization failure message: DzCfFenaQvPia_0jTTkud7zwWdyfhZ2WHH+24qaXf859u7-GET04q4KLfhDwrbfUnJ8TfCWYQfngu0qjyfRT_LdxvU8K0fkuBfVfCQj0hAgp0BY_QH4rTHNqJAJ4K90IW_Zhzb0E456jRcR1EXvJUJM3up-geWEOP4MsrmklkCEOpPjsdCYlURhWt9GEz2fJeimzZxxK4jF_Ys4u3PXSXk6A1JM7vIJUT0njD2Cjwctp2X9sggeOPDG4i_8bccsWADgGHR-q2550-u2ZW7zJ2L1jbhnx9mHlyMuvarntvexEY4AkpdBmA5J6lyhdWstlmveQo18p5X71aCpnNXX1QkuU6em/fpjk146fhz2b954nhkp0PGp59_N6GCDYmlf5WnrlZ5h5u_u4zOMk6rw7f-Us9TfH772FkyRjnW7Agp2JwbglOjeQnbhMTX2LVS9WJM2K0m9wKRCjamSGYgGb9WV2zOrmOmMtryHg80JgdPSH9Z0eGgGHjwCAjA3plb-ojNKOAbDEMa12_Rp5RvQ_LcNBXdQsLPBF-RJZJuOsV-0DkPropM7cdkU49hZUdm-10hyKqf0ObavXjXnQWgw45_533016MIVQcQG5wm56YvZHtVkdRtluXYT2MgTobleyYsJx05sdlt_pGa6cClob6oAY8v5-He5uDHk94EnuJ7RUIkeDOAg0Erktz38AlmpldIdy4Zb57vnJfBhxlv&k7u12gNu0pQcCm9lgfTkD5srgCjtjdAlqTK5xLoANZunwdalubvdg2e_B03LelZbli-3g

Instances (1/2) info

Name	Instance ID	Instance state	Instance type	Status check	Alarm status	Availability Zone	Public IPv4 DNS	Public IPv4 ...	Elastic IP
Bastion Host	i-071036f68f3bf3f5d4	Running	t2.micro	2/2 checks passed	View alarms +	us-east-1a	ec2-18-212-48-236.co...	18.212.48.236	-
LabHost	i-0f45dda05bc1ae0b5	Running	t2.micro	2/2 checks passed	View alarms +	us-east-1a	ec2-44-202-103-53.co...	44.202.103.53	-

Instance: i-0f45dda05bc1ae0b5 (LabHost)

Details | Status and alarms New | Monitoring | Security | Networking | Storage | Tags

Instance summary info

Instance ID	i-0f45dda05bc1ae0b5 (LabHost)	Public IPv4 address	44.202.103.53 [open address]
IPv6 address	-	Instance state	Running
Hostname type	IP name: ip-10-1-11-30.ec2.internal	Private IP DNS name (IPv4 only)	ip-10-1-11-30.ec2.internal
Answer private resource DNS name	-	Instance type	t2.micro
Auto-assigned IP address	44.202.103.53 [public IP]	VPC ID	vpc-0c50f668f1c55fda (lab VPC) [open]
		AWS Compute Optimizer finding	-

Mon Jan 8 7:52 AM

Lab 1 - Introduction to AWS | Amazon Web Services | Instances | EC2 | us-east-1

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

Successfully stopped i-0f45dda05bc1ae0b5

Instances (1/2) info

Name	Instance ID	Instance state	Instance type	Status check	Alarm status	Availability Zone	Public IPv4 ...	Public IPv4 ...	Elastic IP
Bastion Host	i-071036f68f3bf3f5d4	Running	t2.micro	2/2 checks passed	User: arnaws!	us-east-1a	ec2-18-212-48-236.co...	18.212.48.236	-
LabHost	i-0f45dda05bc1ae0b5	Stopping	t2.micro	2/2 checks passed	User: arnaws!	us-east-1a	ec2-44-202-103-53.co...	44.202.103.53	-

Instance: i-0f45dda05bc1ae0b5 (LabHost)

Details | Status and alarms New | Monitoring | Security | Networking | Storage | Tags

Instance summary info

Instance ID	i-0f45dda05bc1ae0b5 (LabHost)	Public IPv4 address	44.202.103.53 [open address]
IPv6 address	-	Instance state	Stopping
Hostname type	IP name: ip-10-1-11-30.ec2.internal	Private IP DNS name (IPv4 only)	ip-10-1-11-30.ec2.internal
Answer private resource DNS name	-	Instance type	t2.micro
Auto-assigned IP address	44.202.103.53 [public IP]	VPC ID	vpc-0c50f668f1c55fda (lab VPC) [open]
		AWS Compute Optimizer finding	-

The screenshot shows the AWS EC2 Instances page. At the top, there's a banner indicating 'Successfully stopped i-0f45dda05bc1ae0b5'. Below it, the 'Instances (1/2)' section lists two items:

- Bastion Host**: Instance ID i-071036f68f3b3f5d4, Status: Running, Instance type t2.micro, Status check: 2/2 checks passed, User: amawsli, us-east-1a, Public IPv4 DNS ec2-18-212-48-236.co...
- LabHost**: Instance ID i-0f45dda05bc1ae0b5, Status: Stopped, Instance type t2.micro, Status check: 2/2 checks passed, User: amawsli, us-east-1a, Public IPv4 DNS -

On the left sidebar, under 'Instances', the 'LabHost' instance is selected. The main content area shows the details for the selected instance:

Instance: i-0f45dda05bc1ae0b5 (LabHost)

Details | Status and alarms New | Monitoring | Security | Networking | Storage | Tags

Instance summary

Instance ID	i-0f45dda05bc1ae0b5 (LabHost)	Public IPv4 address	Private IPv4 addresses
IPv6 address	-	Instance state	10.1.11.30
Hostname type	IP name: ip-10-1-11-30.ec2.internal	Private IP DNS name (IPv4 only)	Public IPv4 DNS
Security Groups	Answer private resource DNS name	IP-10-1-11-30.ec2.internal	-
Elastic IPs	Instance type	t2.micro	Elastic IP addresses
Placement Groups	VPC ID	-	AWS Compute Optimizer finding
Key Pairs	vpc-0c50f668ff1c55faf (Lab VPC)	-	-
Network Interfaces			

At the bottom of the page, the URL is https://us-east-1.console.aws.amazon.com/ec2/logout?logout=.

Lab 2

Task 1: Create Your VPC

- Open VPC console.
- Create VPC:
 - Name: lab
 - IPv4 CIDR: 10.0.0.0/16
 - 1 Availability Zone
 - 1 public subnet (10.0.0.0/24)
 - 1 private subnet (10.0.1.0/24)
 - NAT Gateway in 1 AZ.
 - No VPC endpoints.
 - Enable DNS hostnames and resolution.
- Confirm settings in the Preview panel.
- Create VPC.

Tue Jan 9 11:44 AM

Lab 2 - Build your VPC at Home | VPC Console

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

ChatGPT

aws Services Search results for 'vpc'

VPC dashboard

EC2 Global View Filter by VPC Select a VPC

Virtual private cloud

- Your VPCs
- Subnets
- Route tables
- Internet gateways
- Egress-only Internet gateways
- Carrier gateways
- DHCP option sets
- Elastic IPs
- Managed prefix lists
- Endpoints
- Endpoint services
- NAT gateways
- Peering connections

Security

- Network ACLs
- Security groups

DNS Firewall

- Rule groups
- Domain lists

Network Firewall

CloudShell Feedback

Search results for 'vpc'

Services (12) See all 12 results ▶

Isolated Cloud Resources

Top features Your VPCs Subnet Route table Internet gateway Egress-only Internet gateways

AWS Firewall Manager Central management of firewall rules

Detective Investigate and Analyze potential security issues

Managed Services IT operations management for AWS

Features See all 57 results ▶

Dashboard VPC feature

Route 53 VPCs Route 53 feature

VPC Reachability Analyzer VPC feature

See all regions ▶

Service Health

View complete service health details

Settings

Zones Console Experiments

Additional Information

VPC Documentation All VPC Resources Forums Report an Issue

AWS Network Manager

AWS Network Manager provides tools and features to help you manage and monitor your network on AWS. Network Manager makes it easier to perform connectivity management, network monitoring and troubleshooting, IP management, and network security and governance.

Get started with Network Manager

Site-to-Site VPN Connections

Amazon VPC enables you to use your own isolated resources within the AWS Cloud, and then connect those resources directly to your own datacenter using industry-standard encrypted IPsec VPN connections.

Create VPN Connection

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Tue Jan 9 12:01 PM

CreateVpc | VPC Console

us-east-1.console.aws.amazon.com/vpcconsole/home?region=us-east-1#CreateVpc:createMode=vpcWithResources

ChatGPT

aws Services Search [Alt+S]

A VPC is an isolated private network that you can provision on the AWS Cloud populated by AWS objects, such as Amazon EC2 instances. Mouse over a resource to highlight the related resources.

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 auto-generation Info Enter a value for the Name tag. This value will be used to auto-generate Name tags for all resources in the VPC.

Auto-generate

IPv4 CIDR block Info Determine the starting IP and the size of your VPC using CIDR notation.

65,536 IPs

CIDR block size must be between /16 and /28.

IPv6 CIDR block Info No IPv6 CIDR block Amazon-provided IPv6 CIDR block

Tenancy Info Default

Number of Availability Zones (AZs) Info Choose the number of AZs in which to provision subnets. We recommend at least two AZs for high availability.

1	2	3
---	---	---

► Customize AZs

Number of public subnets Info The number of public subnets to add to your VPC. Use public subnets for web accelerations that need to be publicly accessible over the internet.

Preview

VPC Show details Your AWS virtual network lab-vpc

Subnets (2) Subnets within this VPC us-east-1a

- lab-subnet-public1-us-east-1a
- lab-subnet-private1-us-east-1a

Route tables (2) Route network traffic to resources lab-rtb-public

- lab-rtb-private1-us-east-1a

Network connections (2) Connections to other networks lab-igw

- lab-nat-public1-us-east-1a

CloudShell Feedback

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Tue Jan 9 12:01 PM

CreateVpc | VPC Console x AWS - Google Docs x +

us-east-1.console.aws.amazon.com/vpc/home?region=us-east-1#CreateVpc:createMode=vpcWithResources

Customize AZs

Number of public subnets Info
The number of public subnets to add to your VPC. Use public subnets for web applications that need to be publicly accessible over the internet.
0 1

Number of private subnets Info
The number of private subnets to add to your VPC. Use private subnets to secure backend resources that don't need public access.
0 1 2

Customize subnets CIDR blocks

Public subnet CIDR block in us-east-1a 10.0.0.0/24 256 IPs

Private subnet CIDR block in us-east-1a 10.0.1.0/24 256 IPs

NAT gateways (\$) Info
Choose the number of Availability Zones (AZs) in which to create NAT gateways. Note that there is a charge for each NAT gateway.
None In 1 AZ 1 per AZ

VPC endpoints Info
Endpoints can help reduce NAT gateway charges and improve security by accessing S3 directly from the VPC. By default, full access policy is used. You can customize this policy at any time.
None S3 Gateway

DNS options Info
 Enable DNS hostnames
 Enable DNS resolution

Preview

VPC Show details Your AWS virtual network lab-vpc

Subnets (2) Subnets within this VPC
us-east-1a
lab-subnet-public1-us-east-1a
lab-subnet-private1-us-east-1a

Route tables (2) Route network traffic to resources
lab-rtb-public
lab-rtb-private1-us-east-1a

Network connections (2) Connections to other networks
lab-igw
lab-nat-public1-us-east-1a

Tue Jan 9 12:04 PM

CreateVpcWizard | VPC x AWS - Google Docs x +

us-east-1.console.aws.amazon.com/vpc/home?region=us-east-1#CreateVpc:Wizard

aWS Services Search [Alt+S]

VPC > Your VPCs > Create VPC > Create VPC resources

Create VPC workflow

- Success
- Details
 - >Create VPC: vpc-055a45f5eba5e83ef
 - Enable DNS hostnames
 - Enable DNS resolution
 - Verifying VPC creation: vpc-055a45f5eba5e83ef
 - Create subnet: subnet-0c15cabfd6d311d5
 - Create subnet: subnet-0edcc837c92b9e948
 - Create internet gateway: igw-03277dc6775fe59cd
 - Attach internet gateway to the VPC
 - Create route table: rtb-005bdeaa909d2cb9
 - Create route
 - Associate route table
 - Allocate elastic IP: eipalloc-07892d8dc86c873e
 - Create NAT gateway: nat-0b2730d20485eeccb
 - Wait for NAT Gateways to activate
 - Create route table: rtb-037ea2a7166c04a3
 - Create route
 - Associate route table
 - Verifying route table creation

View VPC

VPC Details | VPC Console

Tue Jan 9 12:11 PM

us-east-1.console.aws.amazon.com/vpc/home?region=us-east-1#VpcDetails?VpcId=vpc-055a45f3eba5e83ef

AWS - Google Docs ChatGPT

VPC Services Search [Alt+S]

N. Virginia vocabs/user2981860=Gauranga_Gautam @ 0213-5529-8861

vpc-055a45f3eba5e83ef / lab-vpc

Details **Info**

VPC ID	vpc-055a45f3eba5e83ef	State	Available	DNS hostnames	Enabled	DNS resolution	Enabled
Tenancy	Default	DHCP option set	dept-064ac09c0bcd9b396	Main route table	rtb-0440b708569310026	Main network ACL	aci-0f7ab208380a3855b
Default VPC	No	IPv4 CIDR	10.0.0.0/16	IPv6 pool	-	IPv6 CIDR (Network border group)	-
Network Address Usage metrics	Disabled	Route 53 Resolver DNS Firewall rule groups	-	Owner ID	021355298061		

Resource map **Info**

VPC Subnets (2) Route tables (3) Network connections (2)

Subnets within this VPC: us-east-1a, lab-subnet-public1-us-east-1a, lab-subnet-private1-us-east-1a

Route tables: rtb-0440b708569310026, lab-rtb-private1-us-east-1a, lab-rtb-public

Network connections: lab-igw, lab-nat-public1-us-east-1a

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VPC Details | VPC Console

Tue Jan 9 12:11 PM

us-east-1.console.aws.amazon.com/vpc/home?region=us-east-1#VpcDetails?VpcId=vpc-055a45f3eba5e83ef

AWS - Google Docs ChatGPT

VPC Services Search [Alt+S]

N. Virginia vocabs/user2981860=Gauranga_Gautam @ 0213-5529-8861

vpc-055a45f3eba5e83ef / lab-vpc

Details **Info**

VPC ID	vpc-055a45f3eba5e83ef	State	Available	DNS hostnames	Enabled	DNS resolution	Enabled
Tenancy	Default	DHCP option set	dept-064ac09c0bcd9b396	Main route table	rtb-0440b708569310026	Main network ACL	aci-0f7ab208380a3855b
Default VPC	No	IPv4 CIDR	10.0.0.0/16	IPv6 pool	-	IPv6 CIDR (Network border group)	-
Network Address Usage metrics	Disabled	Route 53 Resolver DNS Firewall rule groups	-	Owner ID	021355298061		

Resource map **Info**

VPC Subnets (2) Route tables (3) Network connections (2)

Subnets within this VPC: us-east-1a, lab-subnet-public1-us-east-1a, lab-subnet-private1-us-east-1a

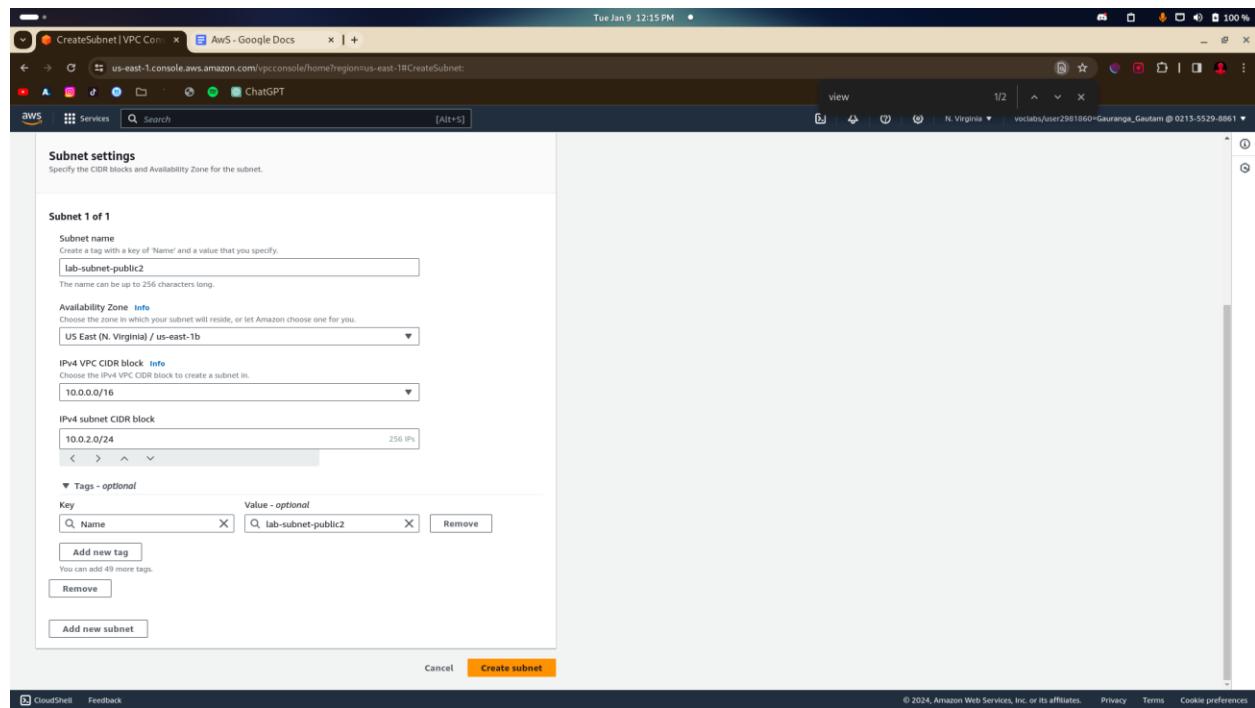
Route tables: rtb-0440b708569310026, lab-rtb-private1-us-east-1a, lab-rtb-public

Network connections: lab-igw, lab-nat-public1-us-east-1a

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Task 2: Create Additional Subnets

- **Open Subnets.**
- **Create second public subnet:**
 - Name: lab-subnet-public2
 - Availability Zone: us-east-1b
 - IPv4 CIDR: 10.0.2.0/24
- **Create second private subnet:**
 - Name: lab-subnet-private2
 - Availability Zone: us-east-1b
 - IPv4 CIDR: 10.0.3.0/24
- **Associate route table with new private subnet.**
- **Associate route table with new public subnet.**



Tue Jan 9 12:17 PM

CreateSubnet | VPC Configuration

Subnet settings

Specify the CIDR blocks and Availability Zone for the subnet.

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 VPC CIDR block **Info**
Choose the IPv4 VPC CIDR block to create a subnet in.

IPv4 subnet CIDR block
 256 IPs

Tags - optional

Key	Value - optional
<input type="text" value="Name"/>	<input type="text" value="lab-subnet-private2"/>

Add new tag
You can add 49 more tags.
Remove

Add new subnet

Create subnet

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Tue Jan 9 12:20 PM

EditRouteTableSubnetAssociations | VPC Configuration

Edit subnet associations

Change which subnets are associated with this route table.

Available subnets (2/4)

Name	Subnet ID	IPv4 CIDR	IPv6 CIDR	Route table ID
<input type="checkbox"/> lab-subnet-public1-us-east-1a	subnet-0c15c1cafbfd331d5	10.0.0.0/24	-	rtb-003b6ea7909d2cb89 / lab-rtb-public
<input checked="" type="checkbox"/> lab-subnet-private1-us-east-1a	subnet-0e6cc057c92b9e848	10.0.1.0/24	-	rtb-037cea2a7166c04a3 / lab-rtb-private1-us...
<input type="checkbox"/> lab-subnet-public2	subnet-0a587449a6cf797d2	10.0.2.0/24	-	Main (rtb-0440b708569310026)
<input checked="" type="checkbox"/> lab-subnet-private2	subnet-045a3648a0ec1ce51	10.0.3.0/24	-	Main (rtb-0440b708569310026)

Selected subnets

subnet-0e6cc057c92b9e848 / lab-subnet-private1-us-east-1a	subnet-045a3648a0ec1ce51 / lab-subnet-private2
---	--

Save associations

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The screenshot shows the AWS VPC console interface for editing subnet associations. The URL is us-east-1.console.aws.amazon.com/vpc/home?region=us-east-1#EditRouteTableSubnetAssociations:RouteTableId=rtb-003b6ea7909d2cb89. The page title is "Edit subnet associations".

Available subnets (2/4)

Name	Subnet ID	IPv4 CIDR	IPv6 CIDR	Route table ID
<input checked="" type="checkbox"/> lab-subnet-public1-us-east-1a	subnet-0c15c1cabf6d331d5	10.0.0.0/24	-	rtb-003b6ea7909d2cb89 / lab-rtb-public
<input type="checkbox"/> lab-subnet-private1-us-east-1a	subnet-0e6cc057c92b9e848	10.0.1.0/24	-	rtb-037cea2a7166c04a3 / lab-rtb-private1-us...
<input checked="" type="checkbox"/> lab-subnet-public2	subnet-0a587449a6cf797d2	10.0.2.0/24	-	Main (rtb-0440b708569310026)
<input type="checkbox"/> lab-subnet-private2	subnet-045a364ba0ec1ca51	10.0.3.0/24	-	rtb-037cea2a7166c04a3 / lab-rtb-private1-us...

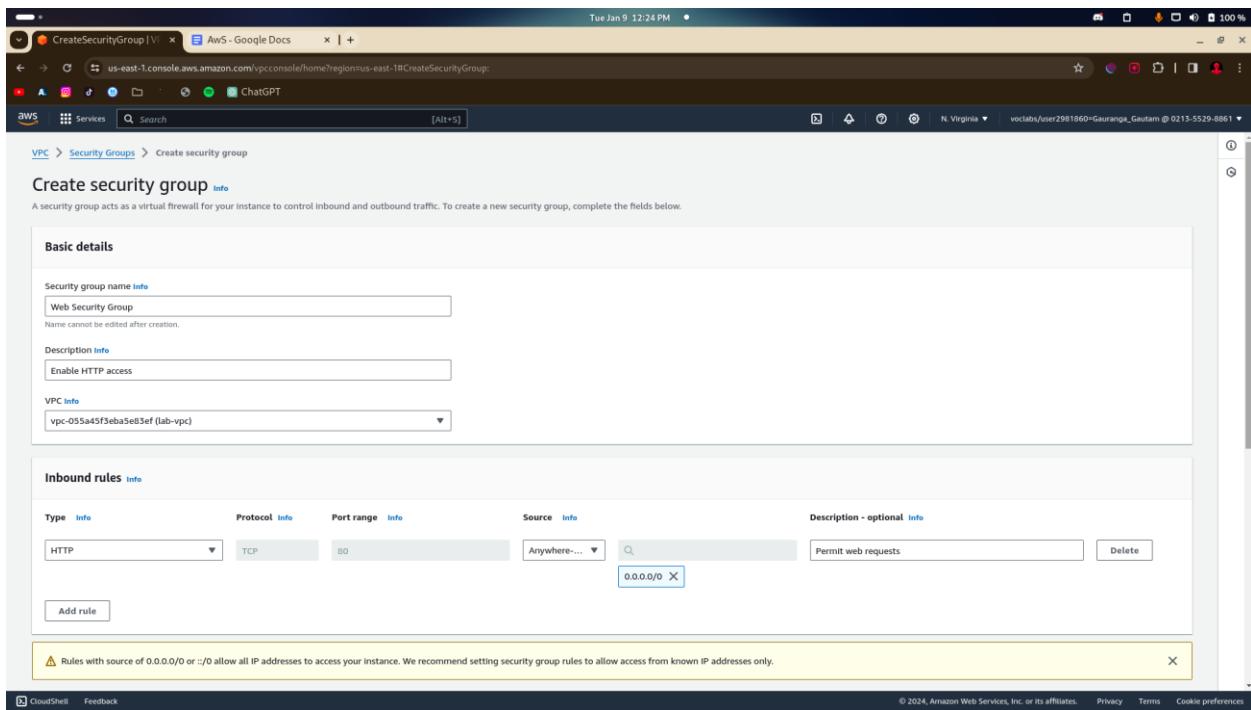
Selected subnets

subnet-0c15c1cabf6d331d5 / lab-subnet-public1-us-east-1a	subnet-0a587449a6cf797d2 / lab-subnet-public2
--	---

Buttons at the bottom right: Cancel, Save associations.

Task 3: Create a VPC Security Group

- **Open Security Groups.**
- **Create security group:**
 - Name: Web Security Group
 - Description: Enable HTTP access
 - VPC: lab-vpc
- **Add inbound rule: HTTP from Anywhere-IPv4.**



Task 4: Launch a Web Server Instance

- **Open EC2 console.**
- **Launch instance with:**
 - Name: Web Server 1
 - Amazon Linux 2023 AMI
 - t2.micro instance type
 - Key pair: vockey
 - Network: lab-vpc, Subnet: lab-subnet-public2, Auto-assign public IP enabled
 - Security group: Web Security Group
 - User data script for Apache and PHP installation.
- Wait for the instance to pass status checks.
- Copy Public IPv4 DNS.
- Open browser, paste DNS, view AWS logo and metadata page.

Tue Jan 9 12:47 PM

Launch an instance | EC2 - Launch instances | AWS - Google Docs | ChatGPT

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

Name: Web Server 1.1

Application and OS Images (Amazon Machine Image)

An AMI is a template that contains the software configuration (operating system, application server, and applications) required to launch your instance. Search or Browse for AMIs if you don't see what you are looking for below.

Search our full catalog including 1000s of application and OS Images

Recent: Quick Start

Amazon Linux macOS Ubuntu Windows Red Hat SUSE Linux

Browse more AMIs Including AMIs from AWS, Marketplace and the Community

Amazon Machine Image (AMI)

Amazon Linux 2023 AMI ami-0005e0cf0fc9050 (64-bit (x86), uefi-preferred) / ami-0730977bf8e0532d6 (64-bit (Arm), uefi) Free tier eligible

Virtualization: hvm ENA enabled: true Root device type: ebs

Description: Amazon Linux 2023 AMI 2023.5.20240108.0 x86_64 HVM kernel-6.1

Architecture: 64-bit (x86) Boot mode: uefi-preferred AMI ID: ami-0005e0cf0cc9050 Verified provider

Summary

Number of instances: 1

Software Image (AMI): Amazon Linux 2023 AMI 2023.5.2... read more

Virtual server type (instance type): t2.micro

Firewall (security group): Web Security Group

Storage (volumes): 1 volume(s) - 8 GiB

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 tier AMIs per month, 50 GiB of EBS storage, 2 million I/Os, 1 GiB of snapshots, and 100 GiB of bandwidth to the internet.

Cancel Launch instance Review commands

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Tue Jan 9 12:47 PM

Launch an instance | EC2 - Launch instances | AWS - Google Docs | ChatGPT

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

Additional costs apply for AMIs with pre-installed software

Key pair (login)

You can use a key pair to securely connect to your instance. Ensure that you have access to the selected key pair before you launch the instance.

Key pair name - required: vockey

Create new key pair

Network settings

VPC - required

vpc-055a45f3eba5e85ef (lab-vpc) 10.0.0.0/16

Subnet

subnet-0a57449a6cf797d2 lab-subnet-public2 VPC: vpc-055a45f3eba5e85ef Owner: 021355298861 Availability Zone: us-east-1b IP addresses available: 251 CIDR: 10.0.2.0/24

Create new subnet

Auto-assign public IP

Enable

Firewall (security groups)

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.

Create security group Select existing security group

Common security groups

Select security groups Web Security Group sg-0df6cf873cd1e0446

Compare security group rules

Summary

Number of instances: 1

Software Image (AMI): Amazon Linux 2023 AMI 2023.5.2... read more

Virtual server type (instance type): t2.micro

Firewall (security group): Web Security Group

Storage (volumes): 1 volume(s) - 8 GiB

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 tier AMIs per month, 50 GiB of EBS storage, 2 million I/Os, 1 GiB of snapshots, and 100 GiB of bandwidth to the internet.

Cancel Launch instance Review commands

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Tue Jan 9 12:47 PM

Launch an instance | EC2 | us-east-1.console.aws.amazon.com/ec2/home?region=us-east-1#LaunchInstances: ChatGPT

aws Services Search [Alt+S]

Metadata version: V2 only (token required)

For V2 requests, you must include a session token in all instance metadata requests. Applications or agents that use V1 for instance metadata access will break.

Metadata response hop limit: 2

Allow tags in metadata: Select

User data - optional:

```
#!/bin/bash
# Install Apache Web Server and PHP
dnf install -y httpd php mariadb105-server
# Download Lab Files
wget https://aws-tc-largeobjects.s3.us-west-2.amazonaws.com/CUR-TF-100-ACCLFO-2/2-lab2-vpc/S3/lab-app.zip
unzip lab-app.zip -d /var/www/html/
# Turn on web server
chkconfig httpd on
service httpd start
```

User data has already been base64 encoded

Number of instances: 1

Software Image (AMI): Amazon Linux 2023.5.2...read more

Virtual server type (instance type): t2.micro

Firewall (security group): Web Security Group

Storage (volumes): 1 volume(s) - 8 GiB

Free tier: In your first year includes 750 hours of t2.micro (or t3.micro in the Region in which t2.micro is unavailable) instance usage on free tier AMIs per month, 50 GiB of EBS storage, 2 million I/Os, 1 GB of snapshots, and 100 GB of bandwidth to the internet.

Cancel Launch instance Review commands

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Tue Jan 9 12:48 PM

Launch an instance | EC2 | us-east-1.console.aws.amazon.com/ec2/home?region=us-east-1#LaunchInstances: ChatGPT

aws Services Search [Alt+S]

EC2 > Instances > Launch an instance

Success Successfully initiated launch of instance (i-0c55ac59eeaa50cba)

Launch log

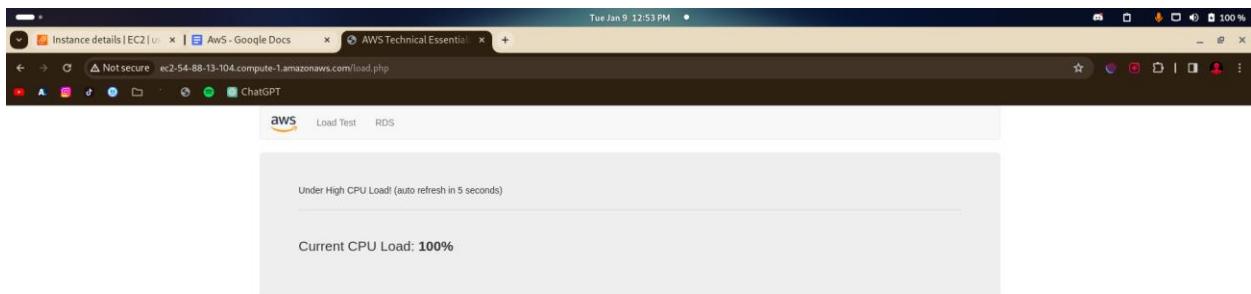
Next Steps

What would you like to do next with this instance, for example "create alarm" or "create backup"

1 2 3 4 5 6

Create billing and free tier usage alerts To manage costs and avoid surprise bills, set up email notifications for billing and free tier usage thresholds. Create billing alerts	Connect to your Instance Once your instance is running, log into it from your local computer. Connect to instance Learn more	Connect an RDS database Configure the connection between an EC2 instance and a database to allow traffic flow between them. Connect an RDS database Create a new RDS database Learn more	Create EBS snapshot policy Create a policy that automates the creation, retention, and deletion of EBS snapshots. Create EBS snapshot policy
Manage detailed monitoring Enable or disable detailed monitoring for the instance. If you enable detailed monitoring, the Amazon EC2 console displays monitoring graphs with a 1-minute period. Manage detailed monitoring	Create Load Balancer Create a application, network gateway or classic Elastic Load Balancer. Create Load Balancer	Create AWS budget AWS Budgets allows you to create budgets, forecast spend, and take action on your costs and usage from a single location. Create AWS budget	Manage CloudWatch alarms Create or update Amazon CloudWatch alarms for the instance. Manage CloudWatch alarms

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Lab 3

Task 1: Launch Your Amazon EC2 Instance

- **Open EC2 console.**
- **Launch instance:**
 - Name: Web Server
 - Amazon Linux 2023 AMI
 - t2.micro instance type
 - Key pair: vockey
 - Network: Lab VPC, Subnet: default, Auto-assign public IP enabled
 - Security group: Create "Web Server security group"
 - User data script for Apache installation.
 - Termination protection enabled.
- **Wait for instance to display "Running" with "2/2 checks passed."**

Tue Jan 9 1:06 PM

Lab 3 - Introduction to AWS | us-east-1 | Dashboard | EC2 | us-east-1 | Home | music - YouTube | ChatGPT

us-east-1.console.aws.amazon.com/ec2/home?region=us-east-1#Home: N. Virginia | vociabs/user2981860=Gauranga_Gautam @ 2637-7410-2315

aws Services Search ec2

EC2 Dashboard

Services (13)

EC2 Free Tier Info

Offers for all AWS Regions.

0 EC2 free tier offers in use

End of month forecast

⚠ 0 offers forecasted to exceed free tier limit.

Exceeds free tier

⚠ 0 offers exceeded and is now pay-as-you-go pricing.

View Global EC2 resources

See all 13 results ▾

EC2 Virtual Servers in the Cloud

Top features

EC2 Image Builder A managed service to automate build, customize and deploy OS images

Recycle Bin Protect resources from accidental deletion

Amazon Inspector Continual vulnerability management at scale

Features

See all 55 results ▾

Dashboard EC2 feature

AMIs EC2 feature

Elastic IPs EC2 feature

Account attributes

Default VPC vpc-0f2209b50919c083f

Settings

Data protection and security

Zones

EC2 Serial Console

Default credit specification

Console experiments

Explore AWS

10 Things You Can Do Today to Reduce AWS Costs

CloudShell Feedback

US East (N. Virginia) Enable additional Zones

Tue Jan 9 1:08 PM

Lab 3 - Introduction to AWS | us-east-1 | Launch an instance | EC2 | us-east-1 | LaunchInstances | ChatGPT

us-east-1.console.aws.amazon.com/ec2/home?region=us-east-1#LaunchInstances: N. Virginia | vociabs/user2981860=Gauranga_Gautam @ 2637-7410-2315

aws Services Search [Alt+S]

Name Web Server Add additional tags

Summary

Number of Instances 1

Software Image (AMI)

Amazon Linux 2023 AMI 2023.3.2... read more

ami-0005e0cf09cc9050

Virtual server type (instance type)

t2.micro

Firewall (security group)

New security group

Storage (volumes)

1 volume(s) - 8 GiB

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 tier AMIs per month, 50 GiB of EBS storage, 2 million I/Os, 1 GiB of snapshots, and 100 GiB of bandwidth to the internet.

Amazon Machine Image (AMI)

Amazon Linux 2023 AMI 2023.3.20240108.0 x86_64 HVM kernel-6.1

Free tier eligible

Architecture 64-bit (x86) Boot mode uefi-preferred AMI ID ami-0005e0cf09cc9050 Verified provider

Cancel Launch Instance Review commands

Tue Jan 9 1:20 PM

Lab 3 - Introduction to AWS | us-east-1 | Launch an instance | EC2 | us-east-1 | LaunchInstances | ChatGPT

us-east-1.console.aws.amazon.com/ec2/home?region=us-east-1#LaunchInstances: N. Virginia | vociabs/user2981860=Gauranga_Gautam @ 2637-7410-2315

aws Services Search [Alt+S]

Name Web Server Add additional tags

Application and OS Images (Amazon Machine Image) Info

An AMI is a template that contains the software configuration (operating system, application server, and applications) required to launch your instance. Search or Browse for AMIs if you don't see what you are looking for below

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Browse more AMIs Including AMIs from AWS, Marketplace and the Community

Amazon Machine Image (AMI)

Amazon Linux 2023 AMI ami-0005e0cf09cc9050 (64-bit (x86), uefi-preferred) / ami-0730971bfbe0532d6 (64-bit (Arm), uefi)

Virtualization: hvm ENA enabled: true Root device type: ebs

Description

Amazon Linux 2023 AMI 2023.3.20240108.0 x86_64 HVM kernel-6.1

Architecture 64-bit (x86) Boot mode uefi-preferred AMI ID ami-0005e0cf09cc9050 Verified provider

Cancel Launch Instance Review commands

Tue Jan 9 1:20 PM

Lab 3 - Introduction to AI | Launch an instance | EC2 | us-east-1

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

Services Search [Alt+S]

Termination protection 1/1 N. Virginia vocabs/user2981860+Gauranga_Gautam @ 2637-7410-2315

Instance type t2.micro

Family: t2 1 vCPU, 1 GiB Memory Current generation: true

On-Demand Windows base pricing: 0.0162 USD per Hour

On-Demand SUSE base pricing: 0.0116 USD per Hour

On-Demand RHEL base pricing: 0.0116 USD per Hour

On-Demand Linux base pricing: 0.0116 USD per Hour

All generations Compare instance types

Additional costs apply for AMIs with pre-installed software

Key pair (login) vockey

You can use a key pair to securely connect to your instance. Ensure that you have access to the selected key pair before you launch the instance.

Network settings

VPC - required

vpc-074c6531b59f18dfa (Lab VPC)

Subnet - info

subnet-01745474ae038c5af Public Subnet 1

Auto-assign public IP

CloudShell Feedback

Summary

Number of instances 1

Software Image (AMI)

Amazon Linux 2023 AMI 2023.3.2...read more

Virtual server type (instance type)

t2.micro

Firewall (security group)

New security group

Storage (volumes)

1 volume(s) - 8 GiB

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 tier AMIs per month, 50 GiB of EBS storage, 2 million I/Os, 1 GiB of snapshots, and 100 GiB of bandwidth to the internet.

Cancel Launch instance Review commands

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Tue Jan 9 1:20 PM

Lab 3 - Introduction to AI | Launch an instance | EC2 | us-east-1

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

Services Search [Alt+S]

Termination protection 1/1 N. Virginia vocabs/user2981860+Gauranga_Gautam @ 2637-7410-2315

Subnet - info

subnet-01745474ae038c5af Public Subnet 1

Auto-assign public IP

Enable

Firewall (security groups) - info

Create security group Select existing security group

Security group name - required

Security group for my web server

This security group will be added to all network interfaces. The name can't be edited after the security group is created. Max length is 255 characters. Valid characters: a-z, A-Z, 0-9, spaces, and _~!@#\$%^&*()

Description - required

launch-wizard-1 created 2024-01-09T07:23:47.639Z

Inbound Security Group Rules

No security group rules are currently included in this template. Add a new rule to include it in the launch template.

Add security group rule Advanced network configuration

Configure storage

Advanced

1x 8 GiB gp3 Root volume (Not encrypted)

Free tier eligible customers can get up to 30 GB of EBS General Purpose (SSD) or Magnetic storage

CloudShell Feedback

Summary

Number of instances 1

Software Image (AMI)

Amazon Linux 2023 AMI 2023.3.2...read more

Virtual server type (instance type)

t2.micro

Firewall (security group)

New security group

Storage (volumes)

1 volume(s) - 8 GiB

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 tier AMIs per month, 50 GiB of EBS storage, 2 million I/Os, 1 GiB of snapshots, and 100 GiB of bandwidth to the internet.

Cancel Launch instance Review commands

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Tue Jan 9 1:21 PM

Lab 3 - Introduction to AI | Launch an instance | EC2

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

Services Search [Alt+S]

Termination protection 1/1 N. Virginia vocabs/user2981860+Gauranga_Gautam @ 2637-7410-2315

Enable IP name IPv4 (A record) DNS requests
Enable resource-based IPv4 (A record) DNS requests
Enable resource-based IPv6 (AAAA record) DNS requests

Instance auto-recovery Info Select

Shutdown behavior Info Stop

Stop - Hibernate behavior Info Select

Termination protection Info Enable

Stop protection Info Select

Detailed CloudWatch monitoring Info Select

Elastic GPU Info Select

Elastic Inference Info Add Elastic Inference accelerators

Amazon Elastic Inference is no longer available to new customers. For new and existing customers, we recommend using an alternative, such as AWS Inferentia, which offers better performance at a lower cost. [Learn more](#)

Credit specification Info

CloudShell Feedback

Summary

Number of instances Info 1

Software Image (AMI) Amazon Linux 2023 AMI 2023.3.2...read more ami-0005e0fc09c9050

Virtual server type (instance type) t2.micro

Firewall (security group) New security group

Storage (volumes) 1 volume(s) - 8 GiB

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 tier AMIs per month, 50 GiB of EBS storage, 2 million I/Os, 1 GiB of snapshots, and 100 GiB of bandwidth to the internet.

Cancel Launch instance Review commands

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This screenshot shows the 'Launch an instance' wizard in the AWS Management Console. The left sidebar lists various configuration sections: Instance auto-recovery, Shutdown behavior, Stop - Hibernate behavior, Termination protection, Stop protection, Detailed CloudWatch monitoring, Elastic GPU, and Elastic Inference. The 'Elastic Inference' section contains a note about its discontinuation. The main summary pane on the right shows the selected instance type as 't2.micro', software image as 'Amazon Linux 2023 AMI 2023.3.2', and storage as '1 volume(s) - 8 GiB'. A tooltip for the 'Free tier' is displayed, detailing included resources. At the bottom are 'Cancel', 'Launch instance', and 'Review commands' buttons.

Tue Jan 9 1:21 PM

Lab 3 - Introduction to AI | Launch an instance | EC2

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

Services Search [Alt+S]

Termination protection 1/1 N. Virginia vocabs/user2981860+Gauranga_Gautam @ 2637-7410-2315

Metadata version Info V2 only (token required)

For V2 requests, you must include a session token in all instance metadata requests. Applications or agents that use V1 for instance metadata access will break.

Metadata response hop limit Info 2

Allow tags in metadata Info Select

User data - optional Info Upload a file with your user data or enter it in the field. Choose file

#!/bin/bash
dnf install -y httpd
systemctl enable httpd
systemctl start httpd
echo <html><h1>Hello From Your Web Server!</h1></html> >
>/var/www/html/index.html

User data has already been base64 encoded

Summary

Number of instances Info 1

Software Image (AMI) Amazon Linux 2023 AMI 2023.3.2...read more ami-0005e0fc09c9050

Virtual server type (instance type) t2.micro

Firewall (security group) New security group

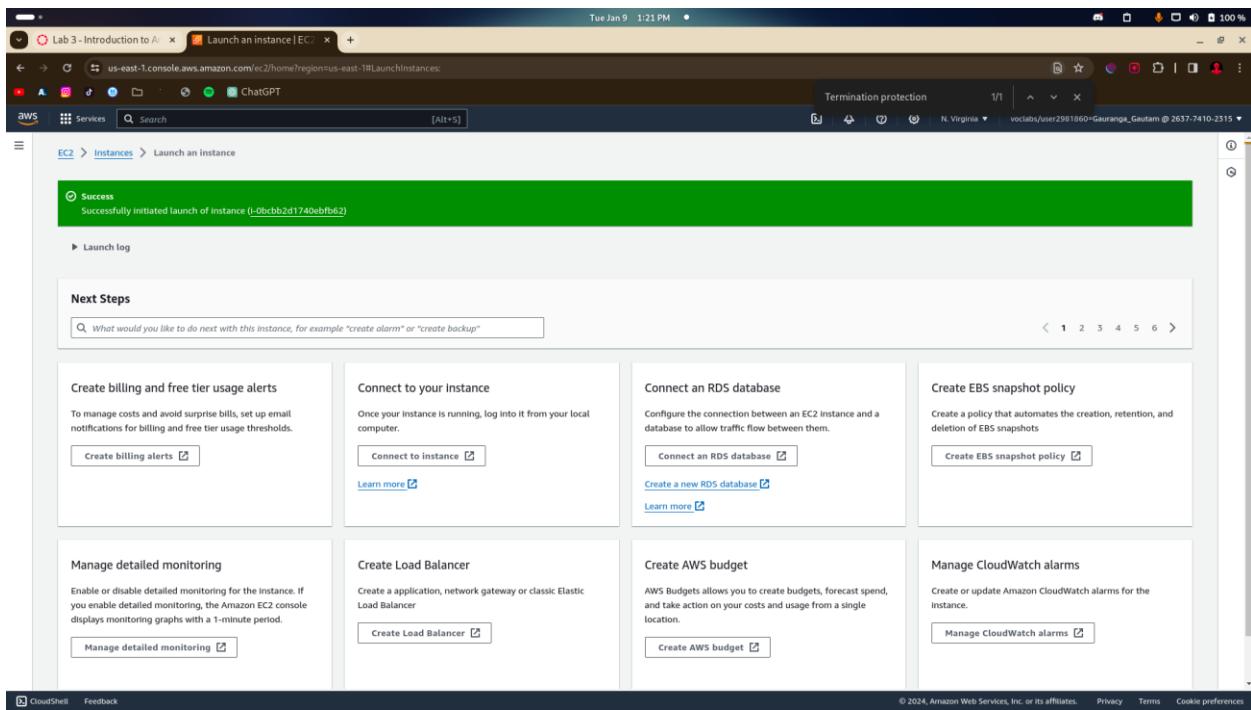
Storage (volumes) 1 volume(s) - 8 GiB

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 tier AMIs per month, 50 GiB of EBS storage, 2 million I/Os, 1 GiB of snapshots, and 100 GiB of bandwidth to the internet.

Cancel Launch instance Review commands

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This screenshot shows the 'Launch an instance' wizard with user data entered in the 'User data - optional' field. The user data script installs Apache HTTPD and creates a basic HTML page. The rest of the configuration is identical to the previous screenshot, including the instance type, AMI, and storage.



Task 2: Monitor Your Instance

1. Choose "Status checks" tab.
2. Check both System reachability and Instance reachability.
3. Choose "Monitoring" tab to view CloudWatch metrics.
4. View system log and instance screenshot for troubleshooting.

```

[ 34.514893] systemd-sysv-generator[3404]: SysV service '/etc/rc.d/init.d/cfn-hup' lacks a native systemd unit file. Automatically generating a unit file for compatibility.
[ 34.571972] rram_generator::config[3406]: rram0 system has too much memory (949MB), limit is 800MB, ignoring.
ci-info: +-----+-----+-----+-----+-----+-----+
ci-info: | Keypair | Fingerprint (sha256) | Options | Comment |
ci-info: +-----+-----+-----+-----+-----+-----+
ci-info: | ssh-rsa | 1c:11:73:ec:86:d3:3e:35:67:0d:b1:00:f0:05:93:84:26:e8:4b:44:ef:cd:41:a4:9a:91:43:26:ca:28:66:27 | - | vockey |
ci-info: +-----+-----+-----+-----+-----+-----+
<14>Jan 9 07:37:23 cloud-init: =====#
<14>Jan 9 07:37:23 cloud-init: ....BEGIN SSH HOST KEY FINGERPRINTS....#
<14>Jan 9 07:37:23 cloud-init: 256 SHA256:66VQ3YkuSl7/bylw4cAUJvAU1Y9Xed9UNEb3yVU root@ip-10-0-1-90.ec2.internal (EDDSA)
<14>Jan 9 07:37:23 cloud-init: 256 SHA256:nhZLMSALqjpaINASQ7830bRqdalExxsIA09+ig8 root@ip-10-0-1-90.ec2.internal (ED25519)
<14>Jan 9 07:37:23 cloud-init: ....END SSH HOST KEY FINGERPRINTS....#
<14>Jan 9 07:37:23 cloud-init: =====#
-----BEGIN SSH HOST KEY KEYS-----#
ecdsa-sha2-nistp256 AAAE2VjZHNhXNoYTItbmIzdHAYNTYAAAIBmIzdHAYNTYAAAABBBDPbQzSlqy+ZANx47t17ad6AsNdxSK0zcgZur/1MNWlG7kCtiU/B6srC84Y6131Ma5rCr2dBvdP01+wCYPj4= root@ip-10-0-1-90.ec2.internal
ssh-ed25519 AAAAC3nzaC1ZD1NTESAAAIN1ezaN3c5EeZba+kWqDVmSiMr9ayyu8J3SCD+oSGGb root@ip-10-0-1-90.ec2.internal
-----END SSH HOST KEY KEYS-----#
[ 34.818440] cloud-init[2204]: Cloud-init v. 22.2.2 finished at Tue, 09 Jan 2024 07:37:23 +0000. Datasource DataSourceEc2. Up 34.80 seconds

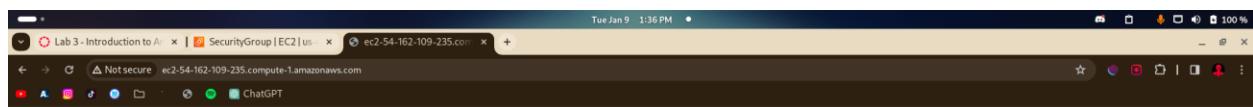
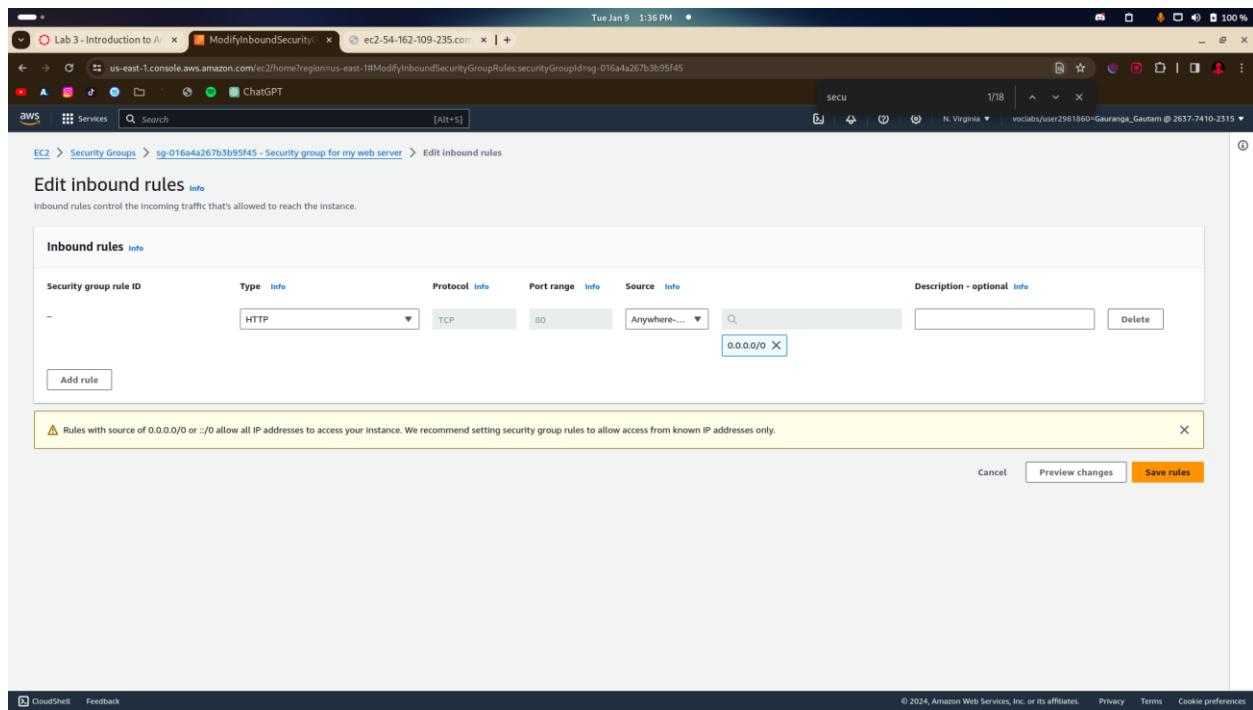
```

For boot or networking issues, use the EC2 serial console for troubleshooting. Choose the Connect button to start a session.

[Connect](#)

Task 3: Update Your Security Group and Access the Web Server

1. Copy Public IPv4 address.
2. Open Security Groups.
3. Edit "Web Server security group" inbound rules:
 - Add rule: Type HTTP, Source Anywhere-IPv4.
4. Refresh web browser, check if you can access the web server.



Task 4: Resize Your Instance: Instance Type and EBS Volume

1. Stop the instance.
2. Change instance type to t2.small.
3. Modify EBS volume size to 10 GiB.
4. Start the resized instance.

The screenshot shows the AWS EC2 Instances page. On the left, a sidebar navigation includes: EC2 Dashboard, EC2 Global View, Events, Console-to-Code (Preview), Instances (selected), Instance Types, Launch Templates, Spot Requests, Savings Plans, Reserved Instances, Dedicated Hosts, Capacity Reservations (New), Images (AMIs, AMI Catalog), Elastic Block Store (Volumes, Snapshots, Lifecycle Manager), Network & Security (Security Groups, Elastic IPs, Placement Groups, Key Pairs, Network Interfaces), CloudShell, and Feedback.

The main content area displays 'Instances (1/2) info' with a search bar and filters. Two instances are listed:

Name	Instance ID	Instance state	Instance type	Status check	Alarm status	Availability Zone	Public IPv4 DNS	Public IPv4 IP	Elastic IP
Web Server	i-0bcbb2d1740ebfb62	Running	t2.micro	2/2 checks passed	View alarms +	us-east-1a	ec2-54-162-109-235.com	54.162.109.235	-
Bastion Host	i-054b7c7619194ecfa	Running	t2.micro	2/2 checks passed	View alarms +	us-east-1a	ec2-54-159-92-102.com	54.159.92.102	-

A modal dialog titled 'Stop instance?' is open for the 'Web Server' instance. It contains the message: 'To confirm that you want to stop the instance, choose the Stop button below.' with 'Cancel' and 'Stop' buttons.

At the bottom right of the page, there is a footer with links: © 2024, Amazon Web Services, Inc. or its affiliates., Privacy, Terms, and Cookie preferences.

The screenshot shows the 'Change instance type' configuration dialog for the instance i-0bcbb2d1740ebfb62. The dialog has the following fields:

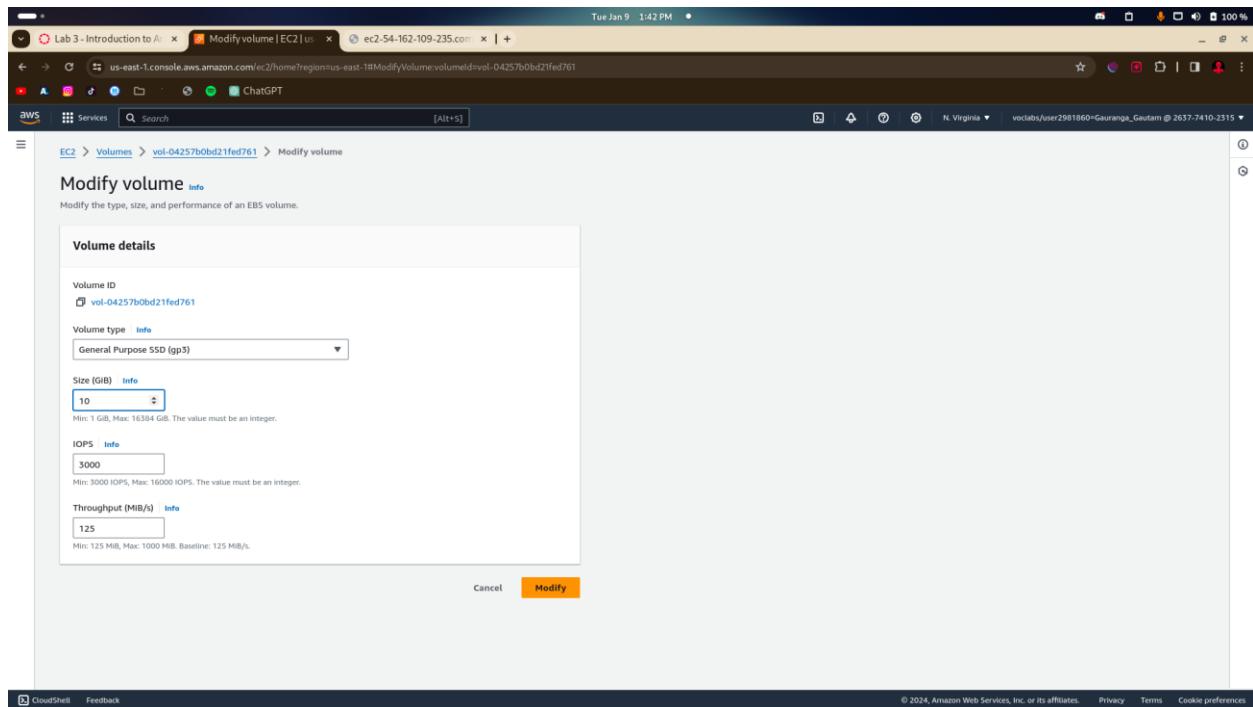
- Instance ID: i-0bcbb2d1740ebfb62 (Web Server)
- Current instance type: t2.micro
- Instance type dropdown: t2.small
- Checkboxes: EBS-optimized (disabled, note: EBS-optimized is not supported for this instance type)

At the bottom are 'Cancel' and 'Apply' buttons.

At the very bottom of the page, there is a footer with links: © 2024, Amazon Web Services, Inc. or its affiliates., Privacy, Terms, and Cookie preferences.

Task 5: Explore EC2 Limits

1. Search for "Service Quotas" in the AWS Management Console.
2. Choose "Amazon Elastic Compute Cloud (Amazon EC2)" under AWS services.
3. Observe and explore the default limits for running instances.



Task 6: Test Termination Protection

1. Open EC2 console.
2. Choose Instances.
3. Select "Web Server" instance.
4. Attempt to terminate, observe termination protection message.
5. Disable termination protection in "Instance settings."
6. Terminate the instance.

Tue Jan 9 1:44 PM

Instances | EC2 | us-east-1 | Instances: ec2-54-162-109-235.com | +

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

ChatGPT

aws Services Search [Alt+S]

Instances (1/2) info

Find instance by attribute or tag filter/separator

Name	Instance ID	Instance state	Instance type	Status check	Alarm status	Availability Zone	Public IPv4 DNS	Public IPv4 ...	Elastic IP
Bastion Host	i-034b7c7019194ecfa	Running	t2.micro	2/2 checks passed	View alarms +	us-east-1a	ec2-54-159-92-102.co...	54.159.92.102	-
Web Server	i-0bcbb2d1740ebfb62	Running	t2.small	0/2 checks passed	View alarms +	us-east-1a	ec2-54-158-245-241.co...	54.158.245.241	-

Terminate instance?

On an EBS-backed instance, the default action is for the root EBS volume to be deleted when the instance is terminated. Storage on any local drives will be lost.

Are you sure you want to terminate these instances?

Instance ID: i-0bcbb2d1740ebfb62 (Web Server) | Termination protection: Enabled

To confirm that you want to terminate the instances, choose the terminate button below. Instances with termination protection enabled will not be terminated. Terminating the instance cannot be undone.

Cancel | **Terminate**

Instance ID: i-0bcbb2d1740ebfb62 (Web Server)

IPv4 address: 54.158.245.241 (ipen address)

Instance state: Running

Public IPv4 DNS: ec2-54-158-245-241.compute-1.amazonaws.com (ipen address)

Instance summary: Info

Instance ID: i-0bcbb2d1740ebfb62 (Web Server)

IPv4 address: -

Instance state: Running

Public IPv4 DNS: -

Hostname type: Private IP DNS name (IPv4 only)

Security Groups: ip-10-0-1-90.ec2.internal

Instance type: t2.small

Instance IP address: -

Auto-assigned IP address: 54.159.245.241 (Public IP)

VPC ID: vpc-07a8e011 (No VPC is assigned)

AWS Compute Optimizer findings: None

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Tue Jan 9 1:45 PM

Instances | EC2 | us-east-1 | Instances: ec2-54-162-109-235.com | +

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

ChatGPT

aws Services Search [Alt+S]

Instances (1/2) info

Find instance by attribute or tag filter/separator

Name	Instance ID	Instance state	Instance type	Status check	Alarm status	Availability Zone	Public IPv4 DNS	Public IPv4 ...	Elastic IP
Bastion Host	i-034b7c7019194ecfa	Running	t2.micro	2/2 checks passed	View alarms +	us-east-1a	ec2-54-159-92-102.co...	54.159.92.102	-
Web Server	i-0bcbb2d1740ebfb62	Running	t2.small	0/2 checks passed	View alarms +	us-east-1a	ec2-54-158-245-241.co...	54.158.245.241	-

Change termination protection

To prevent your instance from being accidentally terminated, you can enable termination protection for the instance. [Learn more](#)

Instance ID: i-0bcbb2d1740ebfb62 (Web Server)

Termination protection: Enable

Termination protection disabled.

The instance is no longer protected against accidental termination. If the instance is terminated, data stored on ephemeral storage is lost.

Cancel | **Save**

Instance ID: i-0bcbb2d1740ebfb62 (Web Server)

IPv4 address: -

Instance state: Running

Public IPv4 DNS: ec2-54-158-245-241.compute-1.amazonaws.com (ipen address)

Instance summary: Info

Instance ID: i-0bcbb2d1740ebfb62 (Web Server)

IPv4 address: -

Instance state: Running

Public IPv4 DNS: -

Hostname type: Private IP DNS name (IPv4 only)

Security Groups: ip-10-0-1-90.ec2.internal

Instance type: t2.small

Instance IP address: -

Auto-assigned IP address: 54.159.245.241 (Public IP)

VPC ID: vpc-07a8e011 (No VPC is assigned)

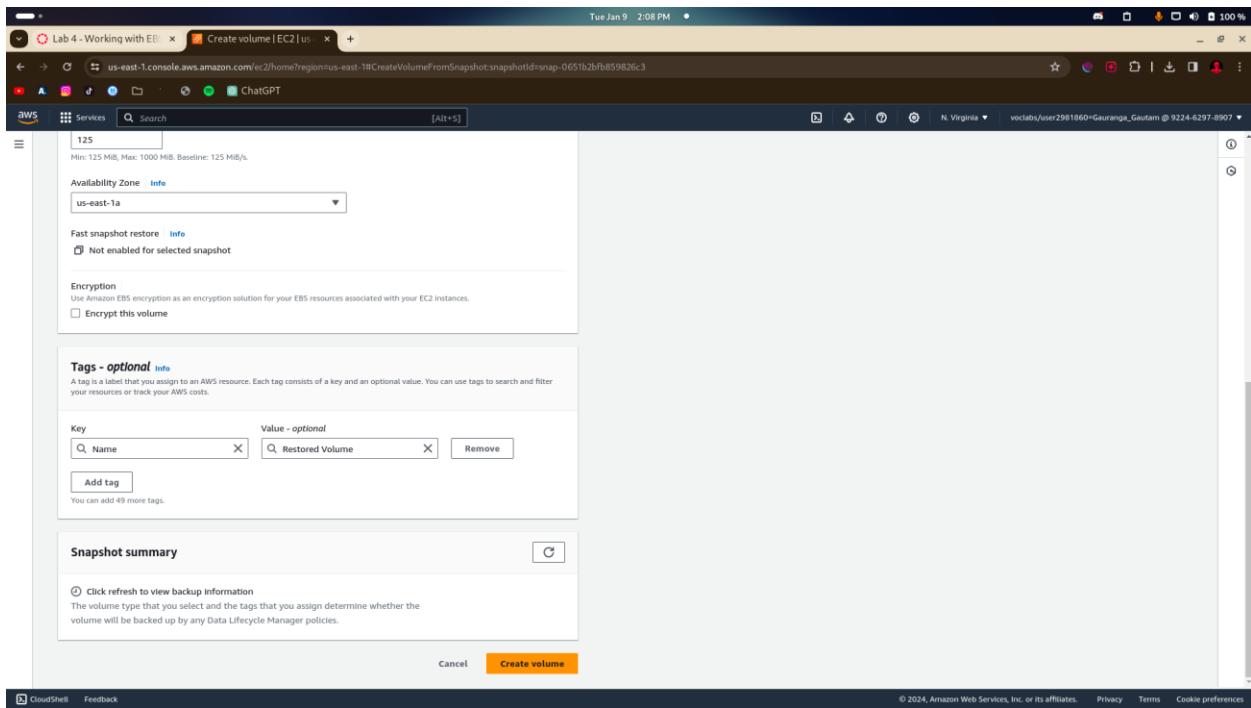
AWS Compute Optimizer findings: None

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Lab 4

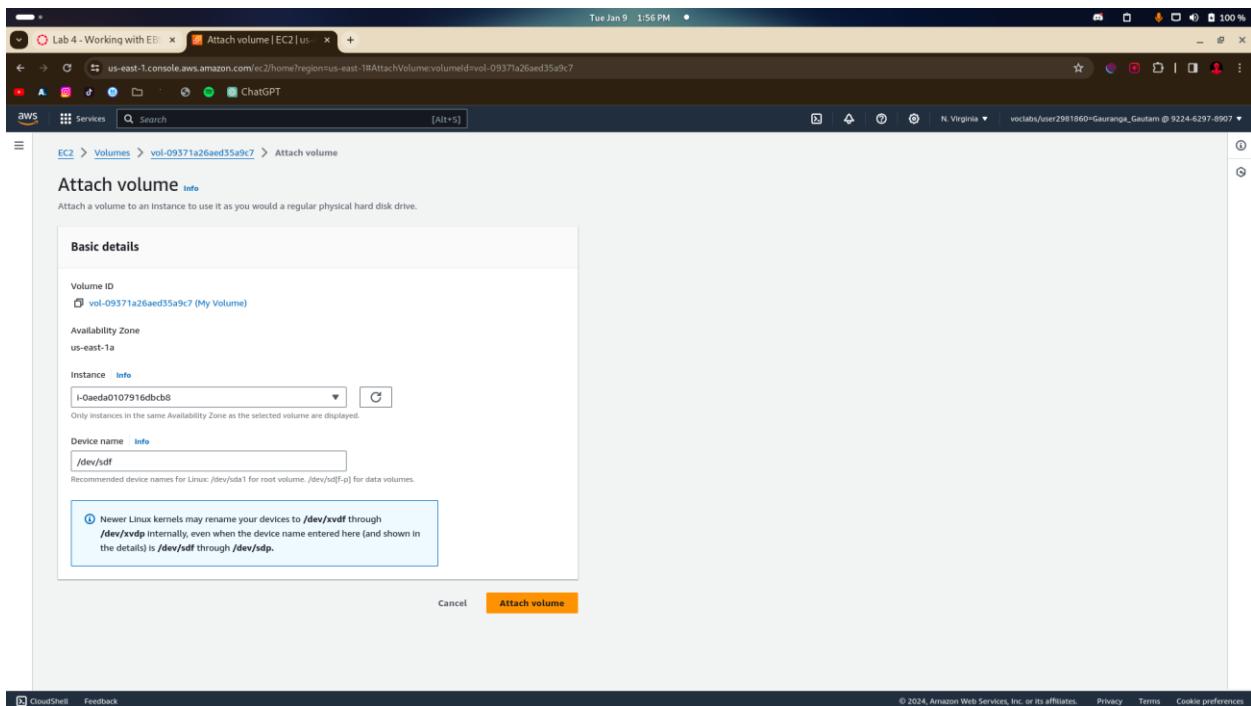
Task 1: Create a New EBS Volume

- Open EC2 console.
- Navigate to Instances.
- Note the Availability Zone of the existing instance (e.g., us-east-1a).
- Go to Volumes.
- Create a new volume:
 - Volume Type: General Purpose SSD (gp2)
 - Size (GiB): 1
 - Availability Zone: Select the same as the instance
 - Add Tag: Key: Name, Value: My Volume
 - Create Volume



Task 2: Attach the Volume to an Instance

1. Select "My Volume."
2. In Actions, choose Attach volume.
3. Choose the Lab instance, Device: /dev/sdf.
4. Attach volume.



Task 3: Connect to Your Amazon EC2 Instance

- macOS and Linux Users
- Download labsuser.pem.
- Open terminal, navigate to the directory.
 - cd ~/Documents
 - chmod 400 labsuser.pem
- Copy the Public IPv4 address.
- In terminal:
 - ssh -i labsuser.pem ec2-user@<public-ip>

Task 4: Create and Configure Your File System

- **View available storage:**
 - `df -h`
- **Create ext3 file system:**
 - `sudo mkfs -t ext3 /dev/sdf`

- **Create a directory for mounting:**
 - `sudo mkdir /mnt/data-store`
- **Mount the new volume:**
 - `sudo mount /dev/sdf /mnt/data-store`
- **Add to /etc/fstab:**
 - `echo "/dev/sdf /mnt/data-store ext3 defaults,noatime 1 2" | sudo tee -a /etc/fstab`

The screenshot shows a terminal window with several tabs open. The current tab displays a series of commands being run on an Amazon Linux 2023 instance. The commands include:

```

Tue Jan 9 2:02 PM •
[spirited@aws]:~ [1] https://www.instructure.com/courses/60756/modules/items/5063720
$ cd Documents
[spirited@aws]:~/Documents] ChatGPT
$ ls
[spirited@aws]:~/Documents] GaurangaGautam-cv.pdf gits.htm linux.iso midijourney packet remaxx.wz TLauncher-2.895 ViberDownloads XML
CiscoPacketTracer_021Ubuntu64bit.deb Documents GaurangaGautam-CV.pdf hack labsuser.pem multi-zip new startup
$ chmod +w0 labsuser.pem
[spirited@aws]:~/Documents]
$ ssh -i labsuser.pem ec2-user@44.193.229.213
The authenticity of host '44.193.229.213 (44.193.229.213)' can't be established.
ED25519 key fingerprint is SHA256:800f4e090ntGÜaCYPc2ewXH3SAK5dFvRE.
This host is known by other names.
Are you sure you want to continue connecting (yes/no/[fingerprint])? yes
Warning: Permanently added '44.193.229.213' (ED25519) to the list of known hosts.
[ec2-user@ip-10-1-11-135 ~]$ sudo mkdir /mnt/data-store
[ec2-user@ip-10-1-11-135 ~]$ sudo mount /dev/sdf /mnt/data-store
[ec2-user@ip-10-1-11-135 ~]$ df -h
Filesystem      Size  Used Avail Use% Mounted on
/devtmpfs        4.0M   4.0M    0 100% /dev
tmpfs           475M   475M    0 100% /dev/shm
tmpfs           100M   2.9M    97M  3% /run
/dev/xvda1       8.0G  1.5G  6.5G 19% /run
tmpfs           475M   475M    0 100% /tmp
/dev/xvda12      10M   1.3M   8.7M 13% /boot/efi
tmpfs            95M   95M    0 100% /run/user/1000
[ec2-user@ip-10-1-11-135 ~]$ sudo mkfs -t ext3 /dev/sdf
mkfs 1.46.5 (30-Dec-2021)
Creating filesystem with 262144 4k blocks and 65536 inodes; configuration file to see the setting on the last line:
Filesystem UUID: 26797161-1a4d-41f5-ab66-892c879400ae
Superblock backups stored on blocks:
      32768, 98304, 163840, 229376
Allocating group tables: done
Writing inode tables: done
Creating journal (8192 blocks): done
Writing superblocks and filesystem accounting information: done
[ec2-user@ip-10-1-11-135 ~]$ sudo mkdir /mnt/data-store -p
[ec2-user@ip-10-1-11-135 ~]$ sudo mount /dev/sdf /mnt/data-store
[ec2-user@ip-10-1-11-135 ~]$ echo "/dev/sdf /mnt/data-store ext3 defaults,noatime 1 2" | sudo tee -a /etc/fstab
[ec2-user@ip-10-1-11-135 ~]$ cat /etc/fstab
[ec2-user@ip-10-1-11-135 ~]$ 
```

- **View configuration file:**
 - `cat /etc/fstab`
- **View available storage again:**
 - `df -h`
- **Create a file and add text:**
 - `sudo sh -c "echo some text has been written > /mnt/data-store/file.txt"`
- **Verify the text has been written:**
 - `cat /mnt/data-store/file.txt`

Tue Jan 9 2:03 PM • ec2-user@ip-10-1-11-135:~

```
[ec2-user@ip-10-1-11-135 ~]$ cat /etc/fstab
# /etc/fstab: static file system information
#
#  
UUID=2bebcb11-d28e-4409-b1d8-8374c85cc002  /      xfs defaults,noatime 1 1  
UUID=b34c-C-B44   /boot/efi    vfat defaults,noatime,uid=0,gid=0,umask=0077,shortname=winnt,x-systemd.automount 0 2  
/dev/sdf /mnt/data-store ext3 defaults,noatime 1 2  
[ec2-user@ip-10-1-11-135 ~]$ df -h  
Filesystem      Size  Used Avail Mounted on  
devtmpfs        475M   0B  475M  /dev  
tmpfs          190M  2.0M  188M  /run  
/dev/xvda1     18.0G  1.5G  6.5G  19% /  
tmpfs          475M   0B  475M  /tmp  
/dev/xvda2B   18.0G  8.7M  13K  /boot/efi  
tmpfs          590M   0B  590M  /run/user/1000  
/dev/xvdf      975M  60K  924M  /mnt/data-store  
[ec2-user@ip-10-1-11-135 ~]$ sudo sh -c "echo some text has been written > /mnt/data-store/file.txt"  
[ec2-user@ip-10-1-11-135 ~]$ cat /mnt/data-store/file.txt  
some text has been written  
[ec2-user@ip-10-1-11-135 ~]$
```

36. On your mounted volume, create a file and add some text to it.

```
1 sudo sh -c "echo some text has been written > /mnt/data-store/file.txt"
```

37. Verify that the text has been written to your volume.

```
1 cat /mnt/data-store/file.txt
```

Task 5: Create an Amazon EBS Snapshot

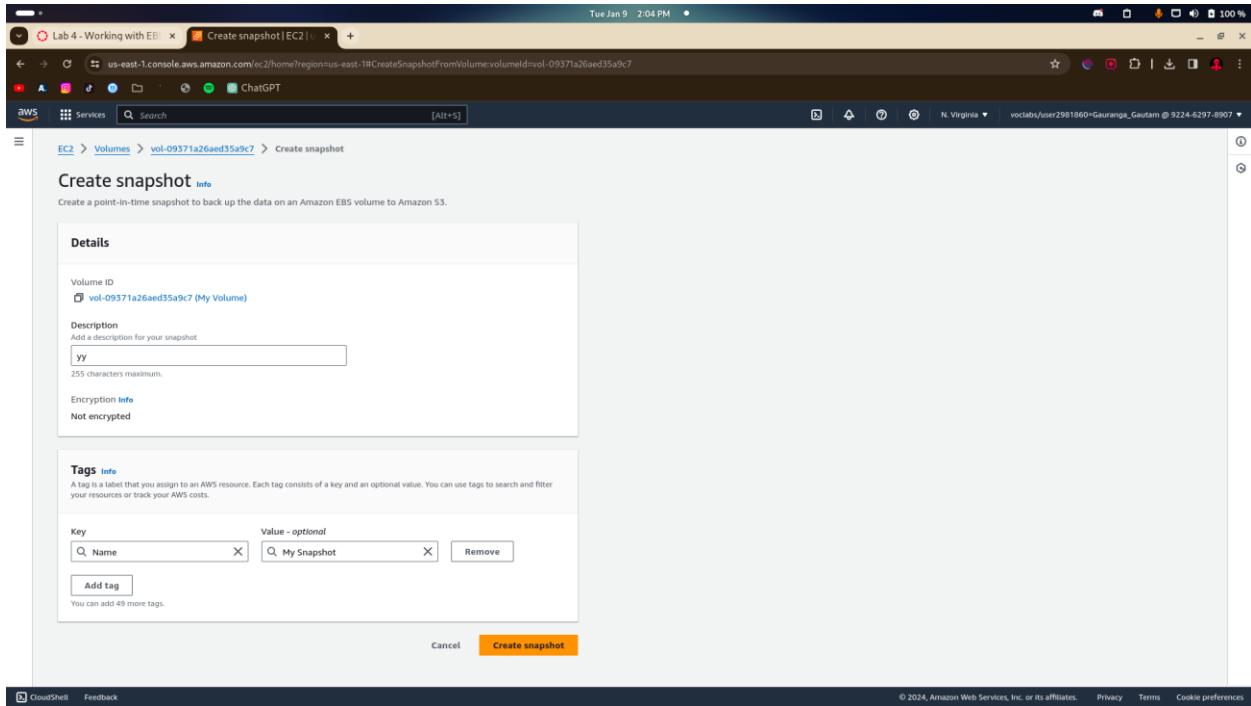
In this task, you will create a snapshot of your EBS volume.

You can create any number of point-in-time, consistent snapshots from Amazon EBS volumes at any time. Amazon EBS snapshots are stored in Amazon S3 with high durability. New Amazon EBS volumes can be created out of snapshots for cloning or restoring hardware. Amazon EBS snapshots can also be used directly in AWS Lambda functions.

[← Previous](#) [Next →](#)

Task 5: Create an Amazon EBS Snapshot

1. In EC2 console, choose Volumes, select "My Volume."
2. In Actions, choose Create snapshot.
3. Add tag: Key: Name, Value: My Snapshot.
4. Create snapshot.



Task 6: Restore the Amazon EBS Snapshot

- **Create a Volume Using Your Snapshot**

1. In EC2 console, select "My Snapshot."
2. In Actions, choose Create volume from snapshot.
3. For Availability Zone, select the same as before.
4. Add tag: Key: Name, Value: Restored Volume.
5. Create volume.

- **Attach the Restored Volume to Your EC2 Instance**

1. In Volumes, select "Restored Volume."
2. In Actions, choose Attach volume.
3. Choose the Lab instance, Device: /dev/sdg.
4. Attach volume.

- **Mount the Restored Volume**

- **Create a directory for mounting:**
 - `sudo mkdir /mnt/data-store2`

- **Mount the restored volume:**
 - `sudo mount /dev/sdg /mnt/data-store2`

- Verify the volume has the file:
 - **ls /mnt/data-store2/**

The screenshot shows a web-based learning environment. On the left, a sidebar lists navigation options: Home, Account, Dashboard, Courses, Calendar, Inbox, History, and Help. The main area displays a course module titled "ACFv2EN-66156 : Modules > Module 7 - Storage > Lab 4 - Working with EBS". A sub-section titled "Task 6: Restore the Amazon EBS Snapshot" is shown. It contains two terminal command examples:

```
[ec2-user@ip-10-1-11-135 ~]$ sudo rm /mnt/data-store/file.txt
[ec2-user@ip-10-1-11-135 ~]$ ls /mnt/data-store/
total 0
[ec2-user@ip-10-1-11-135 ~]$
```

42. In your remote SSH session, delete the file that you created on your volume.

```
1 sudo rm /mnt/data-store/file.txt
```

43. Verify that the file has been deleted.

```
1 ls /mnt/data-store/
```

Your file has been deleted.

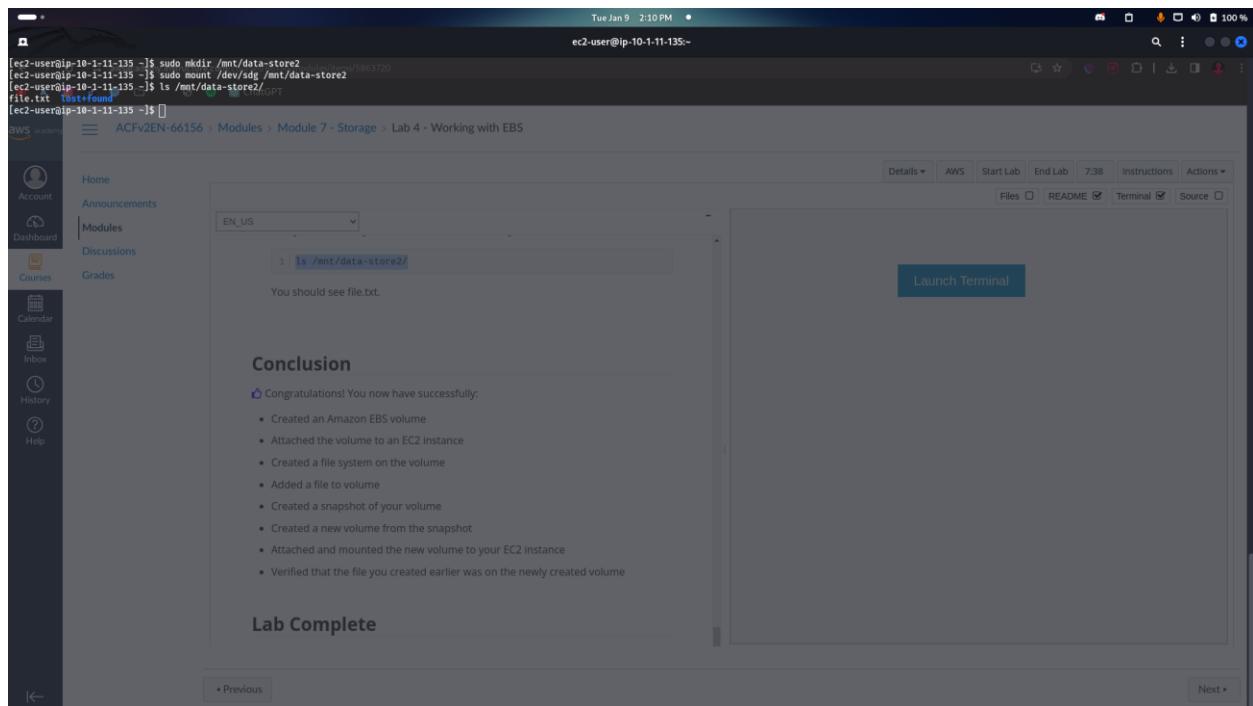
Task 6: Restore the Amazon EBS Snapshot

If you ever wish to retrieve data stored in a snapshot, you can [Restore](#) the snapshot to a new EBS volume.

Create a Volume Using Your Snapshot

44. In the AWS Management Console, select [My Snapshot](#).

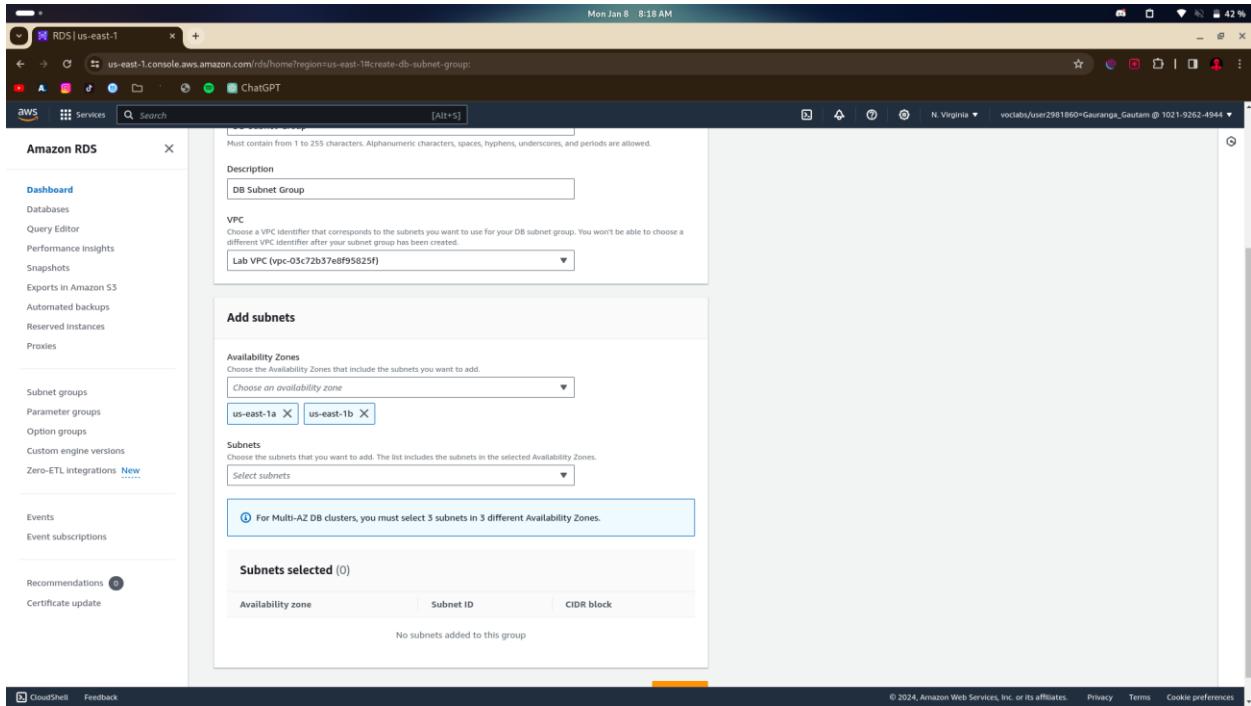
← Previous Next →



Lab 5

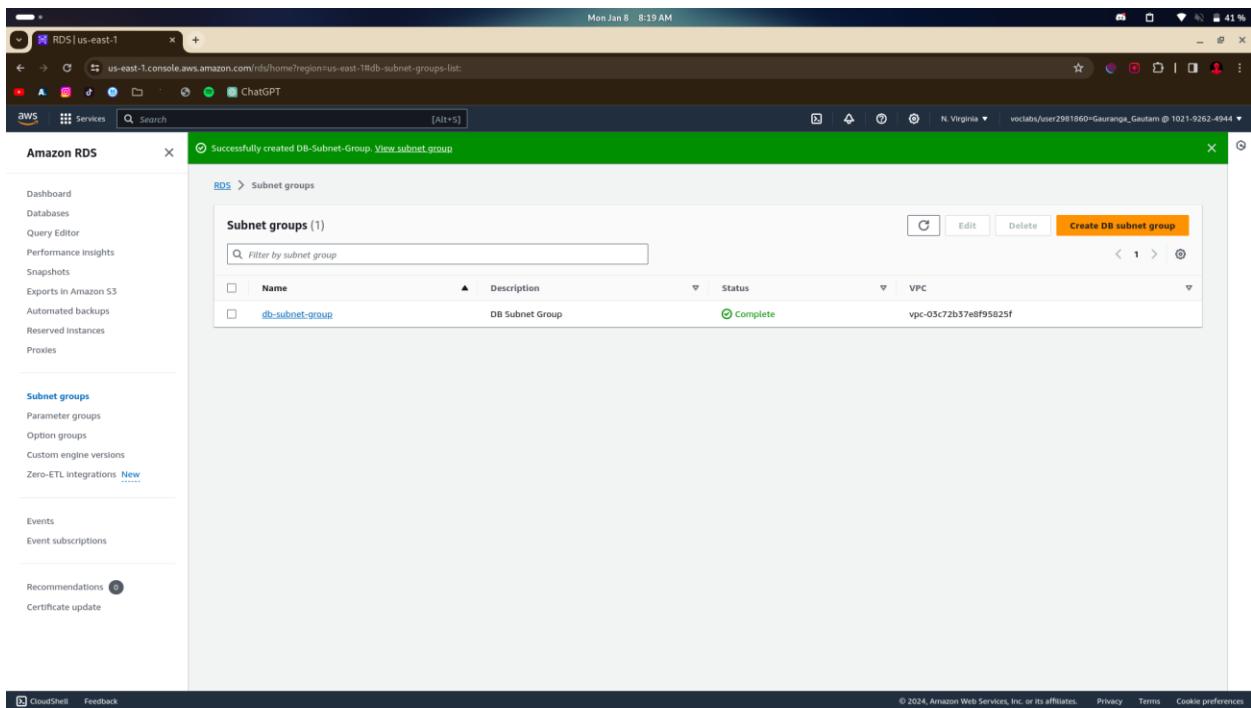
Task 1: Create a Security Group for the RDS DB Instance

- Go to the VPC service in the AWS Management Console.
- In the left navigation pane, select "Security Groups."
- Choose "Create security group" and configure:
 - Security group name: DB Security Group
 - Description: Permit access from Web Security Group
 - VPC: Lab VPC
- Add inbound rule:
 - Type: MySQL/Aurora (3306)
 - Source: Type "sg" and select Web Security Group.
- Choose "Create security group."



Task 2: Create a DB Subnet Group

- Go to the RDS service in the AWS Management Console.
- In the left navigation pane, select "Subnet groups."
- Choose "Create DB Subnet Group" and configure:
 - Name: DB-Subnet-Group
 - Description: DB Subnet Group
 - VPC: Lab VPC
 - Add subnets for us-east-1a and us-east-1b with CIDR ranges 10.0.1.0/24 and 10.0.3.0/24.
- Choose "Create."



Task 3: Create an Amazon RDS DB Instance

- In the RDS service, choose "Databases."
- Choose "Create database" and select MySQL under Engine Options.
- Choose Dev/Test under Templates.
- Choose Multi-AZ DB instance under Availability and durability.
- Configure settings:
 - DB instance identifier: lab-db
 - Master username: main
 - Master password: lab-password
 - DB instance class: db.t3.micro
 - Allocated storage: 20
 - VPC: Lab VPC
 - Security group: DB Security Group
 - Initial database name: lab
 - Uncheck backups, encryption, and enhanced monitoring.
- Choose "Create database."
- Wait for the database to be available, copy the Endpoint.

Mon Jan 8 8:32 AM

RDS | us-east-1

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

Services Search [Alt+S]

ChatGPT

Standard Create

Easy Create

MySQL

MySQL is the most popular open source database in the world. MySQL on RDS offers the rich features of the MySQL community edition with the flexibility to easily scale compute resources or storage capacity for your database.

- Supports database size up to 64 TiB.
- Supports General Purpose, Memory Optimized, and Burstable Performance Instance classes.
- Supports automated backup and point-in-time recovery.
- Supports up to 15 Read Replicas per instance, within a single Region or 5 read replicas cross-region.

Engine options

Engine type: MySQL

Aurora (MySQL Compatible)

Aurora (PostgreSQL Compatible)

MySQL

PostgreSQL

Oracle

Microsoft SQL Server

IBM Db2

Edition: MySQL Community

CloudShell Feedback

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Mon Jan 8 8:32 AM

RDS | us-east-1

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

Services Search [Alt+S]

MySQL

MySQL is the most popular open source database in the world. MySQL on RDS offers the rich features of the MySQL community edition with the flexibility to easily scale compute resources or storage capacity for your database.

- Supports database size up to 64 TiB.
- Supports General Purpose, Memory Optimized, and Burstable Performance Instance classes.
- Supports automated backup and point-in-time recovery.
- Supports up to 15 Read Replicas per instance, within a single Region or 5 read replicas cross-region.

Edition: MySQL Community

Known issues/limitations

Show versions that support the Multi-AZ DB cluster

Show versions that support the Amazon RDS Optimized Writes

Engine version: MySQL 8.0.35

Templates

Production

Dev/Test

Free Tier

Availability and durability

CloudShell Feedback

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Mon Jan 8 8:32 AM

RDS | us-east-1

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

ChatGPT

aws Services Search [Alt+S]

Deployment options [Info](#)
The deployment options below are limited to those supported by the engine you selected above.

Multi-AZ DB Cluster
Creates a DB cluster with a primary DB instance and two readable standby DB instances, with each DB instance in a different Availability Zone (AZ). Provides high availability, data redundancy and increases capacity to serve read workloads.

Multi-AZ DB Instance
Creates a primary DB instance and a standby DB instance in a different AZ. Provides high availability and data redundancy, but the standby DB instance doesn't support connections for read workloads.

Single DB Instance
Creates a single DB instance with no standby DB instances.

Settings

DB instance identifier [Info](#)
Type a name for your DB instance. The name must be unique across all DB instances owned by your AWS account in the current AWS Region.

lab-db

The DB instance identifier is case-insensitive, but is stored as all lowercase (as in "mydbinstance"). Constraints: 1 to 60 alphanumeric characters or hyphens. First character must be a letter. Can't contain two consecutive hyphens. Can't end with a hyphen.

Credentials Settings

Master username [Info](#)
Type a login ID for the master user of your DB instance.

main

1 to 16 alphanumeric characters. The first character must be a letter.

Manage master credentials in AWS Secrets Manager
Manage master user credentials in Secrets Manager. RDS can generate a password for you and manage it throughout its lifecycle.

If you manage the master user credentials in Secrets Manager, some RDS features aren't supported.
[Learn more](#)

Auto generate a password
Amazon RDS automatically generates a password for you, so you can easily connect to a database.

CloudShell Feedback

N. Virginia vocabs/user2981860=Gauranga_Gautam @ 1021-9262-4944

MySQL

MySQL is the most popular open source database in the world. MySQL on RDS offers the rich features of the MySQL community edition with the flexibility to easily scale compute resources or storage capacity for your database.

- Supports database size up to 64 TiB.
- Supports General Purpose, Memory Optimized, and Burstable Performance Instance classes.
- Supports automated backup and point-in-time recovery.
- Supports up to 15 Read Replicas per instance, within a single Region or 5 read replicas cross-region.

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Mon Jan 8 8:32 AM

RDS | us-east-1

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

ChatGPT

aws Services Search [Alt+S]

Master password [Info](#)

Constraints: At least 8 printable ASCII characters. Can't contain any of the following: / (slash), ' (single quote), " (double quote) and @ (at sign).

Confirm master password [Info](#)

Instance configuration

The DB instance configuration options below are limited to those supported by the engine that you selected above.

DB instance class [Info](#)
Show instance classes that support Amazon RDS Optimized Writes [Info](#)
Amazon RDS Optimized Writes improves write throughput by up to 2x at no additional cost.

Include previous generation classes

Standard classes (Includes m classes)

Memory optimized classes (Includes r and x classes)

Burstable classes (Includes t classes)

db.t3.micro
2 vCPUs - 1 GiB RAM - Network: 2,085 Mbps

Storage

Storage type [Info](#)
General Purpose SSD (gp3)
Performance scales independently from storage

Allocated storage [Info](#)

CloudShell Feedback

N. Virginia vocabs/user2981860=Gauranga_Gautam @ 1021-9262-4944

MySQL

MySQL is the most popular open source database in the world. MySQL on RDS offers the rich features of the MySQL community edition with the flexibility to easily scale compute resources or storage capacity for your database.

- Supports database size up to 64 TiB.
- Supports General Purpose, Memory Optimized, and Burstable Performance Instance classes.
- Supports automated backup and point-in-time recovery.
- Supports up to 15 Read Replicas per instance, within a single Region or 5 read replicas cross-region.

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Mon Jan 8 8:32 AM

RDS | us-east-1

us-east-1.console.aws.amazon.com/rds/home?region=us-east-1#launch-dbinstance:

ChatGPT

aws Services Search [Alt+S]

Storage type **Info**
General Purpose SSD (gp3)
Performance scales independently from storage.

Allocated storage **Info**
20 GiB
Minimum: 20 GiB. Maximum: 6,144 GiB

After you modify the storage for a DB instance, the status of the DB instance will be in storage-optimization. Your instance will remain available as the storage-optimization operation completes. [Learn more](#)

Advanced settings
Baseline IOPS of 3,000 IOPS and storage throughput of 125 MiBps are included for allocated storage less than 400 GiB.

Storage autoscaling

Connectivity **Info**

Compute resource
Choose whether to set up a connection to a compute resource for this database. Setting up a connection will automatically change connectivity settings so that the compute resource can connect to this database.

Don't connect to an EC2 compute resource
Don't set up a connection to a compute resource for this database. You can manually set up a connection to a compute resource later.

Connect to an EC2 compute resource
Set up a connection to an EC2 compute resource for this database.

Virtual private cloud (VPC) **Info**
Choose the VPC. The VPC defines the virtual networking environment for this DB instance.

Lab VPC (vpc-03c72b37e0f95825f)
4 Subnets, 2 Availability Zones

Only VPCs with a corresponding DB subnet group are listed.

MySQL

MySQL is the most popular open source database in the world. MySQL on RDS offers the rich features of the MySQL community edition with the flexibility to easily scale compute resources or storage capacity for your database.

- Supports database size up to 64 TiB.
- Supports General Purpose, Memory Optimized, and Burstable Performance Instance classes.
- Supports automated backup and point-in-time recovery.
- Supports up to 15 Read Replicas per instance, within a single Region or 5 read replicas cross-region.

CloudShell Feedback

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Mon Jan 8 8:33 AM

RDS | us-east-1

us-east-1.console.aws.amazon.com/rds/home?region=us-east-1#launch-dbinstance:

ChatGPT

aws Services Search [Alt+S]

Lab VPC (vpc-03c72b37e0f95825f)
4 Subnets, 2 Availability Zones

Only VPCs with a corresponding DB subnet group are listed.

After a database is created, you can't change its VPC.

DB subnet group **Info**
Choose the DB subnet group. The DB subnet group defines which subnets and IP ranges the DB instance can use in the VPC that you selected.

db-subnet-group
2 Subnets, 2 Availability Zones

Public access **Info**
 Yes
RDS assigns a public IP address to the database. Amazon EC2 instances and other resources outside of the VPC can connect to your database. Resources inside the VPC can also connect to the database. Choose one or more VPC security groups that specify which resources can connect to the database.

No
RDS doesn't assign a public IP address to the database. Only Amazon EC2 instances and other resources inside the VPC can connect to your database. Choose one or more VPC security groups that specify which resources can connect to the database.

VPC security group (firewall) **Info**
Choose one or more VPC security groups to allow access to your database. Make sure that the security group rules allow the appropriate incoming traffic.

Choose existing
Choose existing VPC security groups

Create new
Create new VPC security group

Existing VPC security groups
Choose one or more options

DB Security Group X

RDS Proxy
RDS Proxy is a fully managed, highly available database proxy that improves application scalability, resiliency, and security.

Create an RDS Proxy Info
RDS automatically creates an IAM role and a Secrets Manager secret for the proxy. RDS Proxy has additional costs. For more information, see [Amazon RDS Proxy pricing](#).

MySQL

MySQL is the most popular open source database in the world. MySQL on RDS offers the rich features of the MySQL community edition with the flexibility to easily scale compute resources or storage capacity for your database.

- Supports database size up to 64 TiB.
- Supports General Purpose, Memory Optimized, and Burstable Performance Instance classes.
- Supports automated backup and point-in-time recovery.
- Supports up to 15 Read Replicas per instance, within a single Region or 5 read replicas cross-region.

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RDS | us-east-1

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

Services Search [Alt+S]

N. Virginia vocabs/user2981860=Gauranga_Gautam @ 1021-9262-4944

MySQL

MySQL is the most popular open source database in the world. MySQL on RDS offers the rich features of the MySQL community edition with the flexibility to easily scale compute resources or storage capacity for your database.

- Supports database size up to 64 TiB.
- Supports General Purpose, Memory Optimized, and Burstable Performance Instance classes.
- Supports automated backup and point-in-time recovery.
- Supports up to 15 Read Replicas per instance, within a single Region or 5 read replicas cross-region.

Additional configuration

Database authentication options [Info](#)

Password authentication [Info](#)
Authenticates using database passwords.

Password and IAM database authentication [Info](#)
Authenticates using the database password and user credentials through AWS IAM users and roles.

Password and Kerberos authentication [Info](#)
Choose a directory in which you want to allow authorized users to authenticate with this DB instance using Kerberos Authentication.

Monitoring

Enable Enhanced monitoring
Enabling Enhanced monitoring metrics are useful when you want to see how different processes or threads use the CPU.

Additional configuration

Database options, encryption turned off, backup turned off, backtrack turned off, maintenance, CloudWatch Logs, delete protection turned off.

Database options

Initial database name [Info](#)

If you do not specify a database name, Amazon RDS does not create a database.

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RDS | us-east-1

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

Services Search [Alt+S]

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MySQL

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Additional configuration

Database options, encryption turned off, backup turned off, backtrack turned off, maintenance, CloudWatch Logs, delete protection turned off.

Database options

Initial database name [Info](#)

If you do not specify a database name, Amazon RDS does not create a database.

DB parameter group [Info](#)

Option group [Info](#)

Backup

Enable automated backups
Creates a point-in-time snapshot of your database.

Encryption

Enable encryption
Choose to encrypt the given instance. Master key IDs and aliases appear in the list after they have been created using the AWS Key Management Service console. [Info](#)

Log exports

Select the log types to publish to Amazon CloudWatch Logs

Audit log
 Error log
 General log
 Slow query log

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Maintenance

- Auto minor version upgrade [Info](#)
- Enable auto minor version upgrade**

Enabling auto minor version upgrade will automatically upgrade to new minor versions as they are released. The automatic upgrades occur during the maintenance window for the database.

Maintenance window [Info](#)

Select the period you want pending modifications or maintenance applied to the database by Amazon RDS.

- Choose a window
- No preference

Deletion protection

- Enable deletion protection

Protects the database from being deleted accidentally. While this option is enabled, you can't delete the database.

Estimated Monthly costs

DB Instance	24.82 USD
Storage	4.60 USD
Total	29.42 USD

This billing estimate is based on on-demand usage as described in [Amazon RDS Pricing](#). Estimate does not include costs for backup storage, I/Os (if applicable), or data transfer.

Estimate your monthly costs for the DB Instance using the [AWS Simple Monthly Calculator](#).

MySQL

MySQL is the most popular open source database in the world. MySQL on RDS offers the rich features of the MySQL community edition with the flexibility to easily scale compute resources or storage capacity for your database.

- Supports database size up to 64 TiB.
- Supports General Purpose, Memory Optimized, and Burstable Performance Instance classes.
- Supports automated backup and point-in-time recovery.
- Supports up to 15 Read Replicas per instance, within a single Region or 5 read replicas cross-region.

Note: You are responsible for ensuring that you have all of the necessary rights for any third-party products or services that you use with AWS services.

[Create database](#)

Introducing Aurora I/O-Optimized

Aurora's I/O-Optimized is a new cluster storage configuration that offers predictable pricing for all applications and improved price-performance, with up to 40% cost savings for I/O-intensive applications.

Databases (1)

DB identifier	Status	Role	Engine	Region & AZ	Size	Recommendations	CPU	Current activity	Maintenance
lab-db	Available	Instance	MySQL Community	us-east-1b	db.t3.micro	3.77%	0 Connections	none	

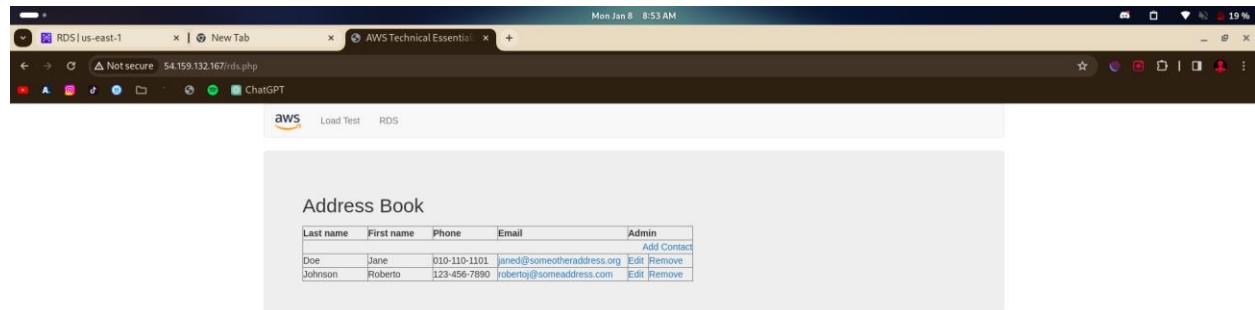
Consider creating a Blue/Green Deployment to minimize downtime during upgrades

You may want to consider using Amazon RDS Blue/Green Deployments and minimize your downtime during upgrades. A Blue/Green Deployment provides a staging environment for changes to production databases. [User Guide](#) [Aurora User Guide](#)

[Create database](#)

Task 4: Interact with Your Database

- Obtain WebServer IP address from the Details dropdown.
- Open a new web browser tab, paste the WebServer IP address, and press Enter.
- Navigate to the RDS link on the web application.
- Configure the application:
 - Endpoint: Paste the Endpoint copied earlier
 - Database: lab
 - Username: main
 - Password: lab-password
- Choose "Submit."



Lab 6

Task 1: Create an AMI for Auto Scaling

- Go to EC2 in the AWS Management Console.
- In the left navigation pane, select "Instances."
- Wait for Web Server 1 to show "2/2 checks passed" under Status Checks.
- Select Web Server 1.
- In the "Actions" menu, choose "Image and templates" > "Create image."
 - Image name: WebServerAMI
 - Image description: Lab AMI for Web Server
- Choose "Create image."

The screenshot shows the AWS Management Console interface for the EC2 service. The left sidebar is collapsed, and the main area displays the 'Instances' list. Two instances are listed: 'Web Server 1' (running, t2.micro, 2/2 checks passed) and 'Bastion Host' (running, t2.micro, initializing). The 'Actions' menu is open over the 'Web Server 1' instance, specifically under the 'Image and templates' section. The 'Create image' button is highlighted with a blue border. Other options in this menu include 'Create template from instance' and 'Launch more like this'.

Step 1
Specify group details

Your load balancer routes requests to the targets in a target group and performs health checks on the targets.

Step 2
Register targets

Basic configuration

Settings in this section can't be changed after the target group is created.

Choose a target type

Instances

- Supports load balancing to instances within a specific VPC.
- Facilitates the use of Amazon EC2 Auto Scaling to manage and scale your EC2 capacity.

IP addresses

- Supports load balancing to VPC and on-premises resources.
- Facilitates routing to multiple IP addresses and network interfaces on the same instance.
- Offers flexibility with microservice-based architectures, simplifying inter-application communication.
- Supports IPv6 targets, enabling end-to-end IPv6 communication, and IPv4-to-IPv6 NAT.

Lambda function

- Facilitates routing to a single Lambda function.
- Accessible to Application Load Balancers only.

Application Load Balancer

- Offers the flexibility for a Network Load Balancer to accept and route TCP requests within a specific VPC.
- Facilitates using static IP addresses and PrivateLink with an Application Load Balancer.

Target group name

LabGroup

A maximum of 32 alphanumeric characters including hyphens are allowed, but the name must not begin or end with a hyphen.

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Step 1
Specify group details

Your load balancer routes requests to the targets in a target group and performs health checks on the targets.

Step 2
Register targets

Basic configuration

Settings in this section can't be changed after the target group is created.

Choose a target type

Instances

- Supports load balancing to instances within a specific VPC.
- Facilitates the use of Amazon EC2 Auto Scaling to manage and scale your EC2 capacity.

IP addresses

- Supports load balancing to VPC and on-premises resources.
- Facilitates routing to multiple IP addresses and network interfaces on the same instance.
- Offers flexibility with microservice-based architectures, simplifying inter-application communication.
- Supports IPv6 targets, enabling end-to-end IPv6 communication, and IPv4-to-IPv6 NAT.

Lambda function

- Facilitates routing to a single Lambda function.
- Accessible to Application Load Balancers only.

Application Load Balancer

- Offers the flexibility for a Network Load Balancer to accept and route TCP requests within a specific VPC.
- Facilitates using static IP addresses and PrivateLink with an Application Load Balancer.

Target group name

LabGroup

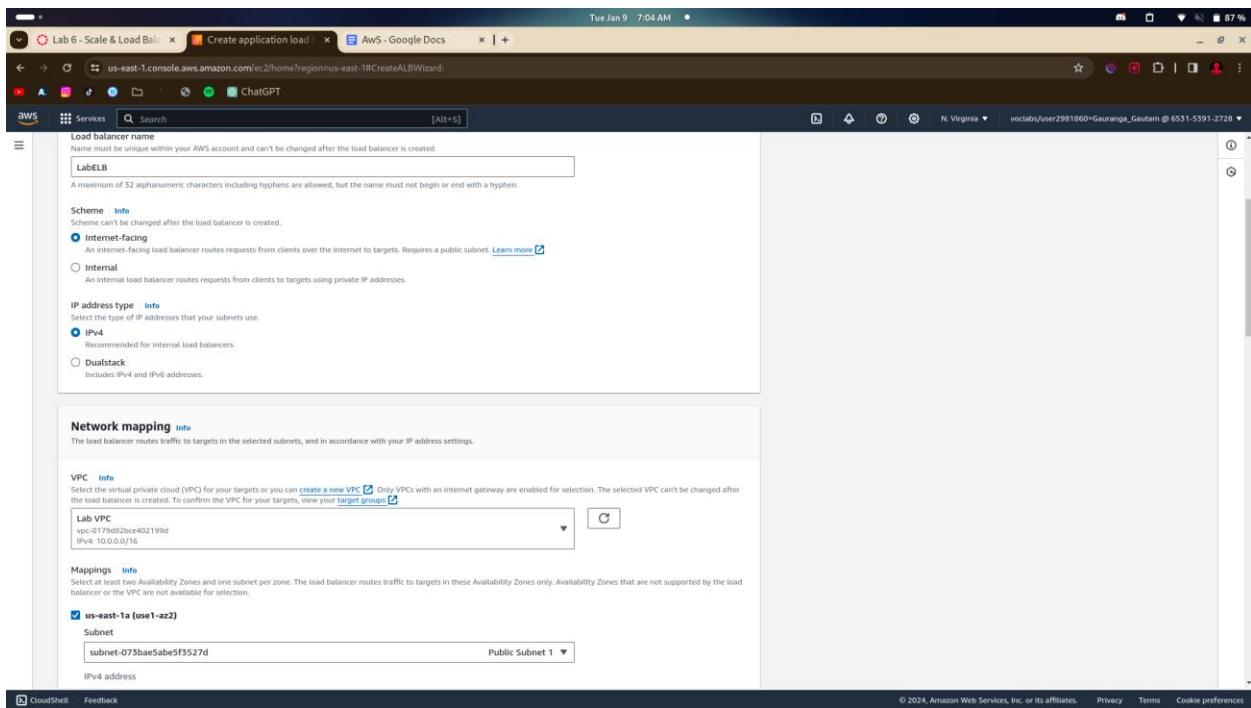
A maximum of 32 alphanumeric characters including hyphens are allowed, but the name must not begin or end with a hyphen.

CloudShell Feedback

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Task 2: Create a Load Balancer

- Go to the AWS Management Console.
- In the left navigation pane, select "Target Groups."
- Choose "Create target group":
 - Target type: Instances
 - Target group name: LabGroup
 - VPC: Lab VPC
- Choose "Create target group."
- Go to "Load Balancers" in the left navigation pane.
- Choose "Create load balancer" and select "Application Load Balancer."
 - Load balancer name: LabELB
 - VPC: Lab VPC
 - Subnets: Public Subnet 1, Public Subnet 2
 - Security groups: Web Security Group
 - Listener HTTP:80, Default action: forward to LabGroup
- Choose "Create load balancer."



Tue Jan 9 7:04 AM

Lab 6 - Scale & Load Bal... Create application load AWS - Google Docs | +

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

ChatGPT

aws Services Search [Alt+S]

VPC Info

Select the virtual private cloud (VPC) for your targets or you can [create a new VPC](#). Only VPCs with an internet gateway are enabled for selection. The selected VPC can't be changed after the load balancer is created. To confirm the VPC for your targets, view your [target groups](#).

Lab VPC
vpc-0179d82bc402199d
IPv4: 10.0.0.0/16

Mappings Info

Select at least two Availability Zones and one subnet per zone. The load balancer routes traffic to targets in these Availability Zones only. Availability Zones that are not supported by the load balancer or the VPC are not available for selection.

us-east-1a (use1-az2)

Subnet
subnet-073bae5abe5f5527d Public Subnet 1

IPv4 address Assigned by AWS

us-east-1b (use1-az4)

Subnet
subnet-067cc9665bb1739ea Private Subnet 2

⚠️ The selected subnet does not have a route to an internet gateway. This means that your load balancer will not receive internet traffic.
You can proceed with this selection; however, for internet traffic to reach your load balancer, you must update the subnet's route table in the [VPC console](#).

IPv4 address Assigned by AWS

Security groups Info

A security group is a set of firewall rules that control the traffic to your load balancer. Select an existing security group, or you can [create a new security group](#).

Security groups
Select up to 5 security groups

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Tue Jan 9 7:15 AM

Lab 6 - Scale & Load Bal... Create application load Target groups | EC2 | us... AWS - Google Docs | +

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

ChatGPT

aws Services Search [Alt+S]

▶ HOW Elastic Load Balancing works

Basic configuration

Load balancer name

Name must be unique within your AWS account and can't be changed after the load balancer is created.
LabLB

A maximum of 32 alphanumeric characters including hyphens are allowed, but the name must not begin or end with a hyphen.

Scheme Info

Scheme can't be changed after the load balancer is created.

Internet-facing An internet-facing load balancer routes requests from clients over the internet to targets. Requires a public subnet. [Learn more](#)

Internal An internal load balancer routes requests from clients to targets using private IP addresses.

IP address type Info

Select the type of IP addresses that your subnets use.

IPv4 Recommended for internal load balancers.

Dualstack Includes IPv4 and IPv6 addresses.

Network mapping Info

The load balancer routes traffic to targets in the selected subnets, and in accordance with your IP address settings.

VPC Info

Select the virtual private cloud (VPC) for your targets or you can [create a new VPC](#). Only VPCs with an internet gateway are enabled for selection. The selected VPC can't be changed after the load balancer is created. To confirm the VPC for your targets, view your [target groups](#).

Lab VPC
vpc-0179d82bc402199d
IPv4: 10.0.0.0/16

Mappings Info

Select at least two Availability Zones and one subnet per zone. The load balancer routes traffic to targets in these Availability Zones only. Availability Zones that are not supported by the load balancer or the VPC are not available for selection.

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Tue Jan 9 7:15 AM • 81 %

Lab 6 - Scale & Load Bal... Create application load ... AWS - Google Docs ChatGPT

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

aws Services Search [Alt+S]

Select at least two Availability Zones and one subnet per zone. The load balancer routes traffic to targets in these Availability Zones only. Availability Zones that are not supported by the load balancer or the VPC are not available for selection.

us-east-1a (use1-az2)
Subnet
subnet-073bae5abe5f5527d Public Subnet 1 ▾
IPv4 address
Assigned by AWS

us-east-1b (use1-az4)
Subnet
subnet-016bc0a03fd82a5ca Public Subnet 2 ▾
IPv4 address
Assigned by AWS

Security groups Info
A security group is a set of firewall rules that control the traffic to your load balancer. Select an existing security group, or you can [create a new security group](#).

Security groups
Select up to 5 security groups

Web Security Group sg-04dc587226a33411 VPC: vpc-0179db2b0c402199d

Listeners and routing Info
A listener is a process that checks for connection requests using the port and protocol you configure. The rules that you define for a listener determine how the load balancer routes requests to its registered targets.

▼ Listener HTTP:80 Remove

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Lab 6 - Scale & Load Bal... Load Balancer created ... AWS - Google Docs ChatGPT

us-east-1.console.aws.amazon.com/ec2/home?region=us-east-1#CreateLBWizardSuccess:loadBalancerArn=arn:aws:elasticloadbalancing:us-east-1:653153912728:loadbalancer/app/LabELB/903d8ff7a7f47ca5

aws Services Search [Alt+S]

Successfully created load balancer: LabELB

Note: It might take a few minutes for your load balancer to be fully set up and ready to route traffic. Targets will also take a few minutes to complete the registration process and pass initial health checks.

EC2 > Load balancers > LabELB > Create Application Load Balancer

Create Application Load Balancer

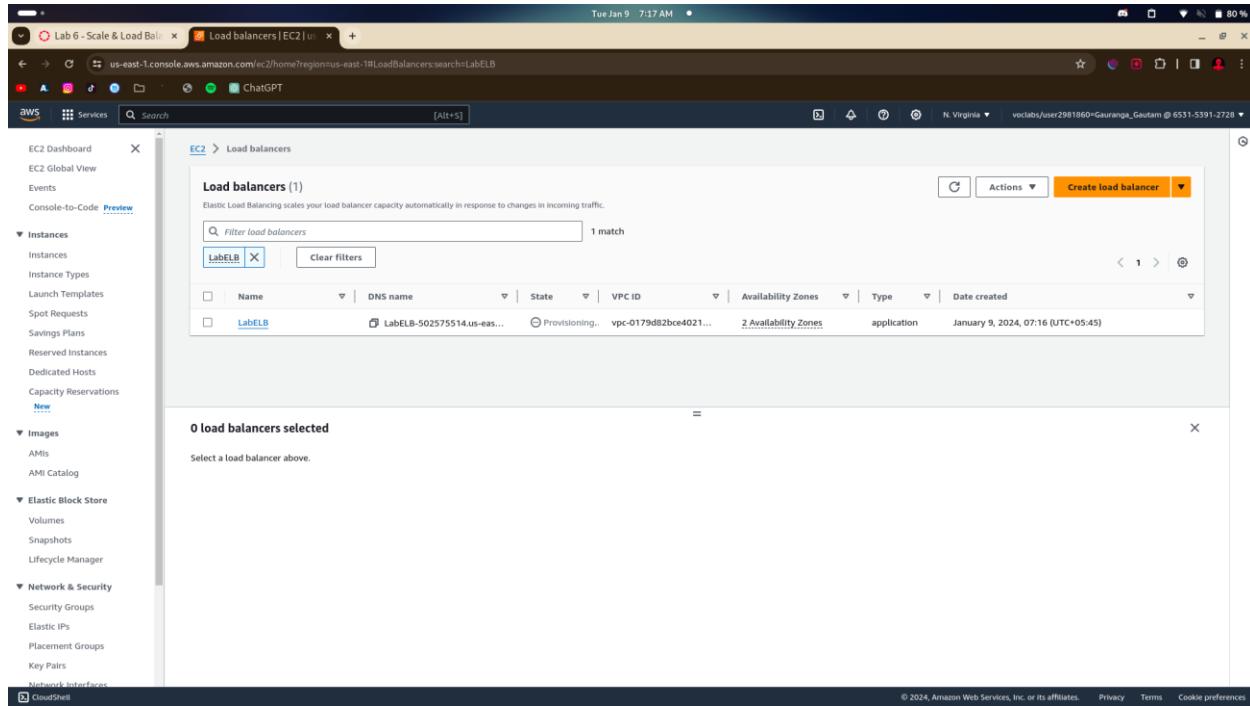
Suggested next steps

- Review, customize, or configure attributes for your load balancer and listeners using the [Description](#) and [Listeners](#) tabs within [LabELB](#).
- Discover other services that you can integrate with your load balancer. Visit the [Integrated services](#) tab within [LabELB](#).

[View load balancer](#)

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Task 3: Create a Launch Template and an Auto Scaling Group

- Go to "Launch Templates" in the left navigation pane.
- Choose "Create launch template":
 - Launch template name: LabConfig
 - Auto Scaling guidance: Provide guidance
 - AMI: Web Server AMI
 - Instance type: t2.micro
 - Key pair: vockey
 - Security groups: Web Security Group
 - Enable detailed CloudWatch monitoring
- Choose "Create launch template."
- In the success dialog, choose the LabConfig template.
- From the "Actions" menu, choose "Create Auto Scaling group":
 - Auto Scaling group name: Lab Auto Scaling Group
 - Launch template: LabConfig
 - VPC: Lab VPC
 - Subnets: Private Subnet 1, Private Subnet 2
 - Attach to an existing load balancer: LabGroup
 - Enable group metrics collection within CloudWatch
 - Desired capacity: 2, Minimum capacity: 2, Maximum capacity: 6
 - Scaling policy: Target tracking, Metric type: Average CPU Utilization, Target value: 60

- Tags: Key: Name, Value: Lab Instance
- Choose "Create Auto Scaling group."

Tue Jan 9 7:23 AM

Lab 6 - Scale & Load Bal... Create launch template AWS - Google Docs ChatGPT

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

Detailed CloudWatch monitoring 1/1 N. Virginia vocabs/user2981860=Gauranga_Gautam @ 6531-5591-2728

aws Services Search [Alt+S]

Instance auto-recovery Info
Don't include in launch template

Shutdown behavior Info
Don't include in launch template Not applicable for EC2 Auto Scaling

Stop + Hibernate behavior Info
Don't include in launch template Not applicable for Amazon EC2 Auto Scaling

Termination protection Info
Don't include in launch template

Stop protection Info
Don't include in launch template

Detailed CloudWatch monitoring Info
Enable Additional charges apply

Elastic GPU Info
Don't include in launch template

Elastic Inference Info
Add Elastic Inference accelerators Amazon Elastic Inference is no longer available to new customers. For new and existing customers, we recommend using an alternative, such as AWS Inferentia, which offers better performance at a lower cost. Learn more

Credit specification Info
Don't include in launch template

Summary

Software image (AMI)
Lab AMI for Web Server ami-0e63ff4b0fe55

Virtual server type (instance type)
t2.micro

Firewall (security group)

Storage (volumes)
1 volume(s) - 8 GiB

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 tier AMIs per month, 50 GiB of EBS storage, 2 million I/Os, 1 GiB of snapshots, and 100 GB of bandwidth to the internet.

Create launch template

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Lab 6 - Scale & Load Bal... Create launch template AWS - Google Docs ChatGPT

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

Detailed CloudWatch monitoring 1/1 N. Virginia vocabs/user2981860=Gauranga_Gautam @ 6531-5591-2728

aws Services Search [Alt+S]

EC2 > Launch templates > Create launch template

Success Successfully created LabConfig(lt-003f19a2f93049592).

Actions log

Next Steps

Launch an instance With On-Demand instances, you pay for compute capacity by the second (for Linux, with a minimum of 60 seconds) or by the hour (for all other operating systems) with no long-term commitments or upfront payments. Launch an On-Demand Instance from your launch template.

Launch instance from this template

Create an Auto Scaling group from your template Amazon EC2 Auto Scaling helps you maintain application availability and allows you to scale your Amazon EC2 capacity up or down automatically according to conditions you define. You can use Auto Scaling to help ensure that you are running your desired number of Amazon EC2 instances during demand spikes to maintain performance and decrease capacity during lulls to reduce costs.

Create Auto Scaling group

Create Spot Fleet A Spot Instance is an unused EC2 instance that is available for less than the On-Demand price. Because Spot Instances enable you to request unused EC2 instances at steep discounts, you can lower your Amazon EC2 costs significantly. The hourly price for a Spot Instance (of each instance type in each Availability Zone) is set by Amazon EC2, and adjusted gradually based on the long-term supply of and demand for Spot Instances. Spot instances are well-suited for data-analysis, batch jobs, background processing, and optional tasks.

Create Spot Fleet

View launch templates

CloudShell

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The screenshot shows the AWS Management Console for the EC2 service. The left sidebar is expanded to show the 'Launch Templates' section under 'Instances'. A single launch template named 'LabConfig' is listed in the main content area. The top right corner shows a user profile and some system status indicators.

Task 4: Verify that Load Balancing is Working

1. Go to "Instances" in the left navigation pane.
2. Verify two new instances named Lab Instance.
3. Go to "Target Groups" and select LabGroup.
4. Choose the "Targets" tab and wait for both instances to become healthy.
5. Go to "Load Balancers," select LabELB, and copy the DNS name.
6. Open a new browser tab, paste the DNS name, and ensure the application appears.

Task 5: Test Auto Scaling

1. Open CloudWatch from the AWS Management Console.
2. Choose "All alarms" in the left navigation pane.
3. Verify the two alarms created by Auto Scaling.
4. If alarms are not visible, go to EC2 > Auto Scaling Groups > Lab Auto Scaling Group > Automatic Scaling > LabScalingPolicy > Actions > Edit, change Target Value to 50, and choose Update.
5. Choose the OK alarm (AlarmHigh) and wait for it to transition to OK.
6. Return to the web application and choose "Load Test" to generate load.
7. Return to CloudWatch and wait for AlarmHigh to change to In alarm.
8. Verify additional instances were launched in EC2 > Instances.

Tue Jan 9 7:30 AM • 72 %

Lab 6 - Scale & Load Bal... Create Auto Scaling group AWS - Google Docs | +

us-east-1.console.aws.amazon.com/ec2/home?region=us-east-1#CreateAutoScalingGroup:launchTemplateId=lt-003f19a2f93049592

ChattGPT

AWS Services Search [Alt+S]

Detailed CloudWatch monitoring 1/1 N. Virginia voulabs/user/2981860=Gauranga_Gautam @ 6551-539-2728

Create Auto Scaling group

Step 1 Choose launch template

Step 2 Choose instance launch options

Step 3 - optional Configure advanced options

Step 4 - optional Configure group size and scaling

Step 5 - optional Add notifications

Step 6 - optional Add tags

Step 7 Review

Choose launch template Info

Specify a launch template that contains settings common to all EC2 Instances that are launched by this Auto Scaling group.

Name

Auto Scaling group name Enter a name to identify the group.

Must be unique to this account in the current Region and no more than 255 characters.

Launch template Info

For accounts created after May 31, 2023, the EC2 console only supports creating Auto Scaling groups with launch templates. Creating Auto Scaling groups with launch configurations is not recommended but still available via the CLI and API until December 31, 2023.

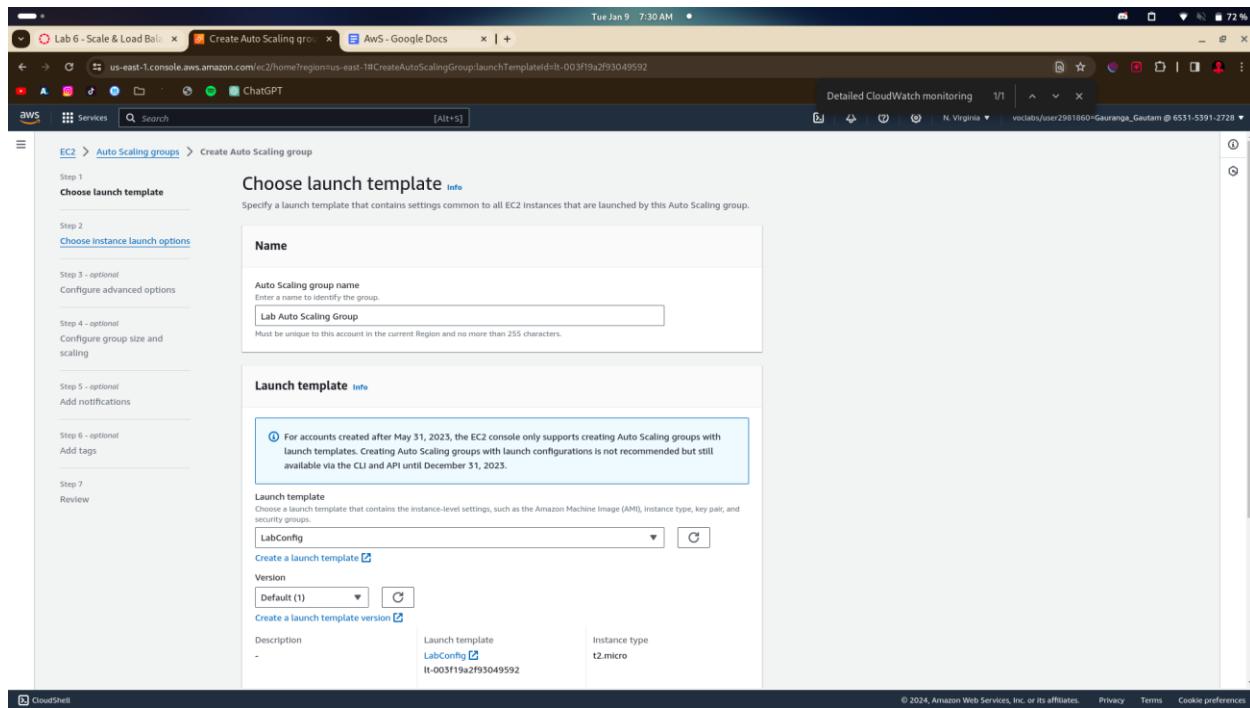
Launch template Choose a launch template that contains the instance-level settings, such as the Amazon Machine Image (AMI), instance type, key pair, and security groups.

Version Default (1)

Launch template LabConfig lt-003f19a2f93049592

Instance type t2.micro

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Lab 6 - Scale & Load Bal... Create Auto Scaling group AWS - Google Docs | +

us-east-1.console.aws.amazon.com/ec2/home?region=us-east-1#CreateAutoScalingGroup:launchTemplateId=lt-003f19a2f93049592

ChattGPT

AWS Services Search [Alt+S]

Detailed CloudWatch monitoring 1/1 N. Virginia voulabs/user/2981860=Gauranga_Gautam @ 6551-539-2728

Create Auto Scaling group

Step 3 - optional Configure advanced options

Step 4 - optional Configure group size and scaling

Step 5 - optional Add notifications

Step 6 - optional Add tags

Step 7 Review

Configure advanced options

by specifying different instance attributes or manually adding instance types.

Launch template	Version	Description
LabConfig <input type="button" value="Edit"/>	Default	-

Instance type t2.micro

Network Info

For most applications, you can use multiple Availability Zones and let EC2 Auto Scaling balance your instances across the zones. The default VPC and default subnets are suitable for getting started quickly.

VPC Choose the VPC that defines the virtual network for your Auto Scaling group.

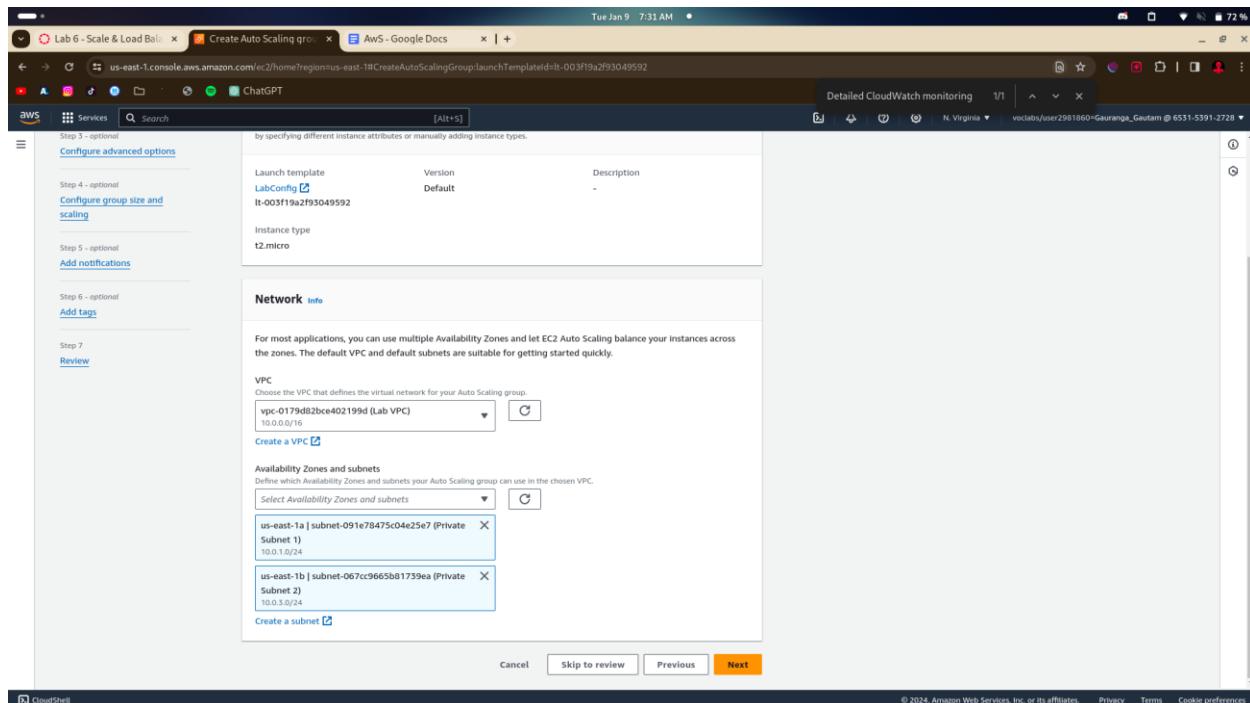
Availability Zones and subnets Define which Availability Zones and subnets your Auto Scaling group can use in the chosen VPC.

us-east-1a | subnet-091e78475c04e25e7 (Private Subnet 1) 10.0.1.0/24

us-east-1b | subnet-067c9665b81739ea (Private Subnet 2) 10.0.5.0/24

Cancel Skip to review Previous Next

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Tue Jan 9 7:39 AM

[Lab 6 - Scale & Load Bal...](#) [Create Auto Scaling group](#) [AWS - Google Docs](#) | +

us-east-1.console.aws.amazon.com/ec2/home?region=us-east-1#CreateAutoScalingGroup:launchTemplateId=lt-003f19a2f93049592

Detailed CloudWatch monitoring 1/1 ▾ N. Virginia vocabs/user2981860+Gauranga_Gautam @ 6531-5591-2728

Step 6 - optional

Add notifications

Desired capacity
Specify your group size.

Step 7

Review

Scaling Info
You can resize your Auto Scaling group manually or automatically to meet changes in demand.

Scaling limits
Set limits on how much your desired capacity can be increased or decreased.

Min desired capacity Equal or less than desired capacity

Max desired capacity Equal or greater than desired capacity

Automatic scaling - optional
Choose whether to use a target tracking policy [Info](#)

You can set up other metric-based scaling policies and scheduled scaling after creating your Auto Scaling group.

No scaling policies
Your Auto Scaling group will remain at its initial size and will not dynamically resize to meet demand.

Target tracking scaling policy
Choose a CloudWatch metric and target value and let the scaling policy adjust the desired capacity in proportion to the metric's value.

Scaling policy name

Metric type [Info](#)
Monitored metric that determines if resource utilization is too low or high. If using EC2 metrics, consider enabling detailed monitoring for better scaling performance.

Target value

Instance warmup [Info](#)

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Tue Jan 9 7:41 AM

[Lab 6 - Scale & Load Bal...](#) [Create Auto Scaling group](#) [AWS - Google Docs](#) | +

us-east-1.console.aws.amazon.com/ec2/home?region=us-east-1#CreateAutoScalingGroup:launchTemplateId=lt-003f19a2f93049592

Detailed CloudWatch monitoring 1/1 ▾ N. Virginia vocabs/user2981860+Gauranga_Gautam @ 6531-5591-2728

EC2 > Auto Scaling groups > Create Auto Scaling group

Step 1

Choose launch template

Step 2

Choose instance launch options

Step 3 - optional

Configure advanced options

Step 4 - optional

Configure group size and scaling

Step 5 - optional

Add notifications

Step 6 - optional

Add tags

Step 7

Review

Add tags - optional
Add tags to help you search, filter, and track your Auto Scaling group across AWS. You can also choose to automatically add these tags to instances when they are launched.

Tags (1)

Key	Value - optional	Action
<input type="text" value="Name"/>	<input type="text" value="Lab Instance"/> <input checked="" type="checkbox"/> Tag new Instances	<input type="button" value="Remove"/>
<input type="button" value="Add tag"/>		49 remaining

Cancel

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Lab 6 - Scale & Load Bal... Create Auto Scaling group AWS - Google Docs ChatGPT

us-east-1.console.aws.amazon.com/ec2/home?region=us-east-1#CreateAutoScalingGroup:launchTemplateId=lt-003f19a2f93040592

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aws Services Search [Alt+S] including in metric

Instance maintenance policy

Replacement behavior No policy	Min healthy percentage	Max healthy percentage
-----------------------------------	------------------------	------------------------

Instance scale-in protection

Instance scale-in protection <input checked="" type="checkbox"/> Enable instance protection from scale in
--

Step 5: Add notifications

Notifications

No notifications

Step 6: Add tags

Tags (1)

Key	Value	Tag new instances
Name	Lab instance	Yes

Cancel Previous **Create Auto Scaling group**

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Lab 6 - Scale & Load Bal... Auto Scaling groups | EC2 AWS - Google Docs ChatGPT

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

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aws Services Search [Alt+S]

Auto Scaling groups (1) Info

Search your Auto Scaling groups

Name	Launch template/configuration	Instances	Status	Desired capacity	Min	Max	Availability Zones
Lab Auto Scaling Group	LabConfig Version Default	0	Updating capacity...	2	2	6	us-east-1a, us-east-1b

0 Auto Scaling groups selected

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Instances | EC2 | us-east-1 | Target group details | EC2 | AWS - Google Docs | Welcome to Academy Cloud!

Not secure labelb-751180771.us-east-1.elb.amazonaws.com ChatGPT

Load Test RDS

Meta-Data

Meta-Data	Value
InstanceId	i-0202edf9034be280d
Availability Zone	us-east-1b

Current CPU Load: 100%

Environment Variables

Name	Type	Value
Region	String	us-east-1
AccessKey	String	AKIAJF4ZPQH5K2YV5LQ
SecretKey	String	3LqDwvXWzC9yfjBzR9o0nXWzC9yfjBzR9o0

Test Event

```
{
  "region": "us-east-1",
  "accessKey": "AKIAJF4ZPQH5K2YV5LQ",
  "secretKey": "3LqDwvXWzC9yfjBzR9o0nXWzC9yfjBzR9o0"
}
```

Tue Jan 9 9:04 AM

Instances | EC2 | us-east-1 | Target group details | EC2 | AWS - Google Docs | Welcome to Academy Cloud!

Not secure us-east-1.console.aws.amazon.com/ec2/home?regions=us-east-1#instances/visibility/owned-by-me ChatGPT

N. Virginia vocabs/user2981860=Gauranga_Gautam @ 6531-5591-2728

EC2 Dashboard Services Search [Alt+S]

Instances (12) Info

Find instance by attribute or tag (case-sensitive)

Name	Instance ID	Instance state	Instance type	Status check	Alarm status	Availability Zone	Public IPv4 DNS	Public IPv4 ...	Elastic IP
Gauranga	i-0d477e42eed000736	Running	t2.micro	Initializing	View alarms +	us-east-1b	-	-	-
Gauranga	i-0202edf9034be280d	Running	t2.micro	2/2 checks passed	View alarms +	us-east-1b	-	-	-
Gauranga	i-dadfecea026dacc8	Pending	t2.micro	-	View alarms +	us-east-1b	-	-	-
Lab Instance	i-02547938fd2f1fbfe	Terminated	t2.micro	-	View alarms +	us-east-1b	-	-	-
Gauranga	i-0d9f0fe86e800702b	Pending	t2.micro	-	View alarms +	us-east-1a	-	-	-
Web Server 1	i-06750487487ca7739	Terminated	t2.micro	-	View alarms +	us-east-1a	-	-	-
Gauranga	i-0e400da926dec0f8	Running	t2.micro	Initializing	View alarms +	us-east-1a	-	-	-
Bastion Host	i-049606a0cbafbf6b6	Running	t2.micro	2/2 checks passed	View alarms +	us-east-1a	-	3.83.143.121	-
Lab Instance	i-004c5021caf3465d	Terminated	t2.micro	-	View alarms +	us-east-1a	-	-	-

Select an instance

CloudShell Feedback

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The screenshot shows the AWS CloudShell interface with the following details:

- Termination policies:** A single policy named "Default" is listed.
- Suspended processes:** No processes are selected.
- Maximum instance lifetime:** Set to 50 seconds.
- Default cooldown:** Set to 300 seconds.
- Default instance warmup:** Enabled.
- Tags (1):** A tag named "Name" with value "Gauranga" is present.

At the bottom right, there are "Cancel" and "Update" buttons, with "Update" being highlighted.

The screenshot shows the AWS Load Test tool interface with the following details:

- The title bar indicates the URL is "labelb-751180771.us-east-1.elb.amazonaws.com/load.php".
- The main content area displays the message "Generating CPU Load! (auto refresh in 5 seconds)".
- The status bar at the bottom shows "Current CPU Load: 100%".

Task 6: Terminate Web Server 1

1. Select Web Server 1.
2. In the "Instance state" menu, choose "Instance State" > "Terminate Instance."
3. Choose "Terminate."

