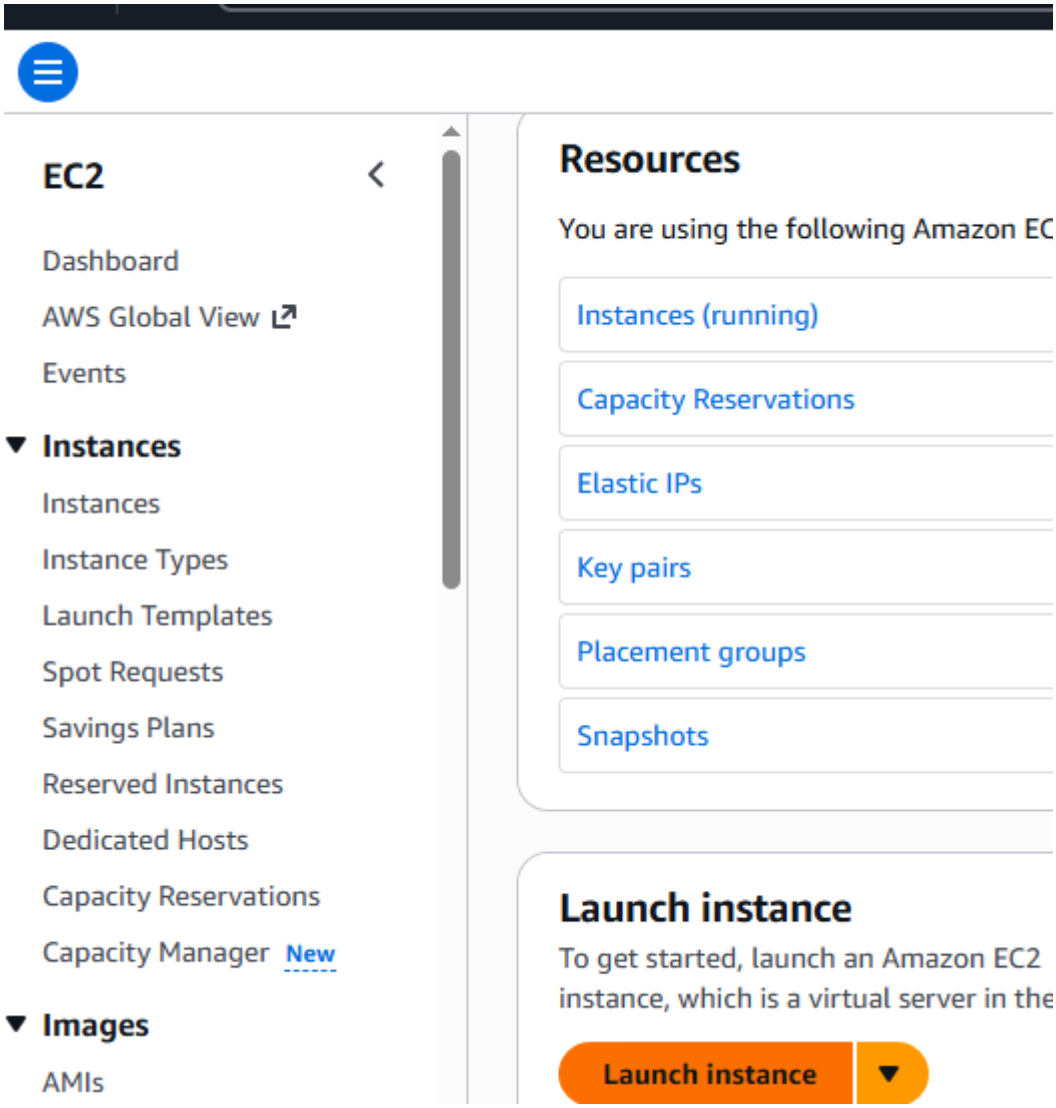
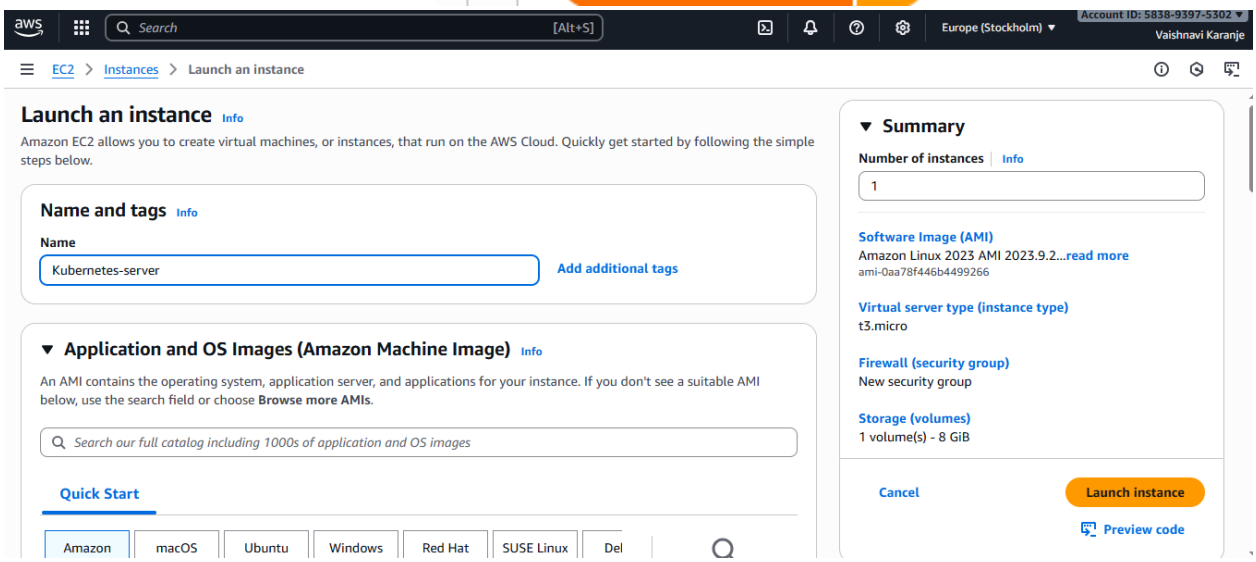
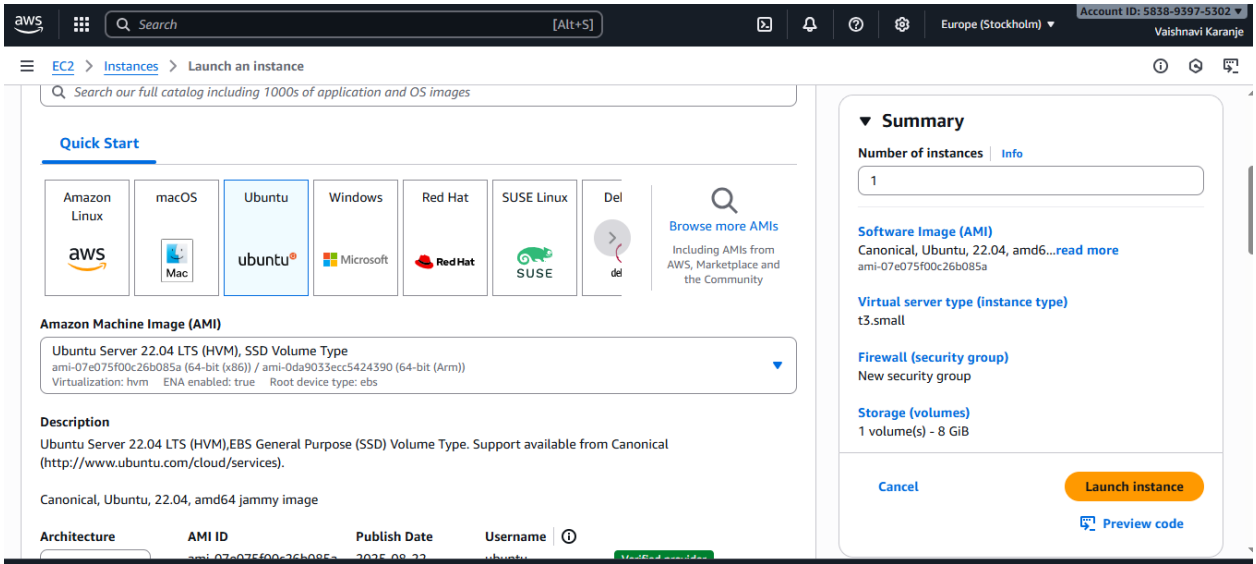
Install and spin up a Kubernetes Cluster on linux machines or cloud platforms






Search [Alt+S]
Europe (Stockholm)
Account ID: 5838-9397-5302
Vaishnavi Karanje
EC2 > Instances > Launch an instance
Search our full catalog including 1000s of application and OS images
Quick Start
Amazon Linux
macOS
Ubuntu
Windows
Red Hat
SUSE Linux
Del
Browse more AMIs
Including AMIs from AWS, Marketplace and the Community
Amazon Machine Image (AMI)
Ubuntu Server 22.04 LTS (HVM), SSD Volume Type
ami-07e075f00c26b085a (64-bit (x86)) / ami-0da9033ecc5424390 (64-bit (Arm))
Virtualization: hvm ENA enabled: true Root device type: ebs
Description
Ubuntu Server 22.04 LTS (HVM),EBS General Purpose (SSD) Volume Type. Support available from Canonical (http://www.ubuntu.com/cloud/services).
Canonical, Ubuntu, 22.04, amd64 jammy image
Architecture
AMI ID
Publish Date
Username
Summary
Number of instances Info
1
Software Image (AMI)
Canonical, Ubuntu, 22.04, amd6...read more
ami-07e075f00c26b085a
Virtual server type (instance type)
t3.small
Firewall (security group)
New security group
Storage (volumes)
1 volume(s) - 8 GiB
Cancel
Launch instance
Preview code
CloudShell Feedback
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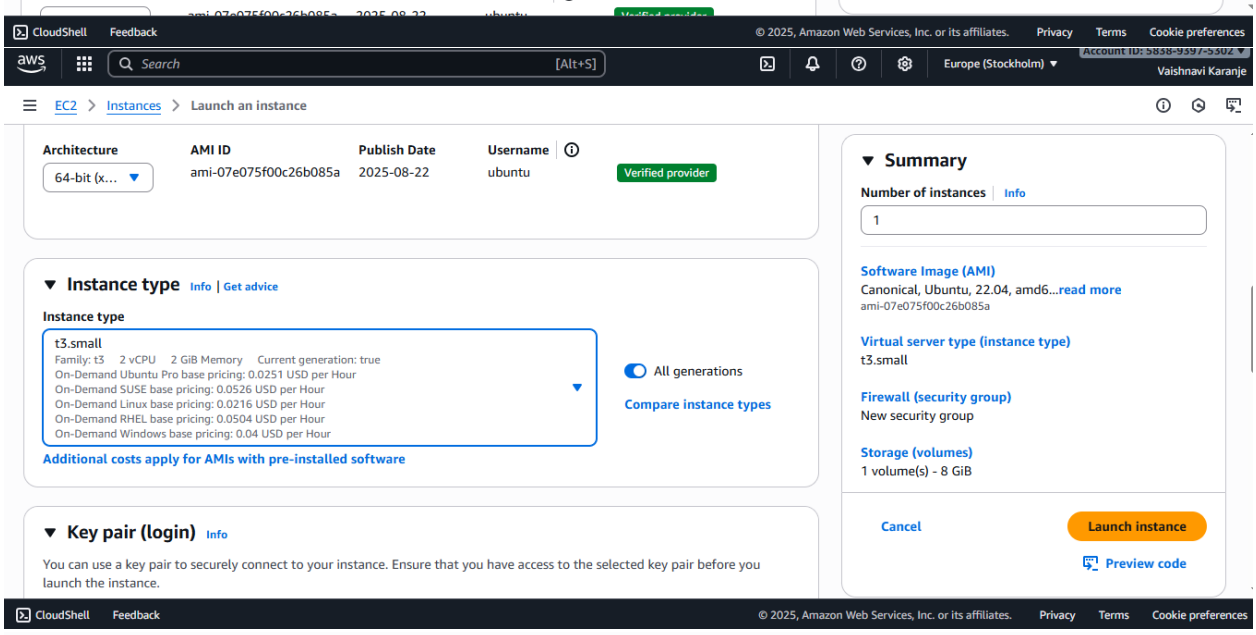
Search [Alt+S]
Europe (Stockholm)
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EC2 > Instances > Launch an instance
Architecture
64-bit (x...
AMI ID
ami-07e075f00c26b085a
Publish Date
2025-08-22
Username
ubuntu
Verified provider
Instance type Info | Get advice
Instance type
t3.small
Family: t3 2 vCPU 2 GiB Memory Current generation: true
On-Demand Ubuntu Pro base pricing: 0.0251 USD per Hour
On-Demand SUSE base pricing: 0.0526 USD per Hour
On-Demand Linux base pricing: 0.0216 USD per Hour
On-Demand RHEL base pricing: 0.0504 USD per Hour
On-Demand Windows base pricing: 0.04 USD per Hour
All generations
Compare instance types
Additional costs apply for AMIs with pre-installed software
Key pair (login) Info
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.
Summary
Number of instances Info
1
Software Image (AMI)
Canonical, Ubuntu, 22.04, amd6...read more
ami-07e075f00c26b085a
Virtual server type (instance type)
t3.small
Firewall (security group)
New security group
Storage (volumes)
1 volume(s) - 8 GiB
Cancel
Launch instance
Preview code
CloudShell Feedback
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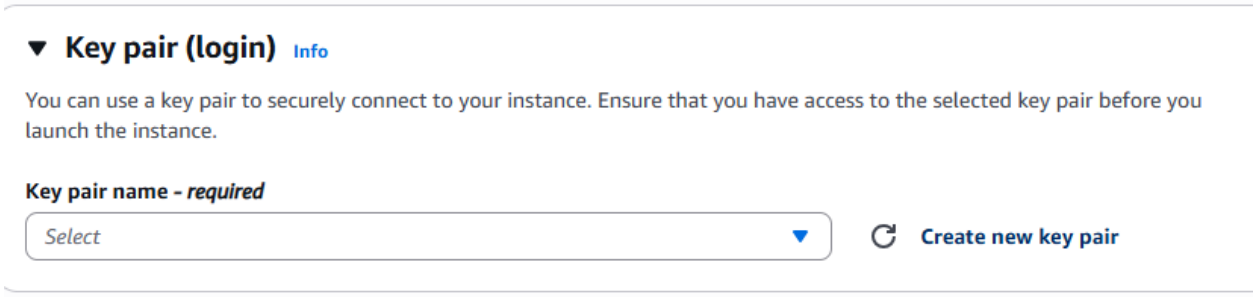

Key pair (login) Info
You can use a key pair to securely connect to your instance. Ensure that you have access to the selected key pair before you launch the instance.
Key pair name - required
Select
Create new key pair

Create key pair

Key pair name

Key pairs allow you to connect to your instance securely.

my-k8s-key

The name can include up to 255 ASCII characters. It can't include leading or trailing spaces.

Key pair type

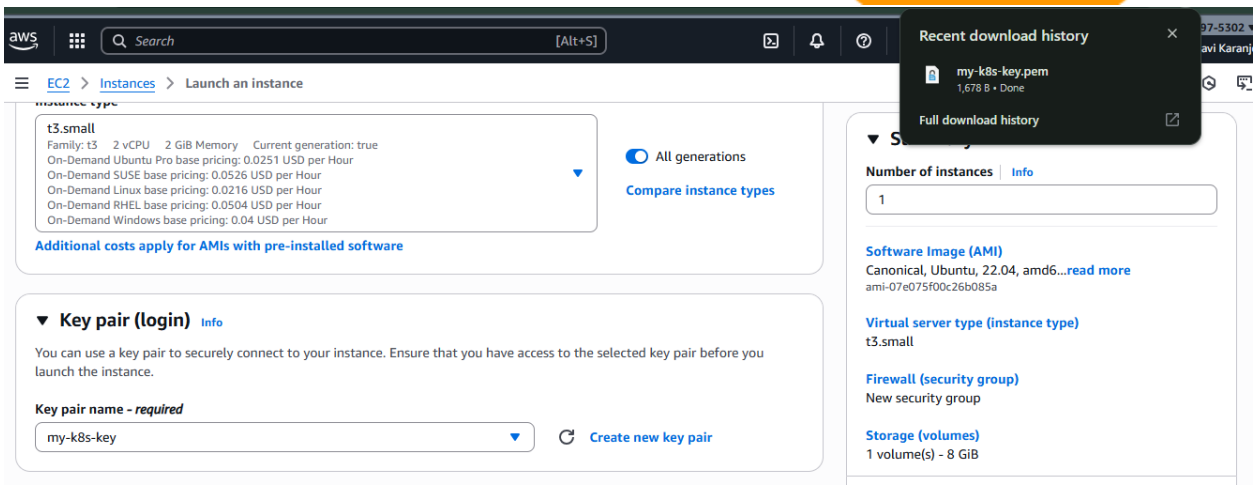
- (•) RSA — RSA encrypted private and public key pair
- ( ) ED25519 — ED25519 encrypted private and public key pair

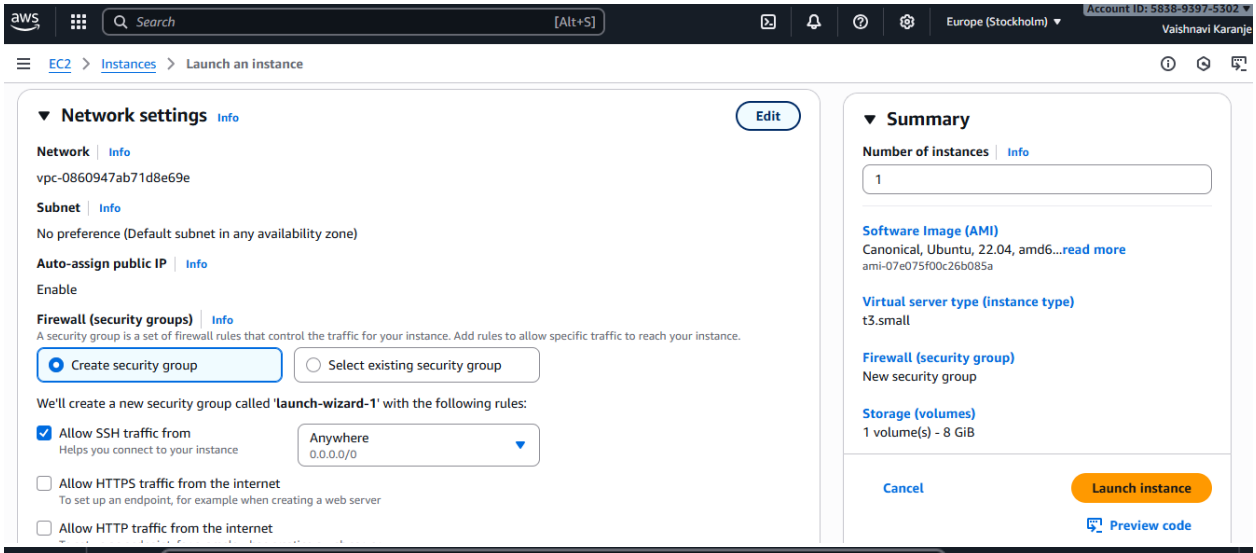
Private key file format

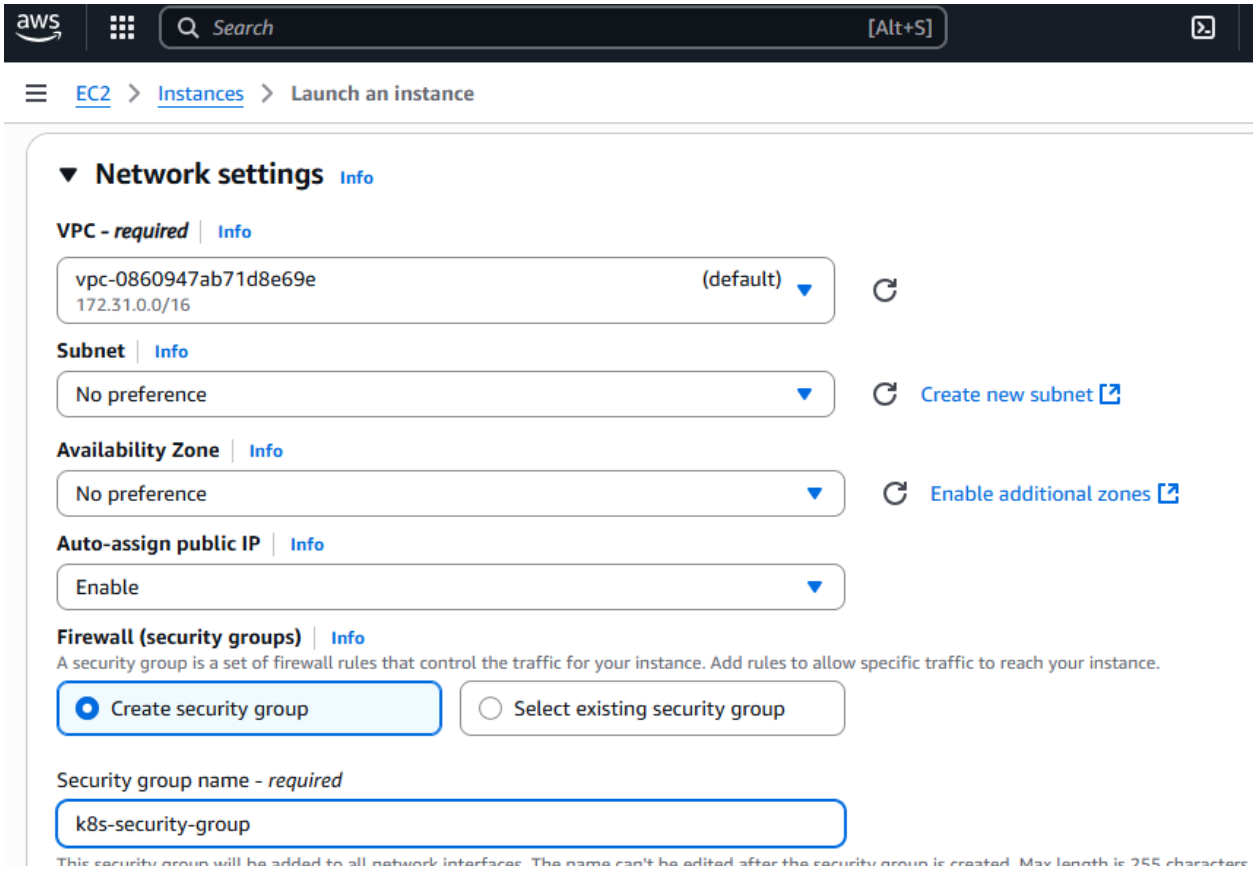
- (•) .pem — For use with OpenSSH
- ( ) .ppk — For use with PuTTY

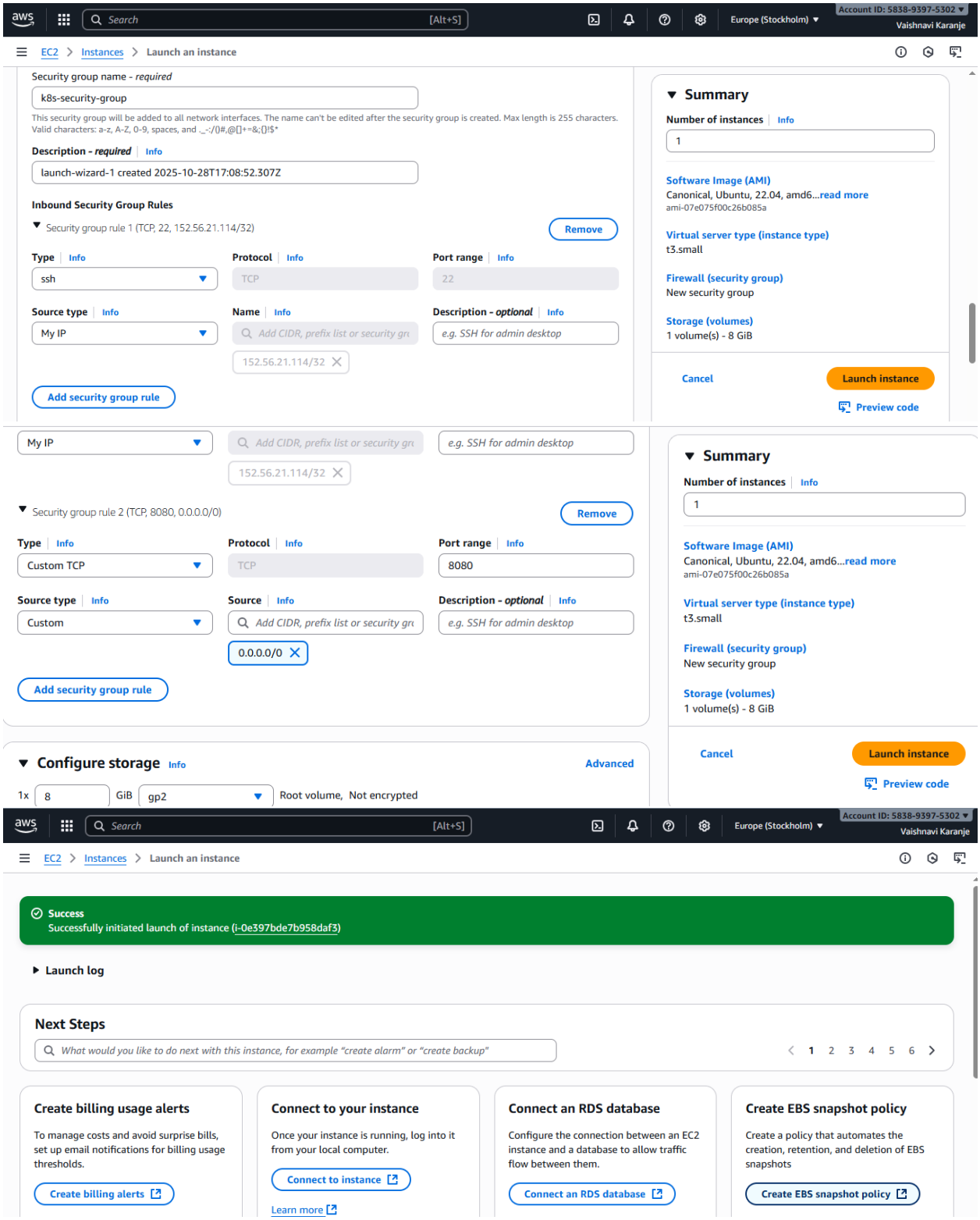
⚠ When prompted, store the private key in a secure and accessible location on

Cancel | Create key pair




Search
[Alt+S]
Europe (Stockholm)
Vaishnavi Karanje
EC2 > Instances > Launch an instance
Network settings Info
Edit
Network Info
vpc-0860947ab71d8e69e
Subnet Info
No preference (Default subnet in any availability zone)
Auto-assign public IP Info
Enable
Firewall (security groups) Info
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
We'll create a new security group called 'launch-wizard-1' with the following rules:
Allow SSH traffic from
Helps you connect to your instance
Anywhere
0.0.0.0/0
Allow HTTPS traffic from the internet
To set up an endpoint, for example when creating a web server
Allow HTTP traffic from the internet
Summary
Number of instances Info
1
Software Image (AMI)
Canonical, Ubuntu, 22.04, amd6...read more
ami-07e075f00c26b085a
Virtual server type (instance type)
t3.small
Firewall (security group)
New security group
Storage (volumes)
1 volume(s) - 8 GiB
Cancel
Launch instance
Preview code


Search
[Alt+S]
EC2 > Instances > Launch an instance
Network settings Info
VPC - required Info
vpc-0860947ab71d8e69e
172.31.0.0/16
(default)
Subnet Info
No preference
Create new subnet
Availability Zone Info
No preference
Enable additional zones
Auto-assign public IP Info
Enable
Firewall (security groups) Info
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
Security group name - required
k8s-security-group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EC2 > Instances > Launch an instance
Security group name - required
k8s-security-group
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 Info
launch-wizard-1 created 2025-10-28T17:08:52.307Z
Inbound Security Group Rules
Security group rule 1 (TCP, 22, 152.56.21.114/32)
Remove
Type Info
ssh
Protocol Info
TCP
Port range Info
22
Source type Info
My IP
Name Info
Add CIDR, prefix list or security gr
152.56.21.114/32
Description - optional Info
e.g. SSH for admin desktop
Add security group rule
Summary
Number of instances Info
1
Software Image (AMI)
Canonical, Ubuntu, 22.04, amd6...read more
ami-07e075f00c26b085a
Virtual server type (instance type)
t3.small
Firewall (security group)
New security group
Storage (volumes)
1 volume(s) - 8 GiB
Cancel
Launch instance
Preview code
My IP
Add CIDR, prefix list or security gr
e.g. SSH for admin desktop
152.56.21.114/32
Security group rule 2 (TCP, 8080, 0.0.0.0/0)
Remove
Type Info
Custom TCP
Protocol Info
TCP
Port range Info
8080
Source type Info
Custom
Source Info
Add CIDR, prefix list or security gr
0.0.0.0/0
Description - optional Info
e.g. SSH for admin desktop
Add security group rule
Summary
Number of instances Info
1
Software Image (AMI)
Canonical, Ubuntu, 22.04, amd6...read more
ami-07e075f00c26b085a
Virtual server type (instance type)
t3.small
Firewall (security group)
New security group
Storage (volumes)
1 volume(s) - 8 GiB
Cancel
Launch instance
Preview code
Configure storage Info
Advanced
1x
8
GiB
gp2
Root volume, Not encrypted

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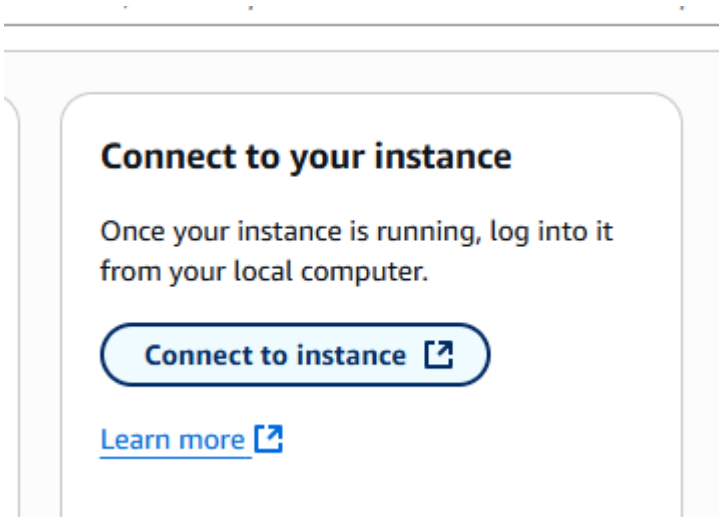
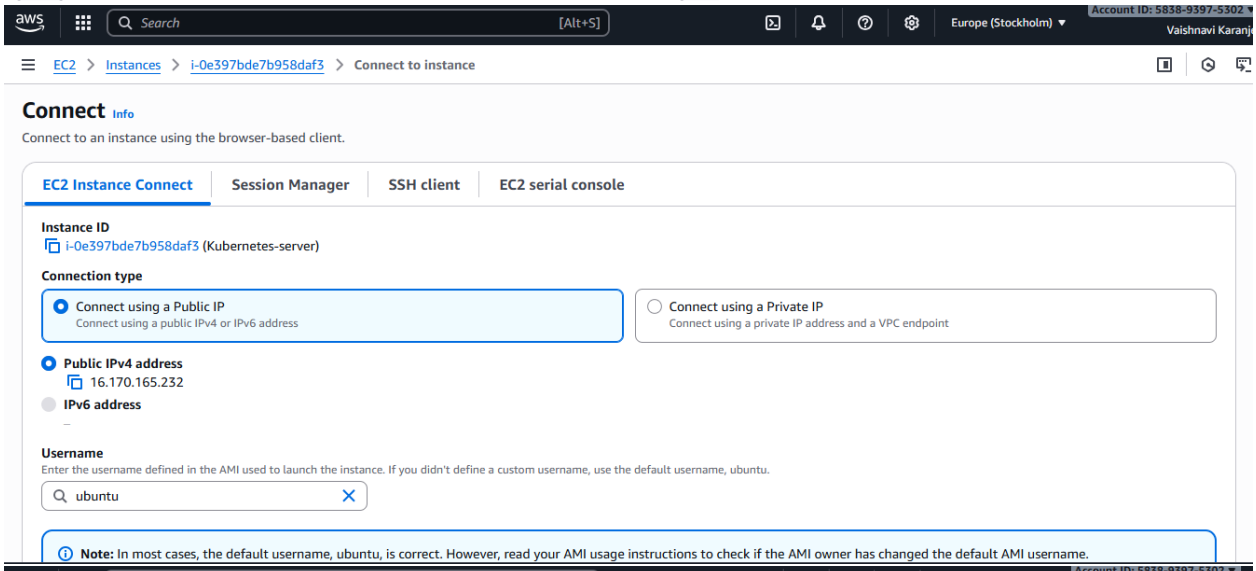
EC2 > Instances > Launch an instance
Success
Successfully initiated launch of instance (i-0e397bde7b958daf3)
Launch log
Next Steps
What would you like to do next with this instance, for example "create alarm" or "create backup"
1 2 3 4 5 6
Create billing usage alerts
To manage costs and avoid surprise bills, set up email notifications for billing 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 EBS snapshot policy
Create a policy that automates the creation, retention, and deletion of EBS snapshots
Create EBS snapshot policy


Connect to your instance
Once your instance is running, log into it from your local computer.
Connect to instance
Learn more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Europe (Stockholm)
Account ID: 5838-9397-5302
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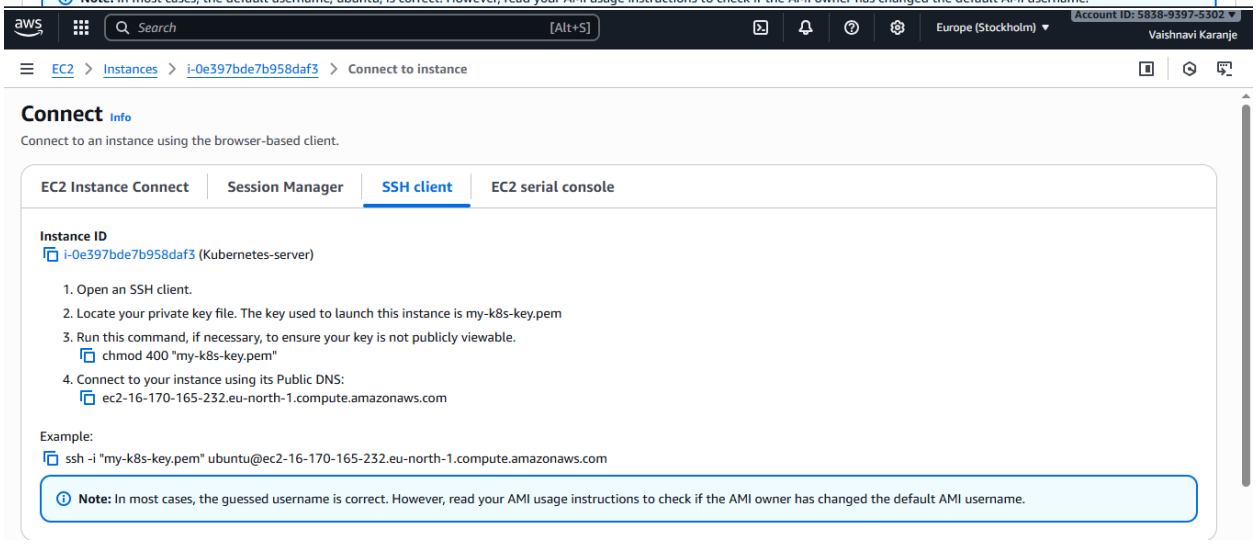
EC2 > Instances > i-0e397bde7b958daf3 > Connect to instance
Connect Info
Connect to an instance using the browser-based client.
EC2 Instance Connect
Session Manager
SSH client
EC2 serial console
Instance ID
i-0e397bde7b958daf3 (Kubernetes-server)
Connection type
Connect using a Public IP
Connect using a public IPv4 or IPv6 address
Connect using a Private IP
Connect using a private IP address and a VPC endpoint
Public IPv4 address
16.170.165.232
IPv6 address
Username
Enter the username defined in the AMI used to launch the instance. If you didn't define a custom username, use the default username, ubuntu.
ubuntu
Note: In most cases, the default username, ubuntu, is correct. However, read your AMI usage instructions to check if the AMI owner has changed the default AMI username.


aws
Search
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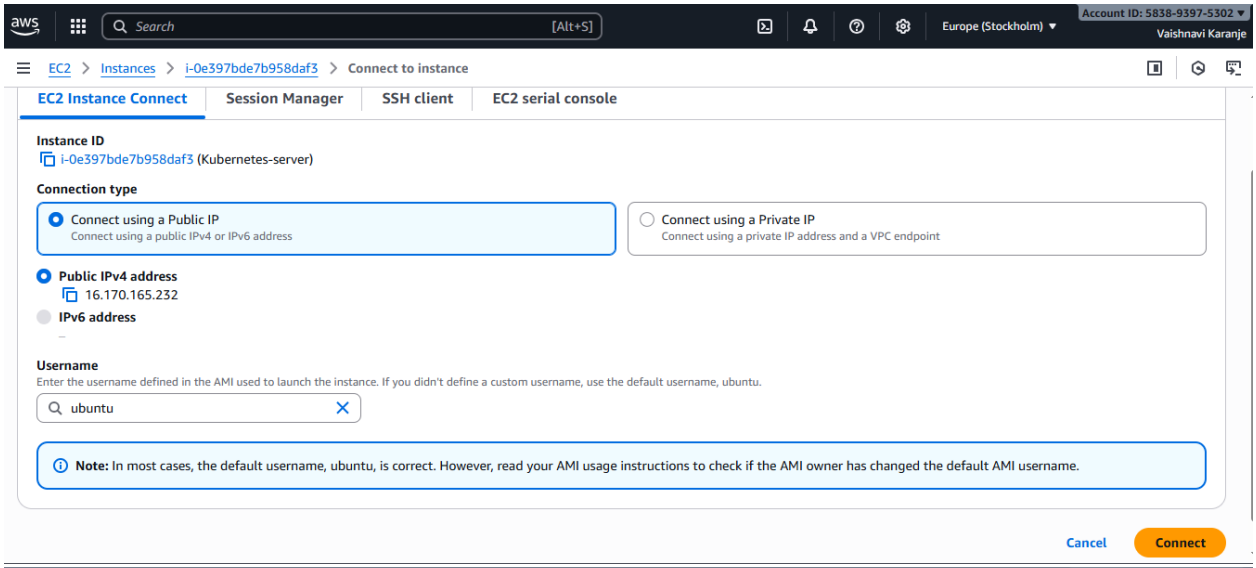
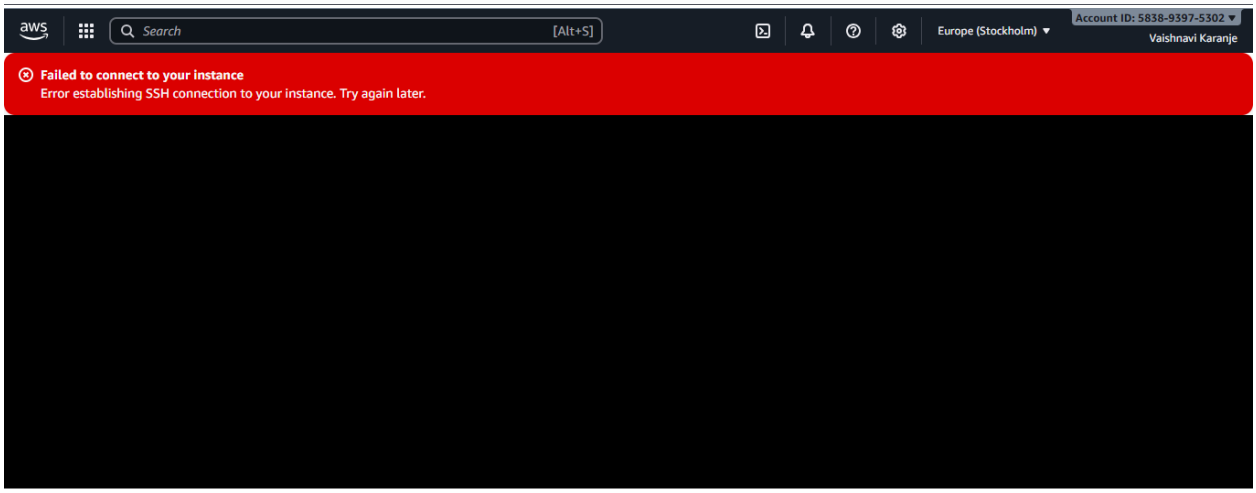
Europe (Stockholm)
Account ID: 5838-9397-5302
Vaishnavi Karanje
EC2 > Instances > i-0e397bde7b958daf3 > Connect to instance
Connect Info
Connect to an instance using the browser-based client.
EC2 Instance Connect
Session Manager
SSH client
EC2 serial console
Instance ID
i-0e397bde7b958daf3 (Kubernetes-server)
1. Open an SSH client.
2. Locate your private key file. The key used to launch this instance is my-k8s-key.pem
3. Run this command, if necessary, to ensure your key is not publicly viewable.
chmod 400 "my-k8s-key.pem"
4. Connect to your instance using its Public DNS:
ec2-16-170-165-232.eu-north-1.compute.amazonaws.com
Example:
ssh -i "my-k8s-key.pem" ubuntu@ec2-16-170-165-232.eu-north-1.compute.amazonaws.com
Note: In most cases, the guessed username is correct. However, read your AMI usage instructions to check if the AMI owner has changed the default AMI username.


Search [Alt+S]
Europe (Stockholm)
Account ID: 5838-9397-5302
Vaishnavi Karanje
EC2 > Instances > i-0e397bde7b958daf3 > Connect to instance
EC2 Instance Connect
Session Manager
SSH client
EC2 serial console
Instance ID
i-0e397bde7b958daf3 (Kubernetes-server)
Connection type
Connect using a Public IP
Connect using a public IPv4 or IPv6 address
Connect using a Private IP
Connect using a private IP address and a VPC endpoint
Public IPv4 address
16.170.165.232
IPv6 address
Username
Enter the username defined in the AMI used to launch the instance. If you didn't define a custom username, use the default username, ubuntu.
ubuntu
Note: In most cases, the default username, ubuntu, is correct. However, read your AMI usage instructions to check if the AMI owner has changed the default AMI username.
Cancel
Connect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Account ID: 5838-9397-5302
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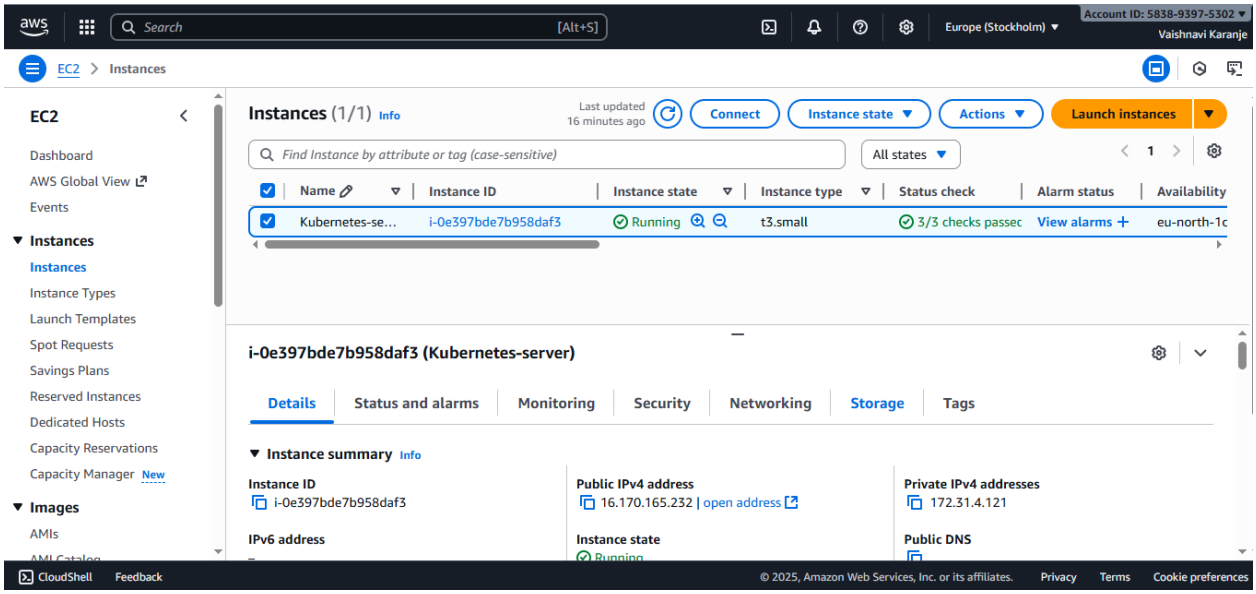
Failed to connect to your instance
Error establishing SSH connection to your instance. Try again later.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EC2 > Instances
EC2
Dashboard
AWS Global View
Events
Instances
Instances
Instance Types
Launch Templates
Spot Requests
Savings Plans
Reserved Instances
Dedicated Hosts
Capacity Reservations
Capacity Manager New
Images
AMIs
Instances (1/1) Info
Last updated 16 minutes ago
Connect
Instance state
Actions
Launch instances
Find Instance by attribute or tag (case-sensitive)
All states
Name
Instance ID
Instance state
Instance type
Status check
Alarm status
Availability
Kubernetes-se...
i-0e397bde7b958daf3
Running
t3.small
3/3 checks passec
View alarms
eu-north-1c
i-0e397bde7b958daf3 (Kubernetes-server)
Details
Status and alarms
Monitoring
Security
Networking
Storage
Tags
Instance summary Info
Instance ID
i-0e397bde7b958daf3
Public IPv4 address
16.170.165.232 | open address
Private IPv4 addresses
172.31.4.121
IPv6 address
Instance state
Running
Public DNS
CloudShell
Feedback
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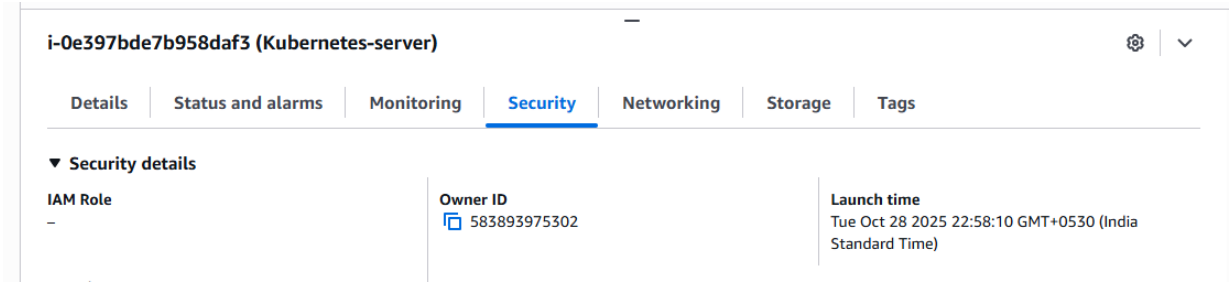
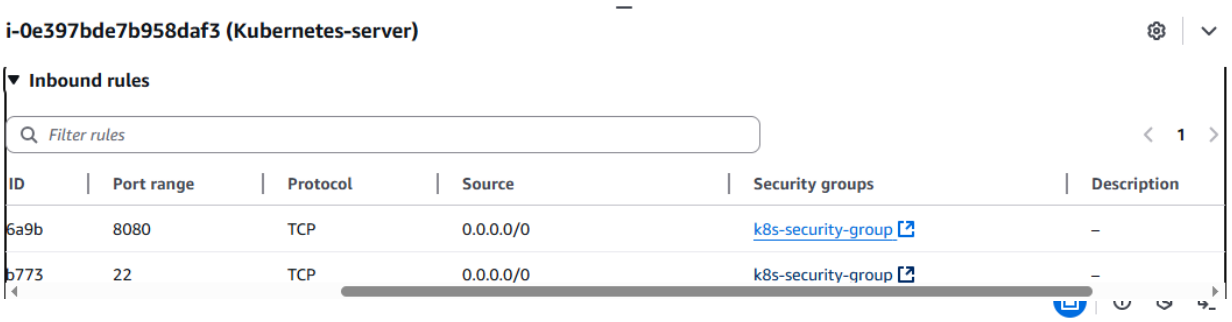
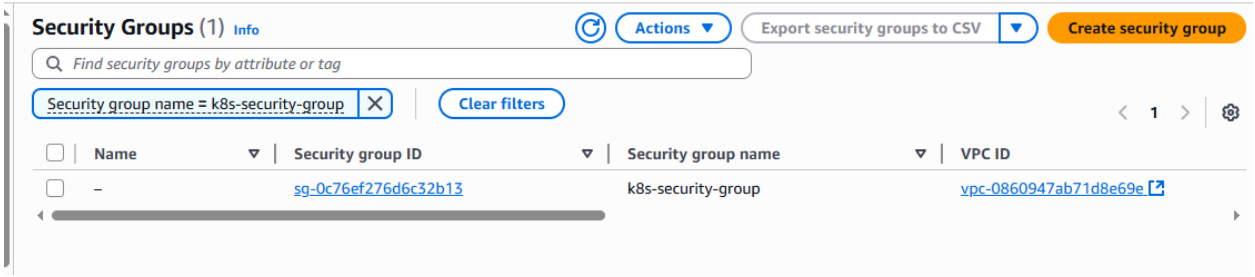
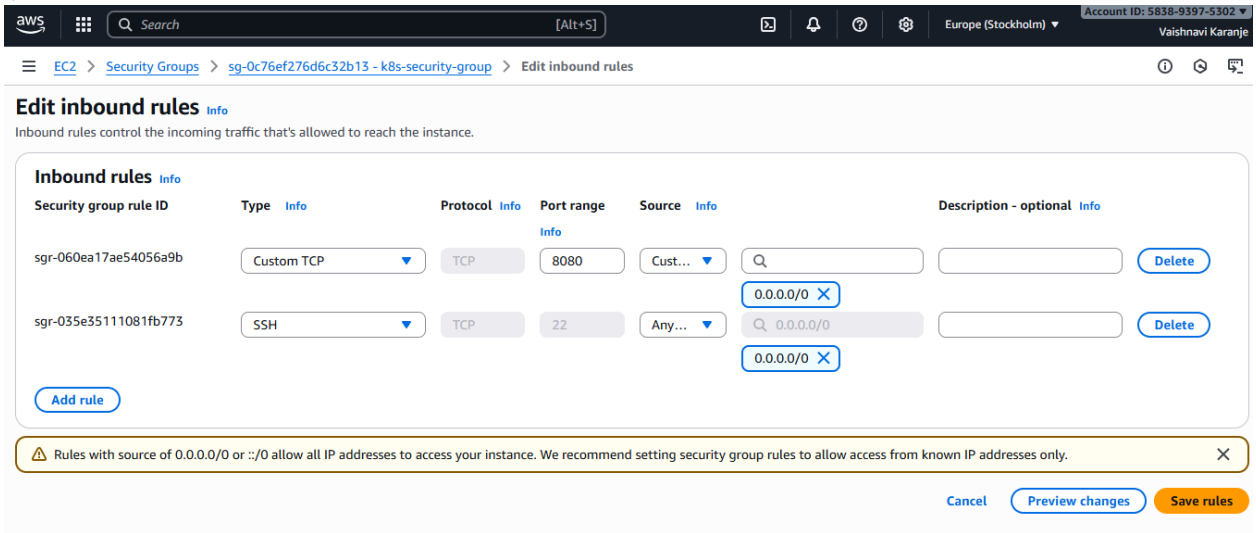

i-0e397bde7b958daf3 (Kubernetes-server)
Details
Status and alarms
Monitoring
Security
Networking
Storage
Tags
Security details
IAM Role
–
Owner ID
583893975302
Launch time
Tue Oct 28 2025 22:58:10 GMT+0530 (India Standard Time)


i-0e397bde7b958daf3 (Kubernetes-server)
Inbound rules
Filter rules
1
ID
Port range
Protocol
Source
Security groups
Description
6a9b
8080
TCP
0.0.0.0/0
k8s-security-group
–
b773
22
TCP
0.0.0.0/0
k8s-security-group
–


Security Groups (1) Info
Actions
Export security groups to CSV
Create security group
Find security groups by attribute or tag
Security group name = k8s-security-group
Clear filters
1
Name
Security group ID
Security group name
VPC ID
–
sg-0c76ef276d6c32b13
k8s-security-group
vpc-0860947ab71d8e69e


aws
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Europe (Stockholm)
Account ID: 5838-9397-5302
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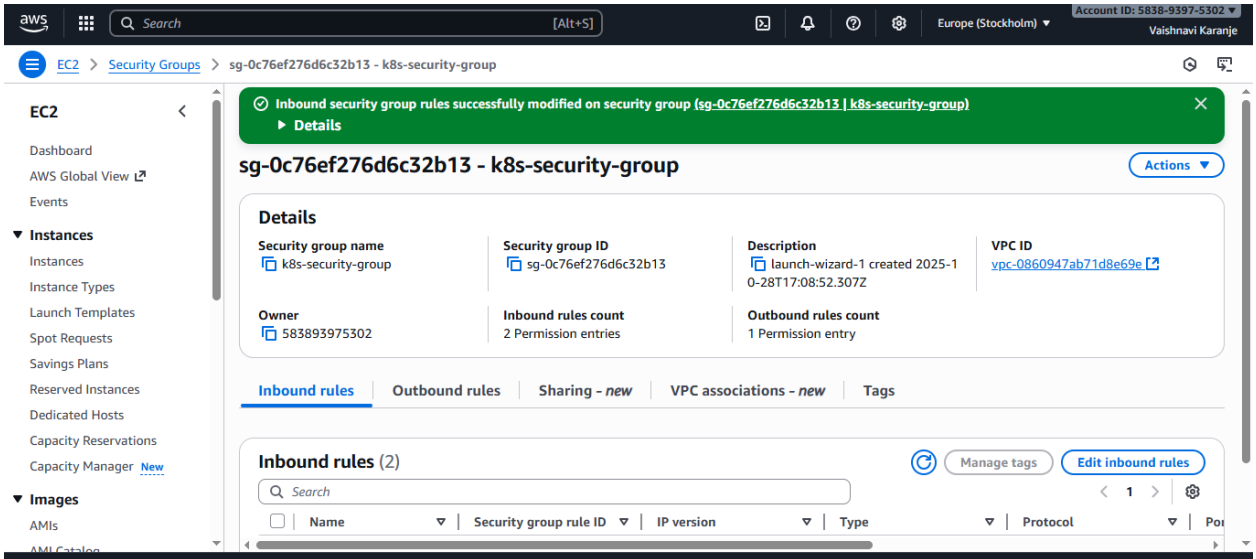
EC2 > Security Groups > sg-0c76ef276d6c32b13 - k8s-security-group > Edit inbound rules
Edit inbound rules Info
Inbound rules control the incoming traffic that's allowed to reach the instance.
Inbound rules Info
Security group rule ID
Type Info
Protocol Info
Port range Info
Source Info
Description - optional Info
sgr-060ea17ae54056a9b
Custom TCP
TCP
8080
Cust...
0.0.0.0/0
Delete
sgr-035e35111081fb773
SSH
TCP
22
Any...
0.0.0.0/0
0.0.0.0/0
Delete
Add rule
Rules with source of 0.0.0.0/0 or ::/0 allow all IP addresses to access your instance. We recommend setting security group rules to allow access from known IP addresses only.
Cancel
Preview changes
Save rules


Search [Alt+S]
Europe (Stockholm)
Account ID: 5838-9397-5302
Vaishnavi Karanje
EC2 > Security Groups > sg-0c76ef276d6c32b13 - k8s-security-group
Inbound security group rules successfully modified on security group (sg-0c76ef276d6c32b13 | k8s-security-group)
Details
sg-0c76ef276d6c32b13 - k8s-security-group
Actions
Details
Security group name
k8s-security-group
Security group ID
sg-0c76ef276d6c32b13
Description
launch-wizard-1 created 2025-10-28T17:08:52.307Z
VPC ID
vpc-0860947ab71d8e69e
Owner
583893975302
Inbound rules count
2 Permission entries
Outbound rules count
1 Permission entry
Inbound rules
Outbound rules
Sharing - new
VPC associations - new
Tags
Inbound rules (2)
Manage tags
Edit inbound rules
Search
Name
Security group rule ID
IP version
Type
Protocol
EC2
Dashboard
AWS Global View
Events
Instances
Instances
Instance Types
Launch Templates
Spot Requests
Savings Plans
Reserved Instances
Dedicated Hosts
Capacity Reservations
Capacity Manager New
Images
AMIs
CloudShell
Feedback
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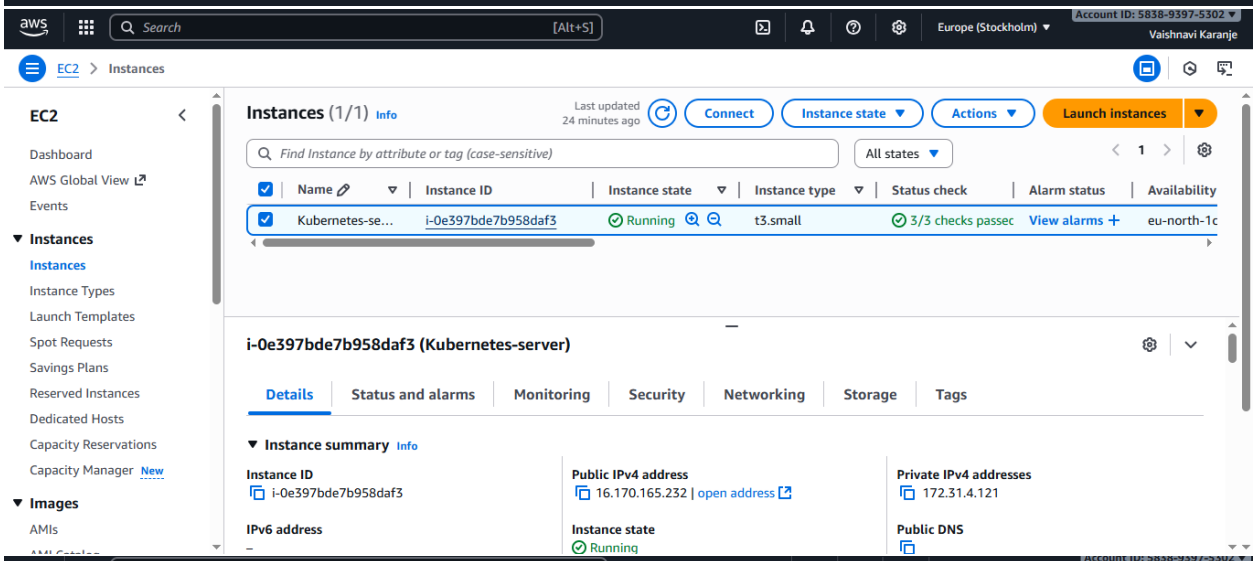
Search [Alt+S]
Europe (Stockholm)
Account ID: 5838-9397-5302
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EC2 > Instances
Instances (1/1) Info
Last updated 24 minutes ago
Connect
Instance state
Actions
Launch instances
Find Instance by attribute or tag (case-sensitive)
All states
Name
Instance ID
Instance state
Instance type
Status check
Alarm status
Availability
Kubernetes-se...
i-0e397bde7b958daf3
Running
t3.small
3/3 checks passed
View alarms
eu-north-1c
i-0e397bde7b958daf3 (Kubernetes-server)
Details
Status and alarms
Monitoring
Security
Networking
Storage
Tags
Instance summary Info
Instance ID
i-0e397bde7b958daf3
Public IPv4 address
16.170.165.232 | open address
Private IPv4 addresses
172.31.4.121
IPv6 address
Instance state
Running
Public DNS
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Events
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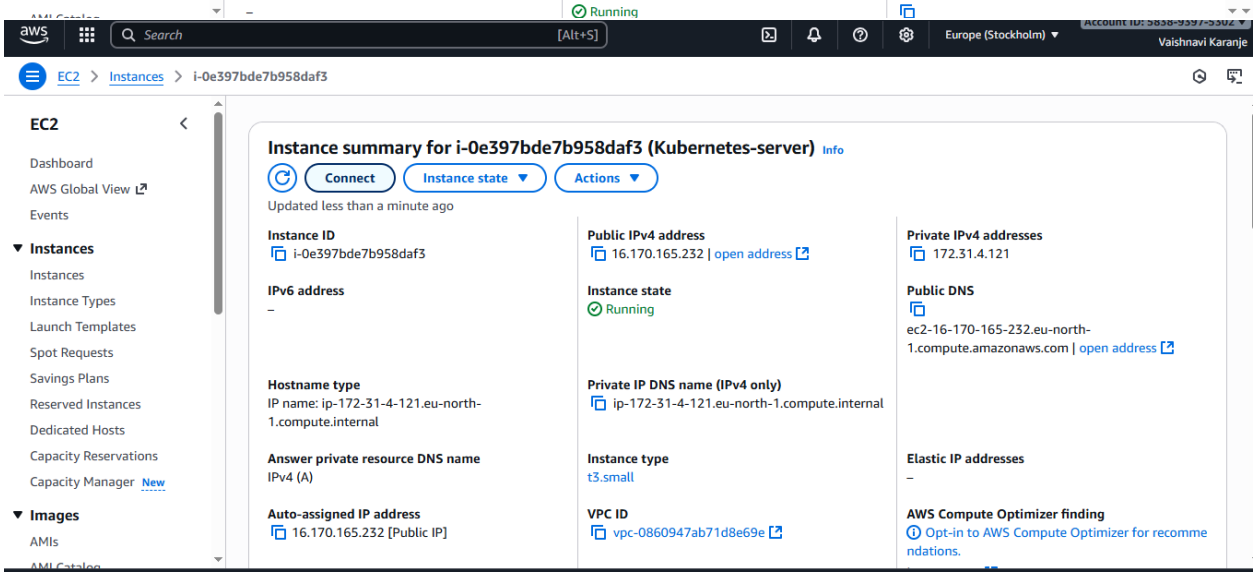
Instances
Instance Types
Launch Templates
Spot Requests
Savings Plans
Reserved Instances
Dedicated Hosts
Capacity Reservations
Capacity Manager New
Images
AMIs


Search [Alt+S]
Europe (Stockholm)
Vaishnavi Karanje
EC2 > Instances > i-0e397bde7b958daf3
Instance summary for i-0e397bde7b958daf3 (Kubernetes-server) Info
Connect
Instance state
Actions
Updated less than a minute ago
Instance ID
i-0e397bde7b958daf3
Public IPv4 address
16.170.165.232 | open address
Private IPv4 addresses
172.31.4.121
IPv6 address
–
Instance state
Running
Public DNS
ec2-16-170-165-232.eu-north-1.compute.amazonaws.com | open address
Hostname type
IP name: ip-172-31-4-121.eu-north-1.compute.internal
Private IP DNS name (IPv4 only)
ip-172-31-4-121.eu-north-1.compute.internal
Answer private resource DNS name
IPv4 (A)
Instance type
t3.small
Elastic IP addresses
–
Auto-assigned IP address
16.170.165.232 [Public IP]
VPC ID
vpc-0860947ab71d8e69e
AWS Compute Optimizer finding
Opt-in to AWS Compute Optimizer for recommendations.
EC2
Dashboard
AWS Global View
Events
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Search
[Alt+S]
Europe (Stockholm)
Account ID: 5838-9397-5302
Vaishnavi Karanje
Expanded Security Maintenance for Applications is not enabled.
0 updates can be applied immediately.
Enable ESM Apps to receive additional future security updates.
See https://ubuntu.com/esm or run: sudo pro status
The list of available updates is more than a week old.
To check for new updates run: sudo apt update
The programs included with the Ubuntu system are free software;
the exact distribution terms for each program are described in the
individual files in /usr/share/doc/*/copyright.
Ubuntu comes with ABSOLUTELY NO WARRANTY, to the extent permitted by
applicable law.
To run a command as administrator (user "root"), use "sudo <command>".
See "man sudo_root" for details.
ubuntu@ip-172-31-4-121:~$
ubuntu@ip-172-31-4-121:~$ sudo apt-get update && sudo apt-get upgrade -y
Hit:1 http://eu-north-1.ec2.archive.ubuntu.com/ubuntu jammy InRelease
Hit:2 http://eu-north-1.ec2.archive.ubuntu.com/ubuntu jammy-updates InRelease
Hit:3 http://eu-north-1.ec2.archive.ubuntu.com/ubuntu jammy-backports InRelease
Hit:4 http://security.ubuntu.com/ubuntu jammy-security InRelease
Reading package lists... Done
Reading package lists... Done
Building dependency tree... Done
Reading state information... Done
Calculating upgrade... Done
The following packages have been kept back:
libnss-systemd libpam-systemd libsystemd0 libudev1 linux-aws linux-headers-aws linux-image-aws systemd systemd-sysv udev
0 upgraded, 0 newly installed, 0 to remove and 10 not upgraded.
ubuntu@ip-172-31-4-121:~$
ubuntu@ip-172-31-4-121:~$ sudo apt-get install docker.io -y
Reading package lists... Done
Building dependency tree... Done
Reading state information... Done
docker.io is already the newest version (28.2.2-0ubuntu1~22.04.1).
0 upgraded, 0 newly installed, 0 to remove and 10 not upgraded.
ubuntu@ip-172-31-4-121:~$ sudo usermod -aG docker $USER
ubuntu@ip-172-31-4-121:~$ newgrp docker
ubuntu@ip-172-31-4-121:~$ curl -LO https://storage.googleapis.com/minikube/releases/latest/minikube-linux-amd64
% Total % Received % Xferd Average Speed Time Time Time Current
Dload Upload Total Spent Left Speed
100 133M 100 133M 0 0 31.0M 0 0:00:04 0:00:04 --:--:-- 33.5M
ubuntu@ip-172-31-4-121:~$ sudo install minikube-linux-amd64 /usr/local/bin/minikube
ubuntu@ip-172-31-4-121:~$ minikube start
* minikube v1.37.0 on Ubuntu 22.04
* Automatically selected the docker driver. Other choices: none, ssh
X The requested memory allocation of 1910MiB does not leave room for system overhead (total system memory: 1910MiB). You may face stability issues.
* Suggestion: Start minikube with less memory allocated: 'minikube start --memory=1910mb'
* Using Docker driver with root privileges
* Starting "minikube" primary control-plane node in "minikube" cluster
* Pulling base image v0.0.48 ...
* Downloading Kubernetes v1.34.0 preload ...
> gcr.io/k8s-minikube/kicbase...: 488.51 MiB / 488.52 MiB 100.00% 120.91
> preloaded-images-k8s-v18-v1...: 337.07 MiB / 337.07 MiB 100.00% 33.00 M
* Creating docker container (CPUs=2, Memory=1910MB) ...
* Preparing Kubernetes v1.34.0 on Docker 28.4.0 ...
* Configuring bridge CNI (Container Networking Interface) ...
* Verifying Kubernetes components...
- Using image gcr.io/k8s-minikube/storage-provisioner:v5
* Enabled addons: storage-provisioner, default-storageclass
* kubectl not found. If you need it, try: 'minikube kubectl -- get pods -A'
* Done! kubectl is now configured to use "minikube" cluster and "default" namespace by default
ubuntu@ip-172-31-4-121:~$ minikube status
minikube
type: Control Plane
host: Running
kubelet: Running
apiserver: Running
kubeconfig: Configured