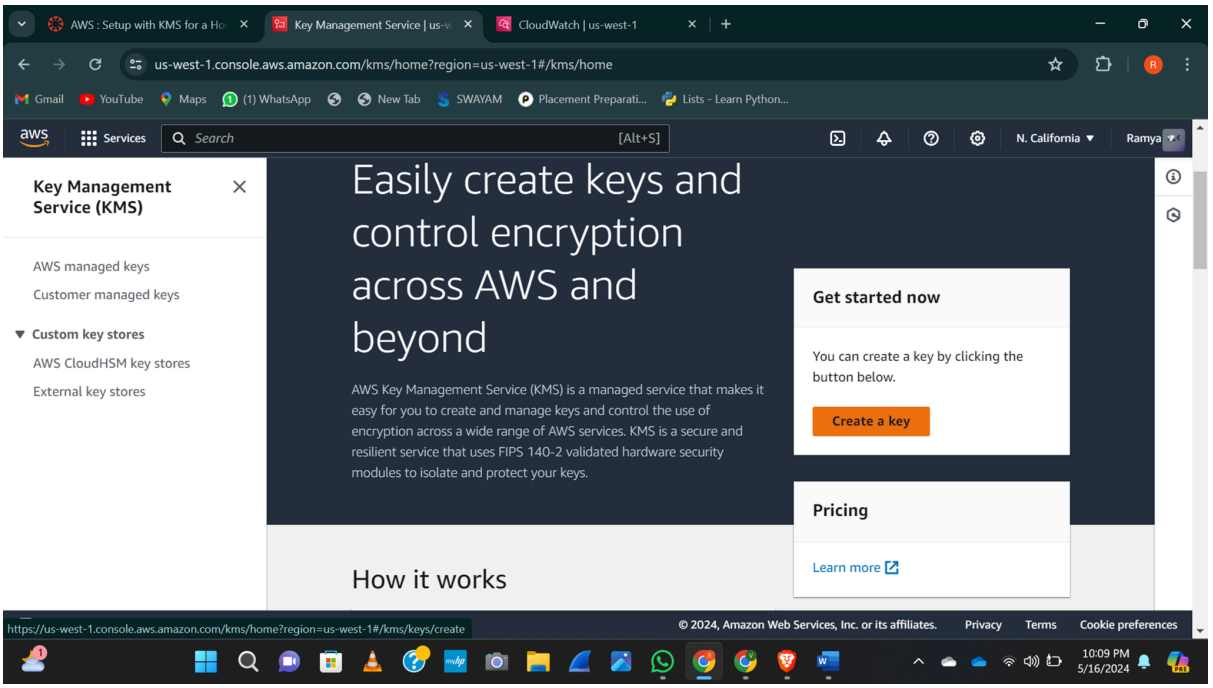
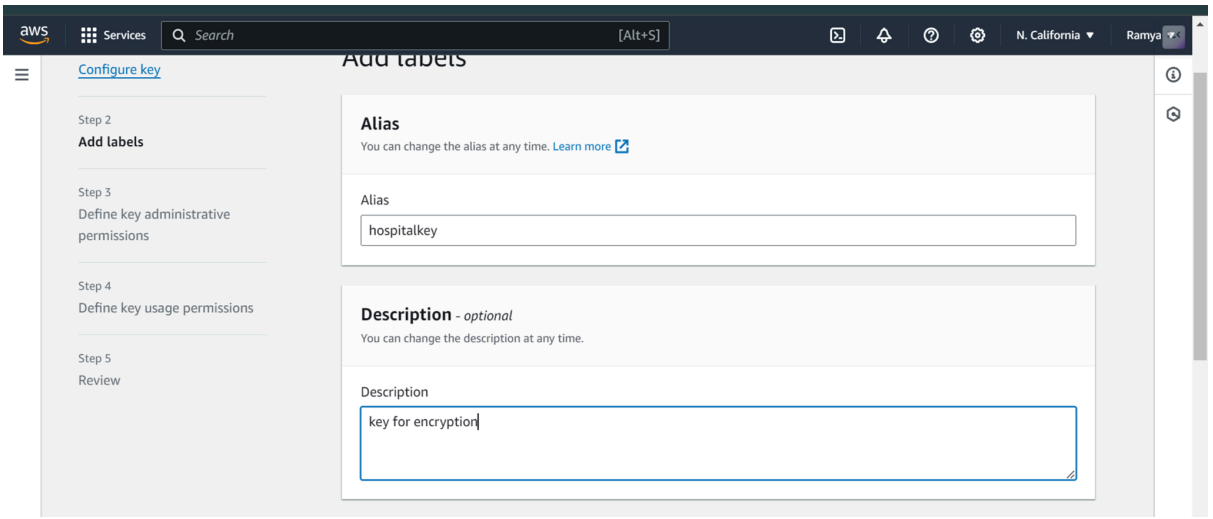
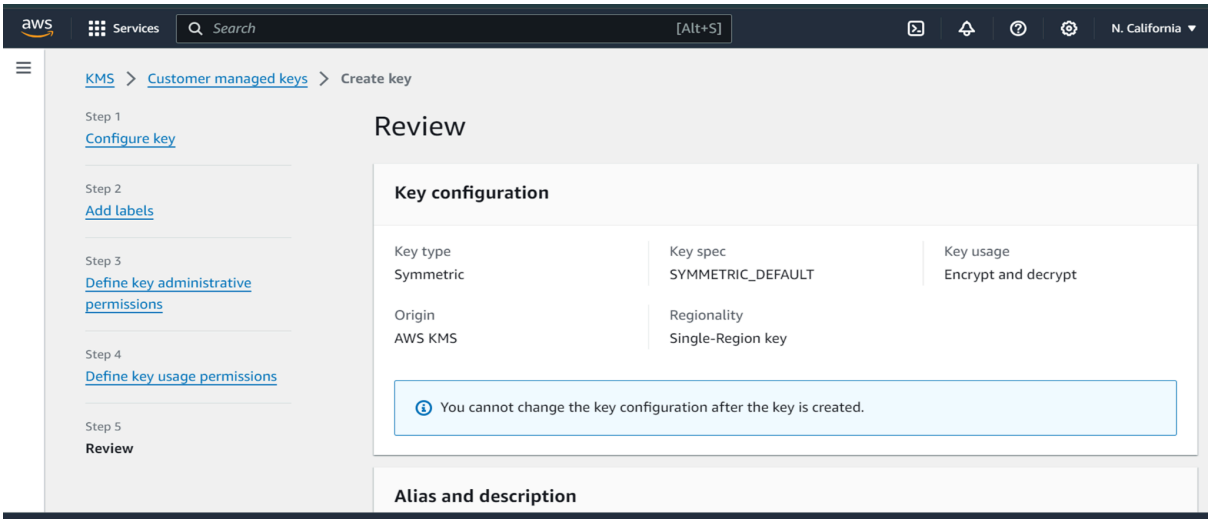
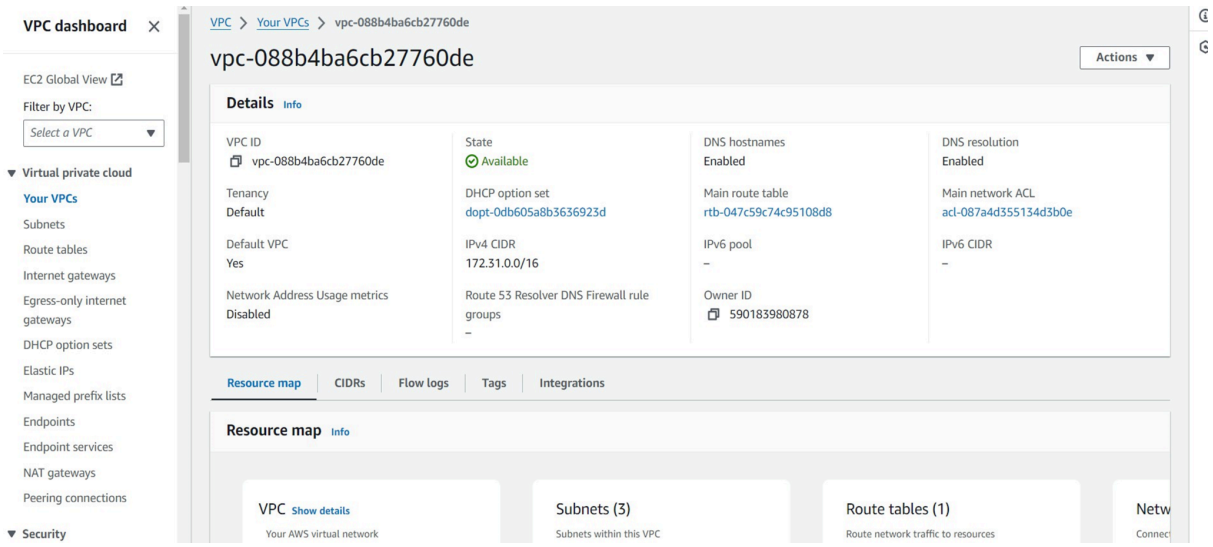
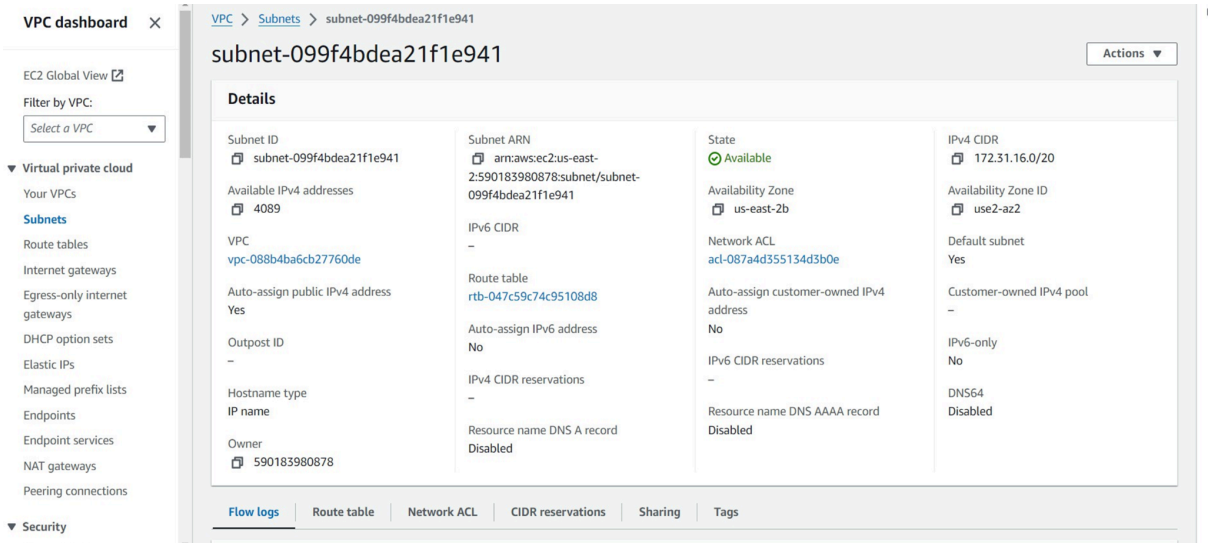
AWS : Setup with KMS for a Hospital Web Application






aws
Services
Search
[Alt+S]
N. California
KMS > Customer managed keys > Create key
Step 1
Configure key
Step 2
Add labels
Step 3
Define key administrative permissions
Step 4
Define key usage permissions
Step 5
Review
Review
Key configuration
Key type
Symmetric
Key spec
SYMMETRIC_DEFAULT
Key usage
Encrypt and decrypt
Origin
AWS KMS
Regionality
Single-Region key
You cannot change the key configuration after the key is created.
Alias and description


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
DHCP option sets
Elastic IPs
Managed prefix lists
Endpoints
Endpoint services
NAT gateways
Peering connections
Security
VPC > Your VPCs > vpc-088b4ba6cb27760de
vpc-088b4ba6cb27760de
Actions
Details Info
VPC ID
vpc-088b4ba6cb27760de
State
Available
DNS hostnames
Enabled
DNS resolution
Enabled
Tenancy
Default
DHCP option set
dopt-0db605a8b3636923d
Main route table
rtb-047c59c74c95108d8
Main network ACL
acl-087a4d355134d3b0e
Default VPC
Yes
IPv4 CIDR
172.31.0.0/16
IPv6 pool
–
IPv6 CIDR
–
Network Address Usage metrics
Disabled
Route 53 Resolver DNS Firewall rule groups
–
Owner ID
590183980878
Resource map
CIDRs
Flow logs
Tags
Integrations
Resource map Info
VPC Show details
Your AWS virtual network
Subnets (3)
Subnets within this VPC
Route tables (1)
Route network traffic to resources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Elastic IPs
Managed prefix lists
Endpoints
Endpoint services
NAT gateways
Peering connections
Security
VPC > Subnets > subnet-099f4bdea21f1e941
subnet-099f4bdea21f1e941
Actions
Details
Subnet ID
subnet-099f4bdea21f1e941
Subnet ARN
arn:aws:ec2:us-east-2:590183980878:subnet/subnet-099f4bdea21f1e941
State
Available
IPv4 CIDR
172.31.16.0/20
Available IPv4 addresses
4089
Availability Zone
us-east-2b
Availability Zone ID
use2-az2
VPC
vpc-088b4ba6cb27760de
IPv6 CIDR
–
Network ACL
acl-087a4d355134d3b0e
Default subnet
Yes
Auto-assign public IPv4 address
Yes
Route table
rtb-047c59c74c95108d8
Auto-assign customer-owned IPv4 address
No
Customer-owned IPv4 pool
–
Outpost ID
–
Auto-assign IPv6 address
No
IPv6 CIDR reservations
–
IPv6-only
No
Hostname type
IP name
IPv4 CIDR reservations
–
Resource name DNS AAAA record
Disabled
DNS64
Disabled
Owner
590183980878
Resource name DNS A record
Disabled
Flow logs
Route table
Network ACL
CIDR reservations
Sharing
Tags

MyWebSecurity Group

Name cannot be edited after creation.

Description Info

Allows Developers to access SSH and HTTP

VPC Info

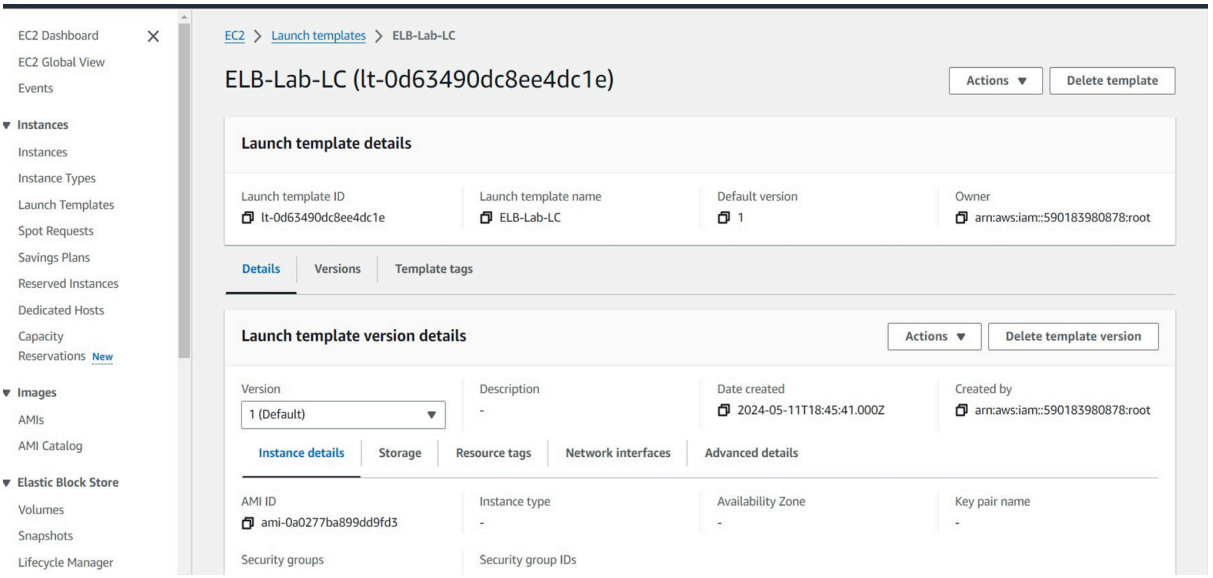
vpc-088b4ba6cb27760de

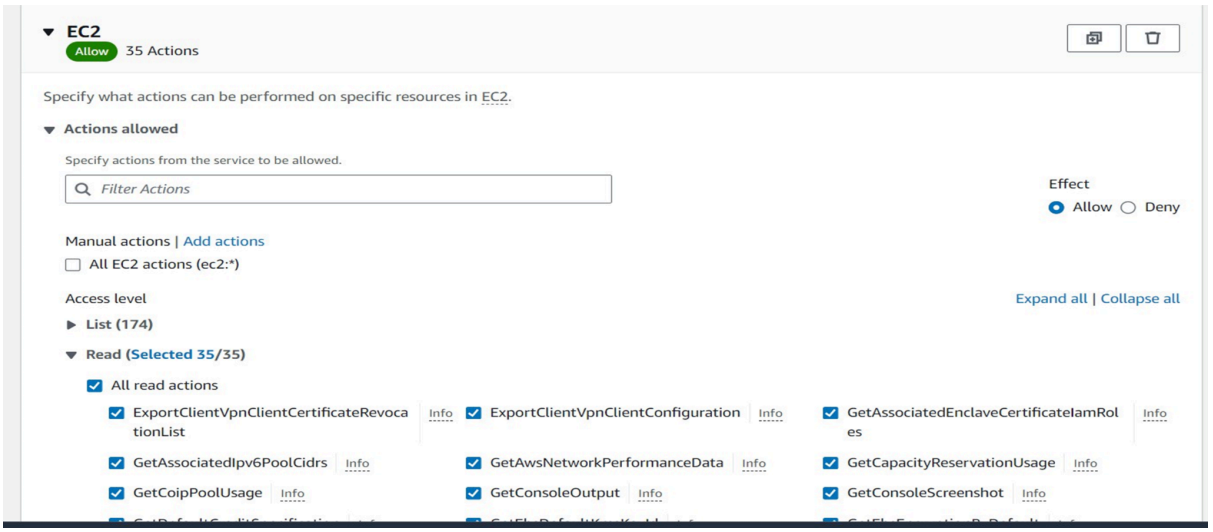
Inbound rules Info

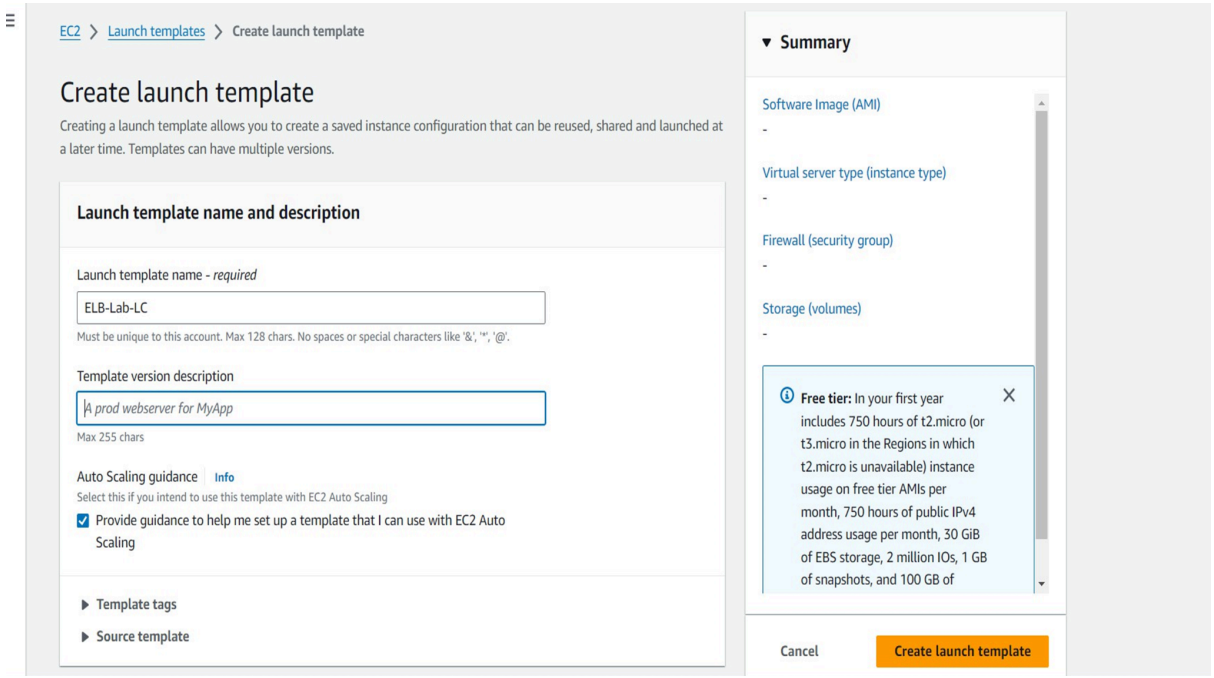
Type Info	Protocol Info	Port range Info	Source Info		Description - optional Info	
SSH	TCP	22	My IP	152.58.196.255/32		Delete
HTTP	TCP	80	Anyw...	0.0.0.0/0		Delete

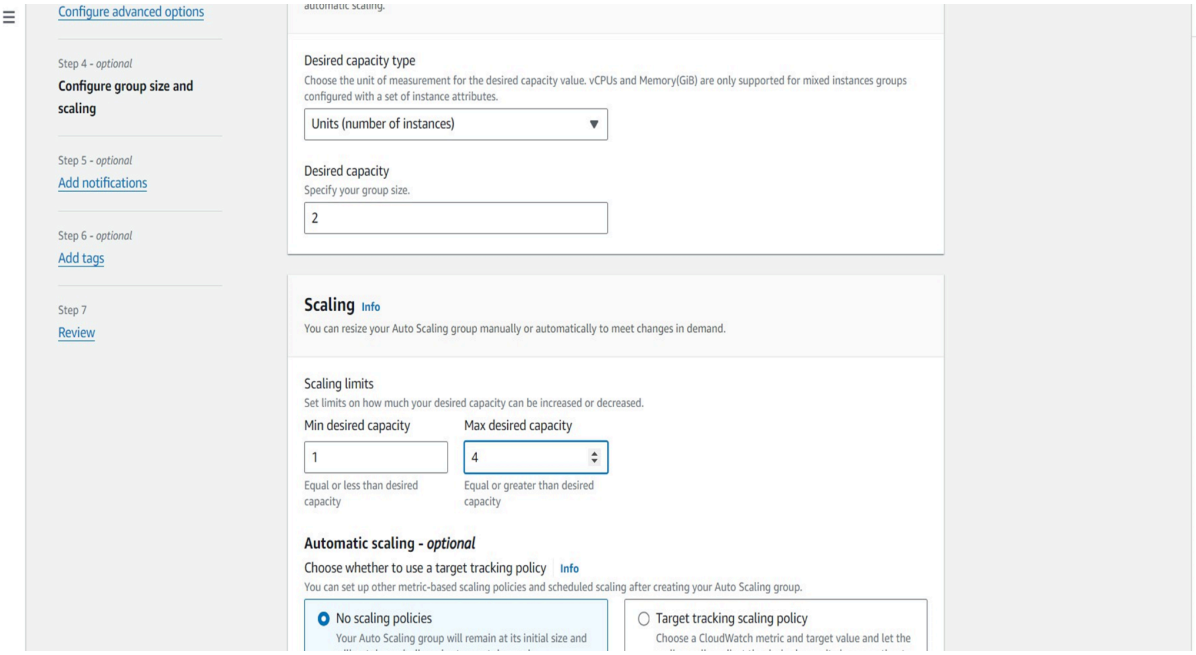
0.0.0.0/0

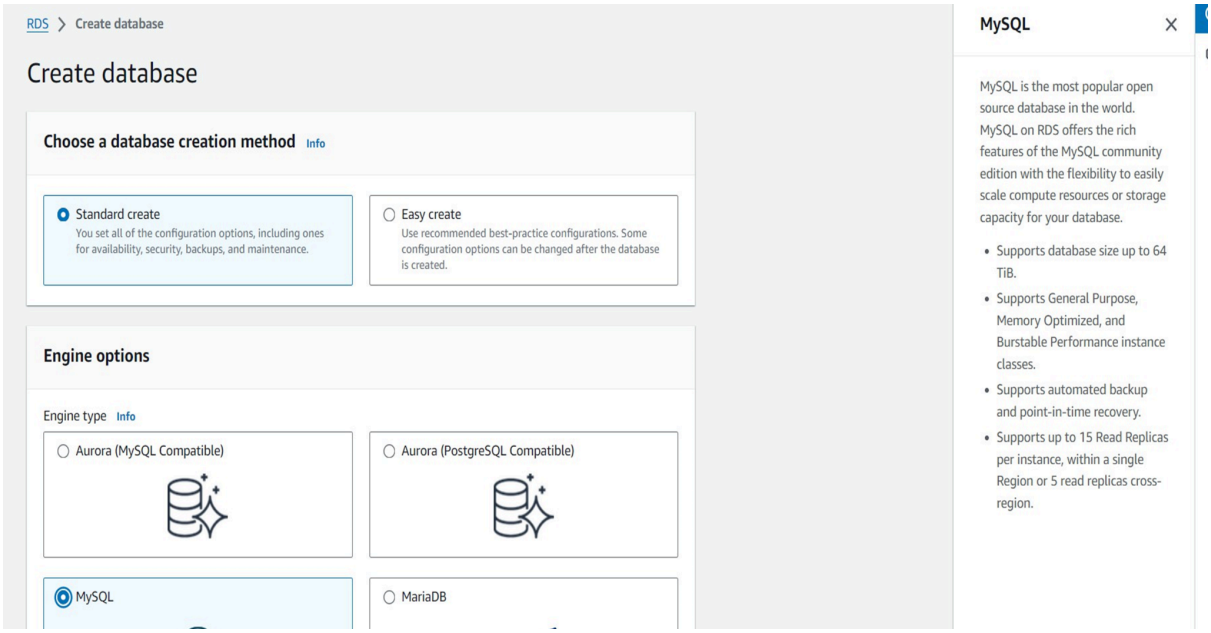
Add rule

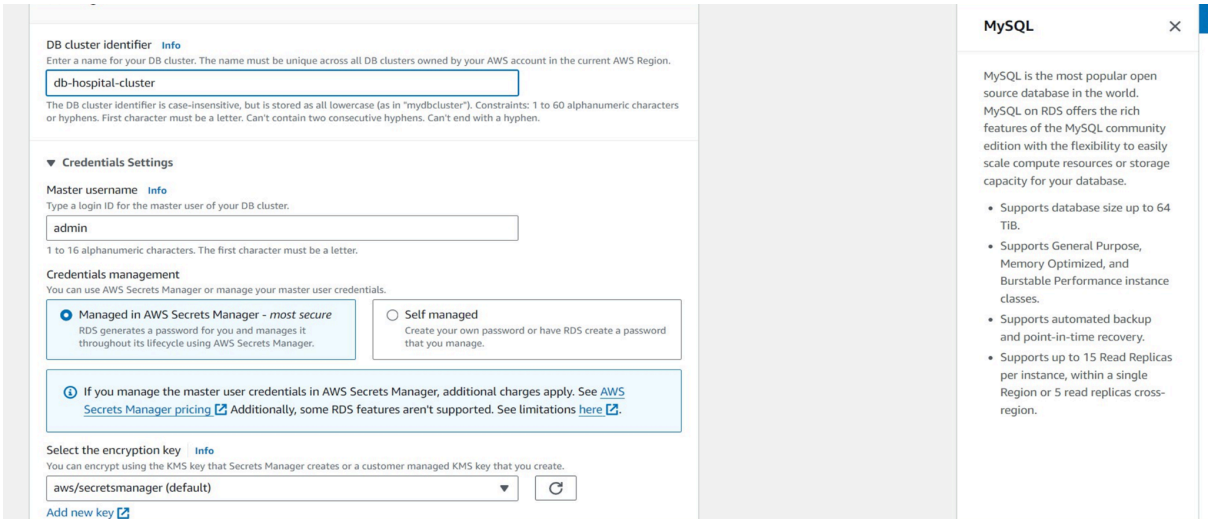





EC2 > Launch templates > Create launch template
Create launch template
Creating a launch template allows you to create a saved instance configuration that can be reused, shared and launched at a later time. Templates can have multiple versions.
Launch template name and description
Launch template name - required
ELB-Lab-LC
Must be unique to this account. Max 128 chars. No spaces or special characters like '&', '*', '@'.
Template version description
A prod webserver for MyApp
Max 255 chars
Auto Scaling guidance Info
Select this if you intend to use this template with EC2 Auto Scaling
Provide guidance to help me set up a template that I can use with EC2 Auto Scaling
Template tags
Source template
Summary
Software Image (AMI)
-
Virtual server type (instance type)
-
Firewall (security group)
-
Storage (volumes)
-
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, 750 hours of public IPv4 address usage per month, 30 GiB of EBS storage, 2 million IOs, 1 GB of snapshots, and 100 GB of
Cancel
Create launch template


Configure advanced options
Step 4 - optional
Configure group size and scaling
Step 5 - optional
Add notifications
Step 6 - optional
Add tags
Step 7
Review
Desired capacity type
Choose the unit of measurement for the desired capacity value. vCPUs and Memory(GiB) are only supported for mixed instances groups configured with a set of instance attributes.
Units (number of instances)
Desired capacity
Specify your group size.
2
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
1
Equal or less than desired capacity
Max desired capacity
4
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
Target tracking scaling policy
Choose a CloudWatch metric and target value and let the


RDS > Create database
Create database
Choose a database creation method Info
Standard create
You set all of the configuration options, including ones for availability, security, backups, and maintenance.
Easy create
Use recommended best-practice configurations. Some configuration options can be changed after the database is created.
Engine options
Engine type Info
Aurora (MySQL Compatible)
Aurora (PostgreSQL Compatible)
MySQL
MariaDB
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.


DB cluster identifier Info
Enter a name for your DB cluster. The name must be unique across all DB clusters owned by your AWS account in the current AWS Region.
db-hospital-cluster
The DB cluster identifier is case-insensitive, but is stored as all lowercase (as in "mydbcluster"). 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 cluster.
admin
1 to 16 alphanumeric characters. The first character must be a letter.
Credentials management
You can use AWS Secrets Manager or manage your master user credentials.
Managed in AWS Secrets Manager - most secure
RDS generates a password for you and manages it throughout its lifecycle using AWS Secrets Manager.
Self managed
Create your own password or have RDS create a password that you manage.
If you manage the master user credentials in AWS Secrets Manager, additional charges apply. See AWS Secrets Manager pricing Additionally, some RDS features aren't supported. See limitations here.
Select the encryption key Info
You can encrypt using the KMS key that Secrets Manager creates or a customer managed KMS key that you create.
aws/secretsmanager (default)
Add new key
MySQL
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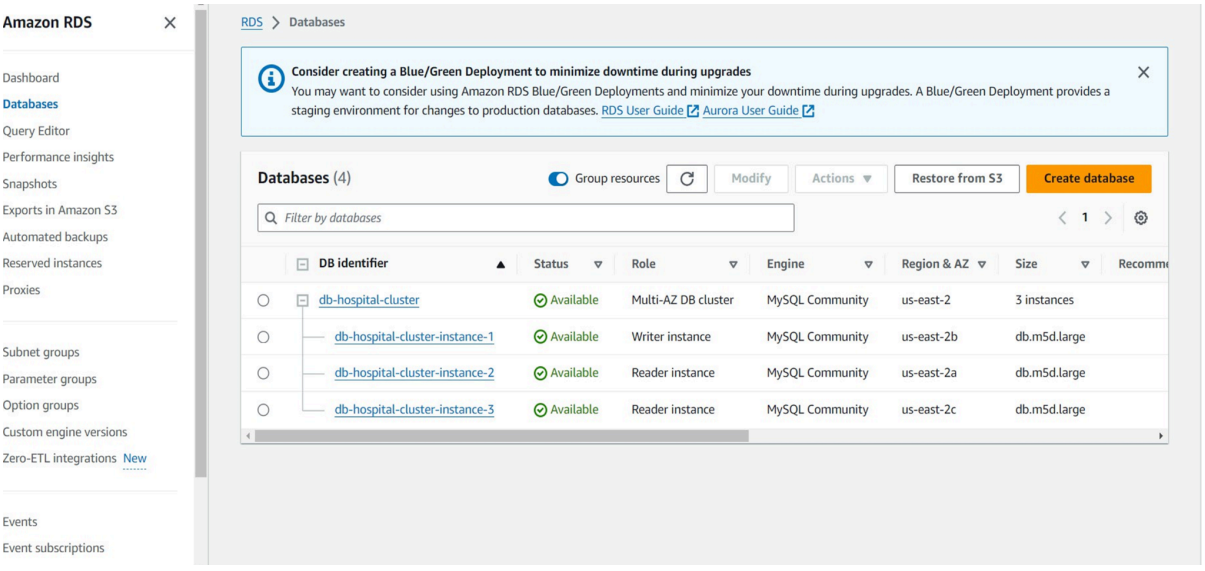
Amazon RDS
Dashboard
Databases
Query Editor
Performance insights
Snapshots
Exports in Amazon S3
Automated backups
Reserved instances
Proxies
Subnet groups
Parameter groups
Option groups
Custom engine versions
Zero-ETL integrations New
Events
Event subscriptions
RDS > Databases
Consider creating a Blue/Green 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. RDS User Guide Aurora User Guide
Databases (4)
Group resources
Modify
Actions
Restore from S3
Create database
Filter by databases
1
DB identifier
Status
Role
Engine
Region & AZ
Size
db-hospital-cluster
Available
Multi-AZ DB cluster
MySQL Community
us-east-2
3 instances
db-hospital-cluster-instance-1
Available
Writer instance
MySQL Community
us-east-2b
db.m5d.large
db-hospital-cluster-instance-2
Available
Reader instance
MySQL Community
us-east-2a
db.m5d.large
db-hospital-cluster-instance-3
Available
Reader instance
MySQL Community
us-east-2c
db.m5d.large