Documentation for Deploying RabbitMQ Using a Helm Chart on Ec2 instance k8s

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How to deploy RabbitMQ using the Helm chart (including any setup commands).

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1. **Install helm:**
2. curl https://baltocdn.com/helm/signing.asc | sudo apt-key add - echo "deb https://baltocdn.com/helm/stable/debian/ all main" | sudo tee /etc/apt/sources.list.d/helm-stable-debian.list
3. sudo apt-get update
4. sudo apt-get install -y helm

2. Install Charts

1) helm create rabbit
2) helm install rabbit ./rabbit
3) kubectl create namespace rabbit-namespace
4) helm install rabbit ./rabbit --namespace rabbit-namespace
5) helm uninstall rabbit ./rabbit --namespace rabbit-namespace
6) helm upgrade rabbit ./rabbit --namespace rabbit-namespace
7) kubectl get all -n rabbit-namespace

Directory Organization:

rabbitmq-helm/

| Chart.yaml

| values.yaml

| templates/

| statefulset.yaml

| secret.yaml

|service.yaml

| charts

Configuration options in values.yaml.

namespace: rabbit-namespace

replicaCount: 3

image:
repository: rabbitmq:4.0-management
pullPolicy: IfNotPresent
tag: ""

service:
type: NodePort
ports:
ss:
port: 5672
targetPort: 5672
nodePort: 32501
management:
port: 15672
targetPort: 15672
nodePort: 32377

resources:
limits:
cpu: 500m
memory: 500Mi
requests:
cpu: 500m
memory: 500Mi

rabbit:
adminUser: guest
adminPassword: guest

Steps for accessing the RabbitMQ management interface.

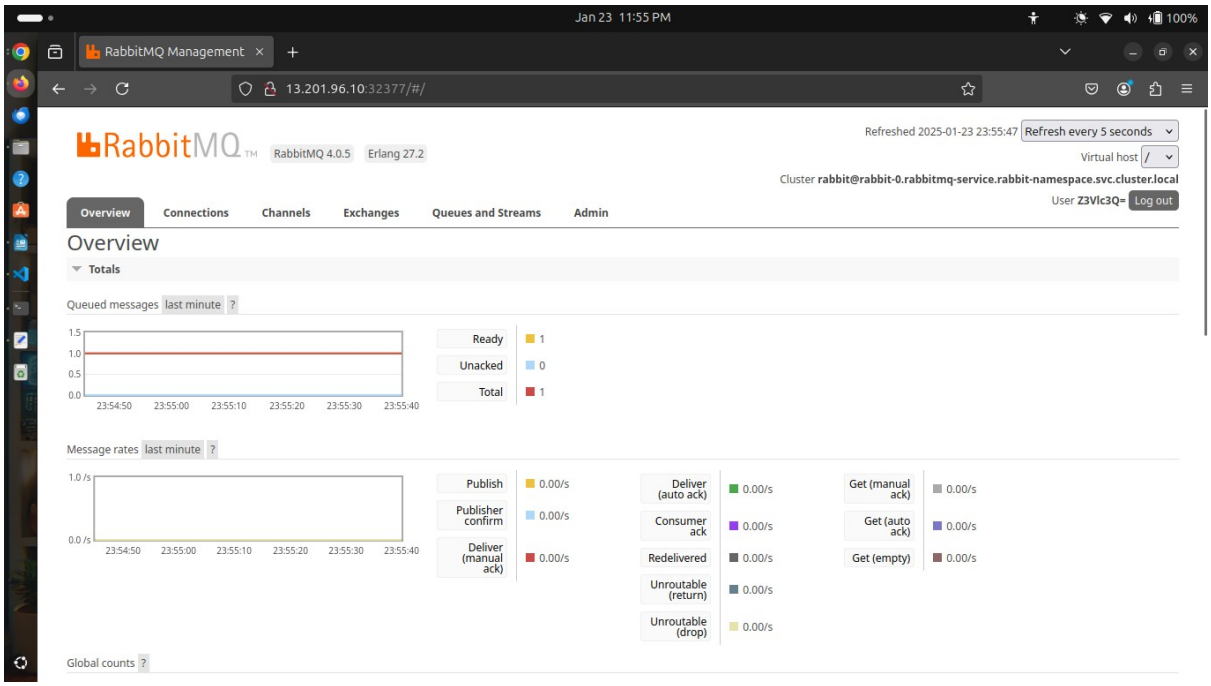
1)Open your web browser and go to http://13.201.96.10:32377

port is 32377

2)login credentials are

Username: Z3Vlc3Q=

`Password:`Z3Vlc3Q=



How to scale the RabbitMQ cluster (e.g., increasing the replica count).

`1) kubectl scale StatefulSet rabbit --replicas=5 -n rabbit-namespace`

`1) Edit the values.yaml --> replicaCount: 5`

2) helm upgrade rabbit ./rabbit --namespace rabbit-namespace

How to troubleshoot common issues during deployment.

1) Reapply CNI Plugin:-

1)kubectl apply -f https://raw.githubusercontent.com/flannel-io/flannel/master/Documentation/kube-flannel.yml

2)journalctl -u kubelet | grep -i cni

3)kubectl get nodes

2) **ImageNotPulling:**- Check the pod status and add proper image

3)kubectl get pods -n rabbit-namespace

NAME READY STATUS RESTARTS AGE

rabbit-0 0/1 InvalidImageName 0 29s

--> in this file there i mage is not proper set

4)Endpoints is not set ->

kubectl get pods --show-labels -n rabbit-namespace --> lable and service should be same

5) Warning FailedScheduling 12s (x209 over 16h) default-scheduler 0/3 nodes are available: pod has unbound immediate PersistentVolumeClaims. preemption: 0/3 nodes are available: 3 Preemption is not helpful for scheduling.

6) Some syntax is not set helm chart:- wrong configuration

Some Use full CMD for K8s

1) kubectl get all -n rabbit-namespace

2) kubectl get nodes

3) kubectl get pods -n rabbit-namespace

4) kubectl describe pod rabbit-0 -n rabbit-namespace

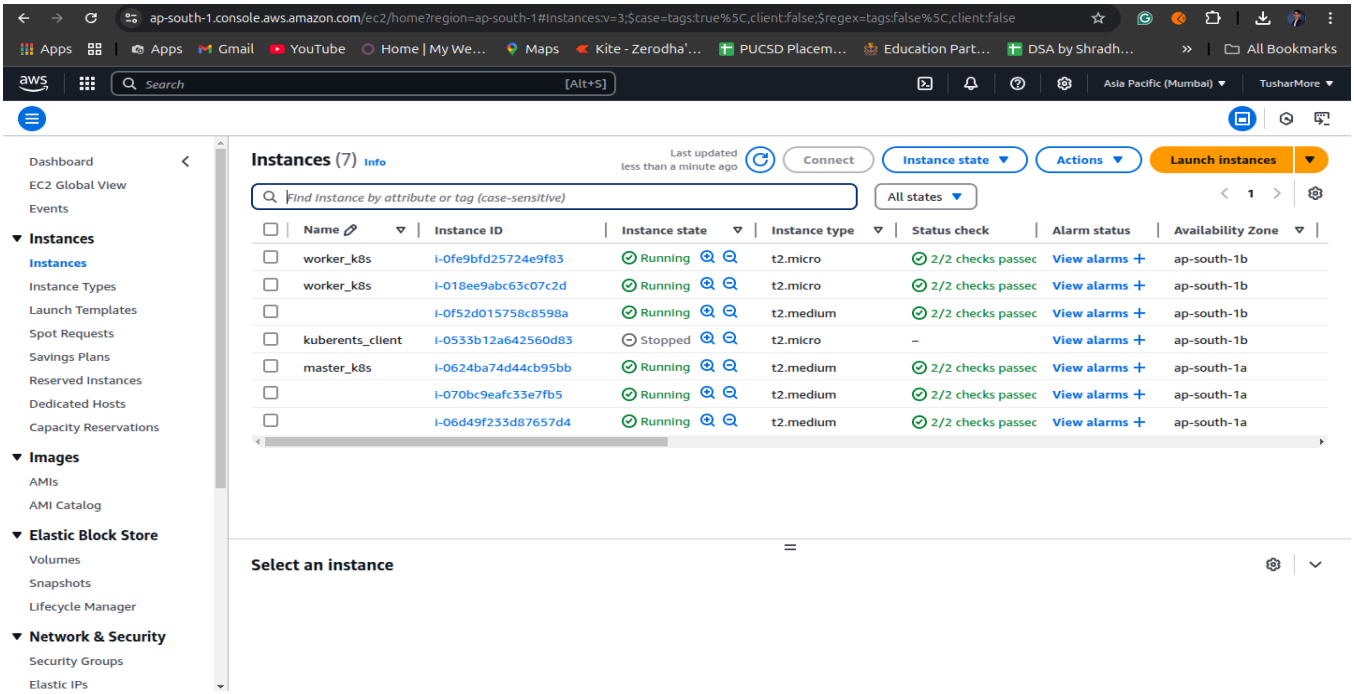
5) kubectl get statefulsets -n rabbit-namespace

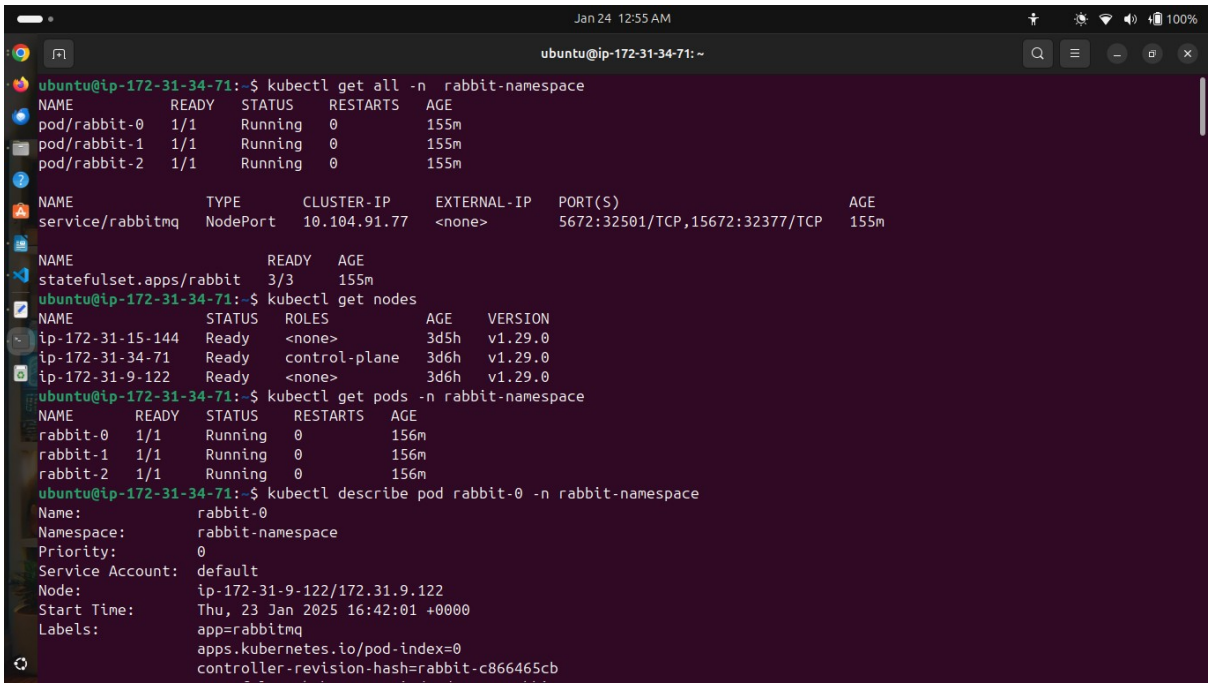
6) kubectl logs rabbit-0 -n rabbit-namespace

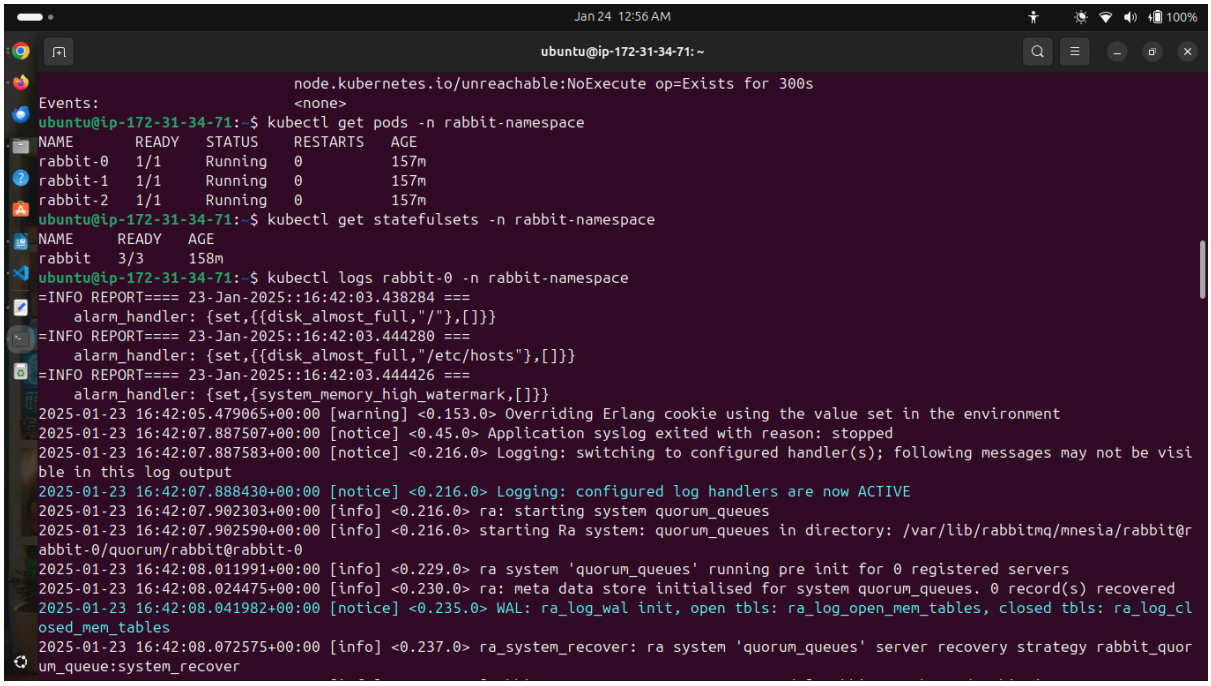
7) kubectl get svc -n rabbit-namespace

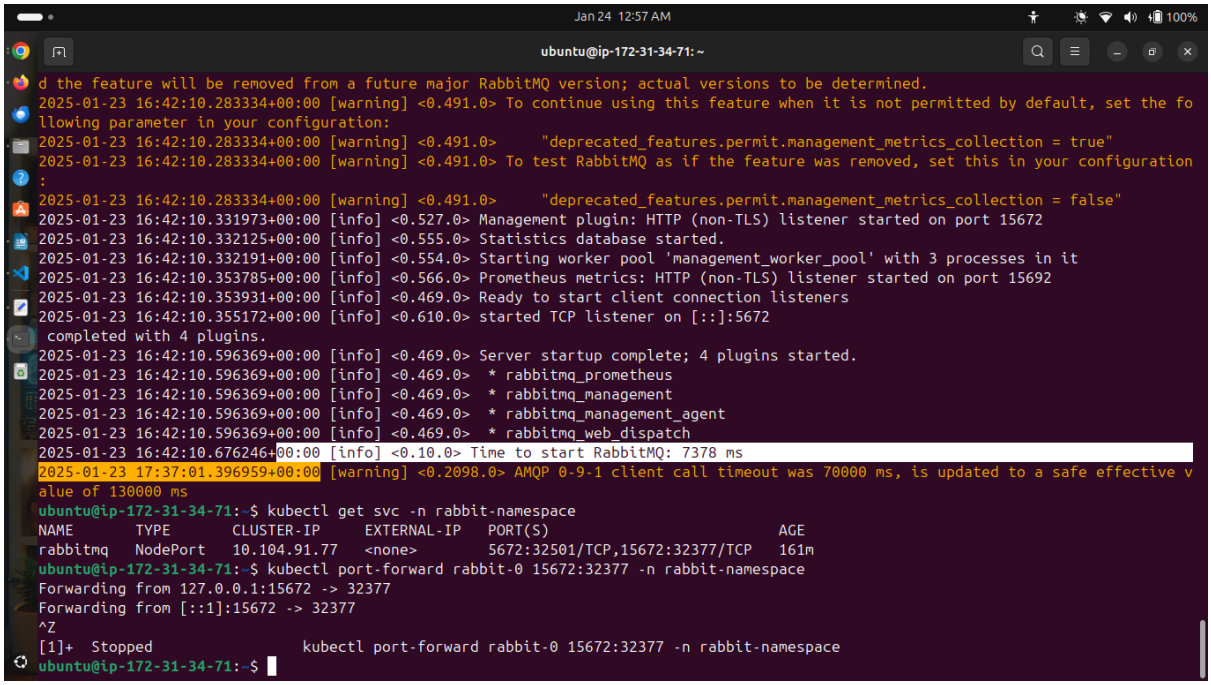
8) kubectl get namespaces

9) kubectl create namespace -n rabbit-namespace


ap-south-1.console.aws.amazon.com/ec2/home?region=ap-south-1#Instances:v=3;$case=tags:true%5C,client:false;$regex=tags:false%5C,client:false
Apps
Gmail
YouTube
Home | My We...
Maps
Kite - Zerodha'...
PUCSD Placem...
Education Part...
DSA by Shradh...
All Bookmarks
Search
[Alt+S]
Asia Pacific (Mumbai)
TusharMore
Dashboard
EC2 Global View
Events
Instances
Instances
Instance Types
Launch Templates
Spot Requests
Savings Plans
Reserved Instances
Dedicated Hosts
Capacity Reservations
Images
AMIs
AMI Catalog
Elastic Block Store
Volumes
Snapshots
Lifecycle Manager
Network & Security
Security Groups
Elastic IPs
Instances (7) Info
Last updated less than a minute 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 Zone
worker_k8s i-0fe9bfd25724e9f83 Running t2.micro 2/2 checks passec View alarms ap-south-1b
worker_k8s i-018ee9abc63c07c2d Running t2.micro 2/2 checks passec View alarms ap-south-1b
i-0f52d015758c8598a Running t2.medium 2/2 checks passec View alarms ap-south-1b
kuberents_client i-0533b12a642560d83 Stopped t2.micro – View alarms ap-south-1b
master_k8s i-0624ba74d44cb95bb Running t2.medium 2/2 checks passec View alarms ap-south-1a
i-070bc9eafc33e7fb5 Running t2.medium 2/2 checks passec View alarms ap-south-1a
i-06d49f233d87657d4 Running t2.medium 2/2 checks passec View alarms ap-south-1a
Select an instance


Jan 24 12:55 AM
100%
ubuntu@ip-172-31-34-71: ~
ubuntu@ip-172-31-34-71:~$ kubectl get all -n rabbit-namespace
NAME READY STATUS RESTARTS AGE
pod/rabbit-0 1/1 Running 0 155m
pod/rabbit-1 1/1 Running 0 155m
pod/rabbit-2 1/1 Running 0 155m
NAME TYPE CLUSTER-IP EXTERNAL-IP PORT(S) AGE
service/rabbitmq NodePort 10.104.91.77 <none> 5672:32501/TCP,15672:32377/TCP 155m
NAME READY AGE
statefulset.apps/rabbit 3/3 155m
ubuntu@ip-172-31-34-71:~$ kubectl get nodes
NAME STATUS ROLES AGE VERSION
ip-172-31-15-144 Ready <none> 3d5h v1.29.0
ip-172-31-34-71 Ready control-plane 3d6h v1.29.0
ip-172-31-9-122 Ready <none> 3d6h v1.29.0
ubuntu@ip-172-31-34-71:~$ kubectl get pods -n rabbit-namespace
NAME READY STATUS RESTARTS AGE
rabbit-0 1/1 Running 0 156m
rabbit-1 1/1 Running 0 156m
rabbit-2 1/1 Running 0 156m
ubuntu@ip-172-31-34-71:~$ kubectl describe pod rabbit-0 -n rabbit-namespace
Name: rabbit-0
Namespace: rabbit-namespace
Priority: 0
Service Account: default
Node: ip-172-31-9-122/172.31.9.122
Start Time: Thu, 23 Jan 2025 16:42:01 +0000
Labels: app=rabbitmq
apps.kubernetes.io/pod-index=0
controller-revision-hash=rabbit-c866465cb


Jan 24 12:56 AM
100%
ubuntu@ip-172-31-34-71: ~
node.kubernetes.io/unreachable:NoExecute op=Exists for 300s
Events: <none>
ubuntu@ip-172-31-34-71:~$ kubectl get pods -n rabbit-namespace
NAME READY STATUS RESTARTS AGE
rabbit-0 1/1 Running 0 157m
rabbit-1 1/1 Running 0 157m
rabbit-2 1/1 Running 0 157m
ubuntu@ip-172-31-34-71:~$ kubectl get statefulsets -n rabbit-namespace
NAME READY AGE
rabbit 3/3 158m
ubuntu@ip-172-31-34-71:~$ kubectl logs rabbit-0 -n rabbit-namespace
=INFO REPORT==== 23-Jan-2025::16:42:03.438284 ===
alarm_handler: {set,{{disk_almost_full,"/"},[]}}
=INFO REPORT==== 23-Jan-2025::16:42:03.444280 ===
alarm_handler: {set,{{disk_almost_full,"/etc/hosts"},[]}}
=INFO REPORT==== 23-Jan-2025::16:42:03.444426 ===
alarm_handler: {set,{system_memory_high_watermark,[]}}
2025-01-23 16:42:05.479065+00:00 [warning] <0.153.0> Overriding Erlang cookie using the value set in the environment
2025-01-23 16:42:07.887507+00:00 [notice] <0.45.0> Application syslog exited with reason: stopped
2025-01-23 16:42:07.887583+00:00 [notice] <0.216.0> Logging: switching to configured handler(s); following messages may not be visible in this log output
2025-01-23 16:42:07.888430+00:00 [notice] <0.216.0> Logging: configured log handlers are now ACTIVE
2025-01-23 16:42:07.902303+00:00 [info] <0.216.0> ra: starting system quorum_queues
2025-01-23 16:42:07.902590+00:00 [info] <0.216.0> starting Ra system: quorum_queues in directory: /var/lib/rabbitmq/mnesia/rabbit@rabbit-0/quorum/rabbit@rabbit-0
2025-01-23 16:42:08.011991+00:00 [info] <0.229.0> ra system 'quorum_queues' running pre init for 0 registered servers
2025-01-23 16:42:08.024475+00:00 [info] <0.230.0> ra: meta data store initialised for system quorum_queues. 0 record(s) recovered
2025-01-23 16:42:08.041982+00:00 [notice] <0.235.0> WAL: ra_log_wal init, open tbls: ra_log_open_mem_tables, closed tbls: ra_log_closed_mem_tables
2025-01-23 16:42:08.072575+00:00 [info] <0.237.0> ra_system_recover: ra system 'quorum_queues' server recovery strategy rabbit_quorum_queue:system_recover


Jan 24 12:57 AM
100%
ubuntu@ip-172-31-34-71: ~
d the feature will be removed from a future major RabbitMQ version; actual versions to be determined.
2025-01-23 16:42:10.283334+00:00 [warning] <0.491.0> To continue using this feature when it is not permitted by default, set the following parameter in your configuration:
2025-01-23 16:42:10.283334+00:00 [warning] <0.491.0> "deprecated_features.permit.management_metrics_collection = true"
2025-01-23 16:42:10.283334+00:00 [warning] <0.491.0> To test RabbitMQ as if the feature was removed, set this in your configuration:
2025-01-23 16:42:10.283334+00:00 [warning] <0.491.0> "deprecated_features.permit.management_metrics_collection = false"
2025-01-23 16:42:10.331973+00:00 [info] <0.527.0> Management plugin: HTTP (non-TLS) listener started on port 15672
2025-01-23 16:42:10.332125+00:00 [info] <0.555.0> Statistics database started.
2025-01-23 16:42:10.332191+00:00 [info] <0.554.0> Starting worker pool 'management_worker_pool' with 3 processes in it
2025-01-23 16:42:10.353785+00:00 [info] <0.566.0> Prometheus metrics: HTTP (non-TLS) listener started on port 15692
2025-01-23 16:42:10.353931+00:00 [info] <0.469.0> Ready to start client connection listeners
2025-01-23 16:42:10.355172+00:00 [info] <0.610.0> started TCP listener on [::]:5672
completed with 4 plugins.
2025-01-23 16:42:10.596369+00:00 [info] <0.469.0> Server startup complete; 4 plugins started.
2025-01-23 16:42:10.596369+00:00 [info] <0.469.0> * rabbitmq_prometheus
2025-01-23 16:42:10.596369+00:00 [info] <0.469.0> * rabbitmq_management
2025-01-23 16:42:10.596369+00:00 [info] <0.469.0> * rabbitmq_management_agent
2025-01-23 16:42:10.596369+00:00 [info] <0.469.0> * rabbitmq_web_dispatch
2025-01-23 16:42:10.676246+00:00 [info] <0.10.0> Time to start RabbitMQ: 7378 ms
2025-01-23 17:37:01.396959+00:00 [warning] <0.2098.0> AMQP 0-9-1 client call timeout was 70000 ms, is updated to a safe effective value of 130000 ms
ubuntu@ip-172-31-34-71:~$ kubectl get svc -n rabbit-namespace
NAME TYPE CLUSTER-IP EXTERNAL-IP PORT(S) AGE
rabbitmq NodePort 10.104.91.77 <none> 5672:32501/TCP,15672:32377/TCP 161m
ubuntu@ip-172-31-34-71:~$ kubectl port-forward rabbit-0 15672:32377 -n rabbit-namespace
Forwarding from 127.0.0.1:15672 -> 32377
Forwarding from [::1]:15672 -> 32377
^Z
[1]+ Stopped kubectl port-forward rabbit-0 15672:32377 -n rabbit-namespace
ubuntu@ip-172-31-34-71:~$