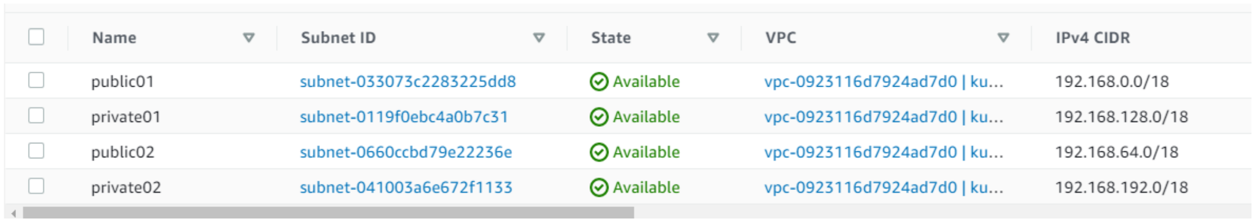
Deployment 5 Documentation

Before Deployment

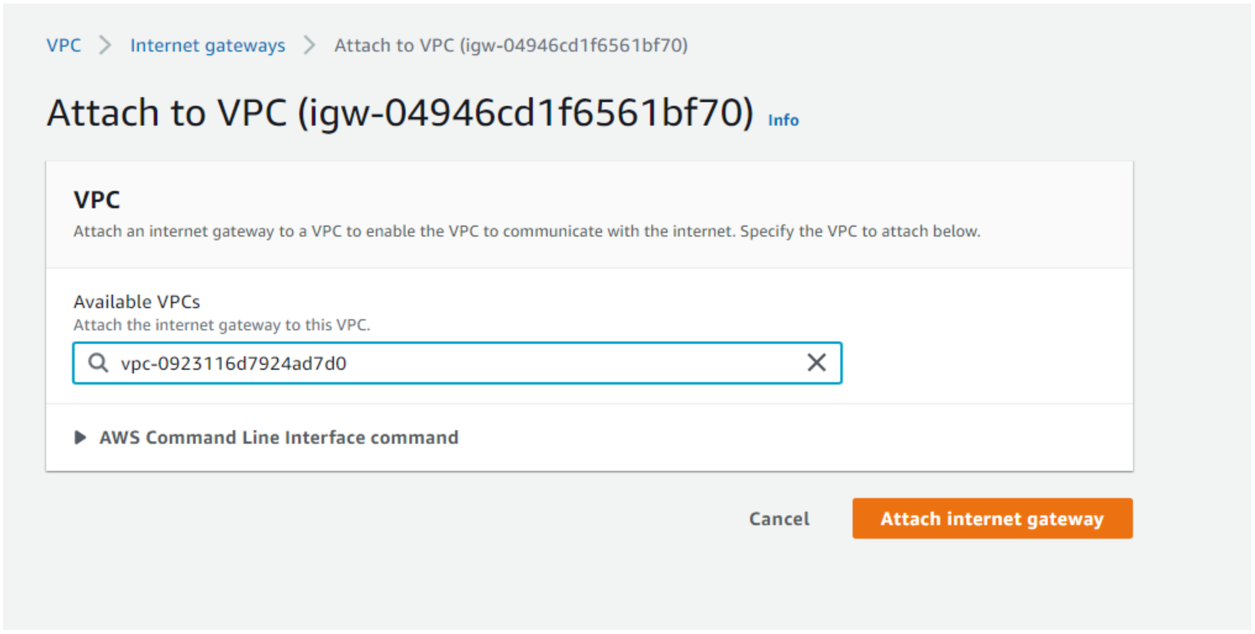
Create a VPC called kura-vpc with the IPV4 CIDR of 192.168.0.0/16.

Create 4 subnets. 2 private and 2 public with the following ranges.
192.168.0.0 - 192.168.63.255
192.168.64.0 - 192.168.127.255
192.168.128.0 - 192.168.191.255
192.168.192.0 - 192.168.255.255



	Name	Subnet ID	State	VPC	IPv4 CIDR
☐	public01	subnet-033073c2283225dd8	✓ Available	vpc-0923116d7924ad7d0 | ku...	192.168.0.0/18
☐	private01	subnet-0119f0ebc4a0b7c31	✓ Available	vpc-0923116d7924ad7d0 | ku...	192.168.128.0/18
☐	public02	subnet-0660ccbd79e22236e	✓ Available	vpc-0923116d7924ad7d0 | ku...	192.168.64.0/18
☐	private02	subnet-041003a6e672f1133	✓ Available	vpc-0923116d7924ad7d0 | ku...	192.168.192.0/18

Create an internet gateway to allow our devices to communicate outside of the network. Once created, attach it to the VPC



VPC > Internet gateways > Attach to VPC (igw-04946cd1f6561bf70)

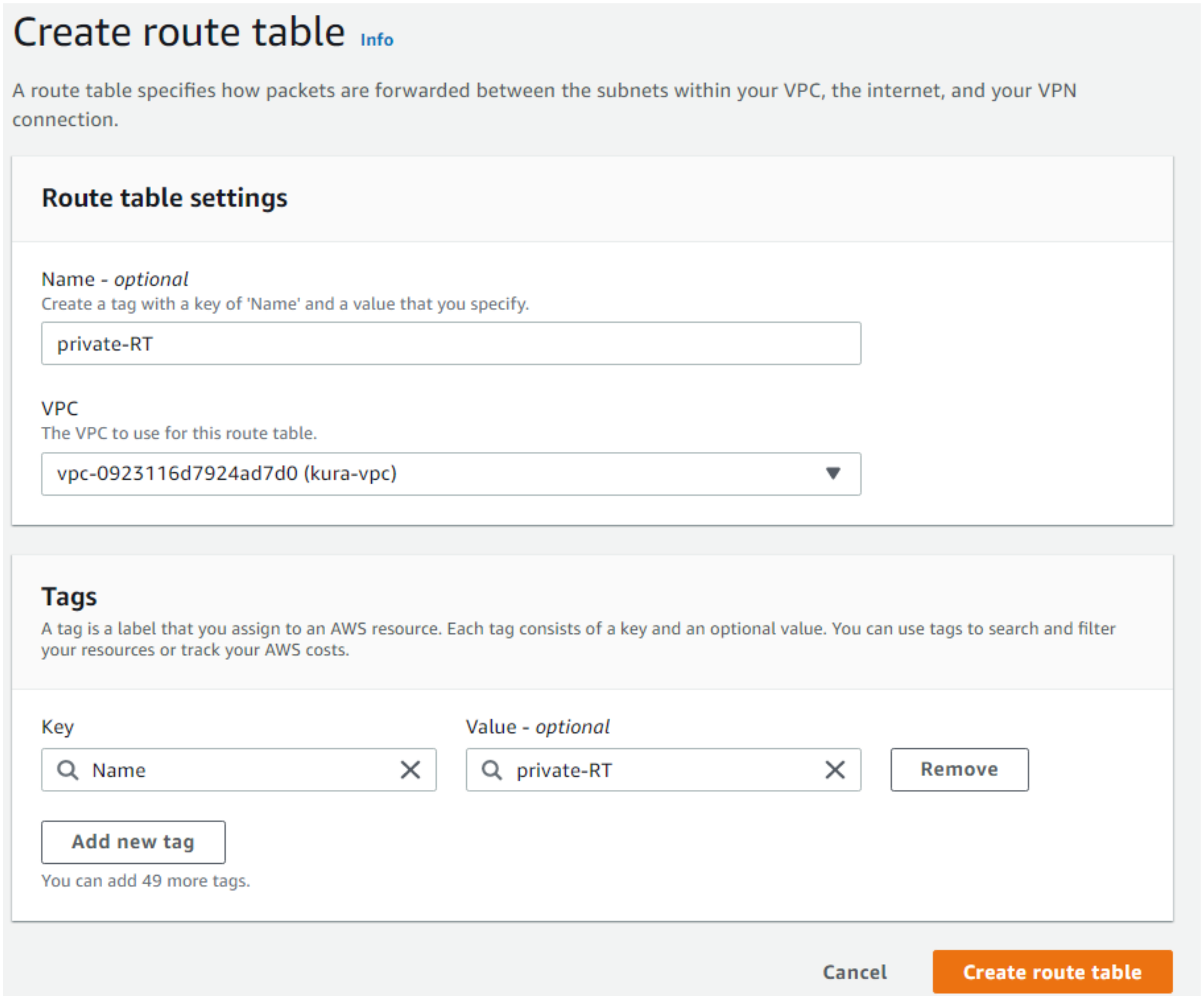
Attach to VPC (igw-04946cd1f6561bf70) Info

VPC
Attach an internet gateway to a VPC to enable the VPC to communicate with the internet. Specify the VPC to attach below.

Available VPCs
Attach the internet gateway to this VPC.
vpc-0923116d7924ad7d0

▶ AWS Command Line Interface command
Cancel
Attach internet gateway

Once attached, create a private and public route table



Create route table

Info

A route table specifies how packets are forwarded between the subnets within your VPC, the internet, and your VPN connection.

Route table settings

Name - *optional*
Create a tag with a key of 'Name' and a value that you specify.
private-RT

VPC
The VPC to use for this route table.
vpc-0923116d7924ad7d0 (kura-vpc)

Tags

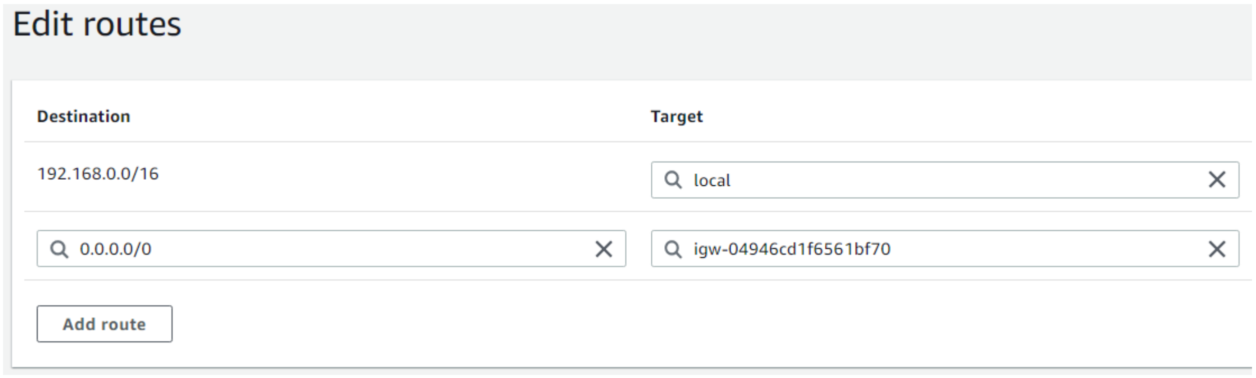
A tag is a label that you assign to an AWS resource. Each tag consists of a key and an optional value. You can use tags to search and filter your resources or track your AWS costs.

Key	Value - *optional*
Name	private-RT

You can add 49 more tags.

Private route tables rute traffic to vpc but not outside the internet.

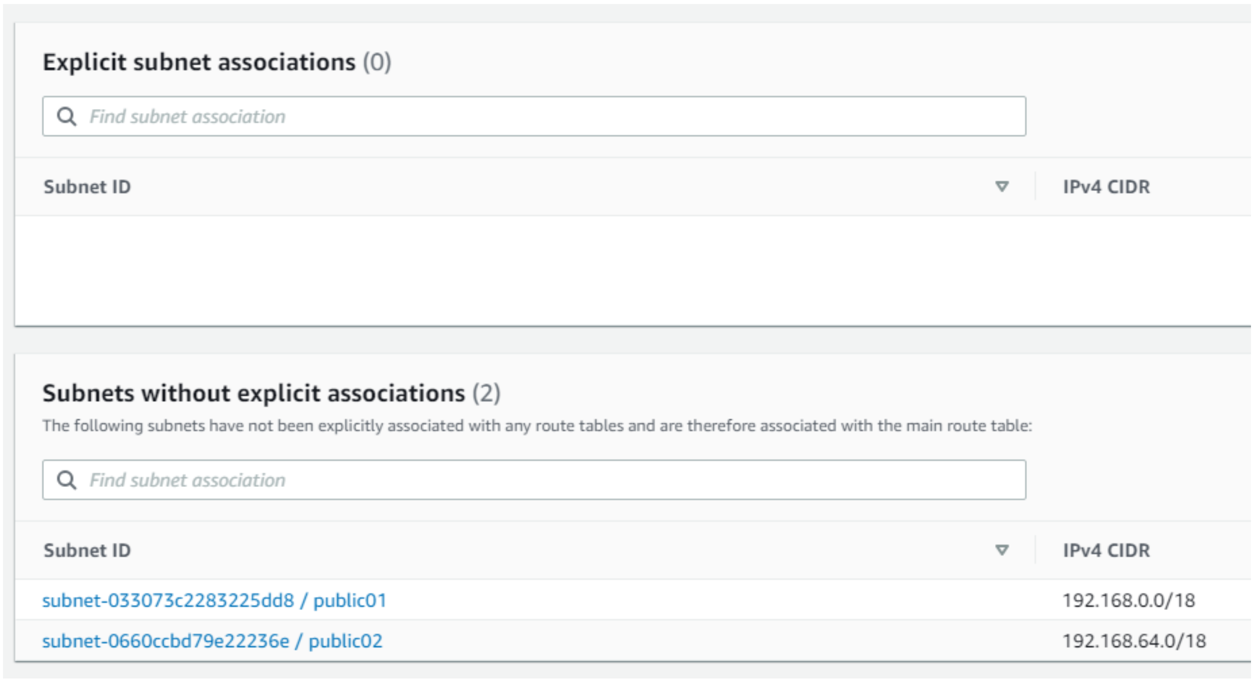
Attach the Internet gateway to the publicRT routes



Edit routes

Destination	Target
192.168.0.0/16	local
0.0.0.0/0	igw-04946cd1f6561bf70

Go into the subnet association of publicRT and attach the two public ips to it.



Explicit subnet associations (0)

Find subnet association

Subnet ID	IPv4 CIDR

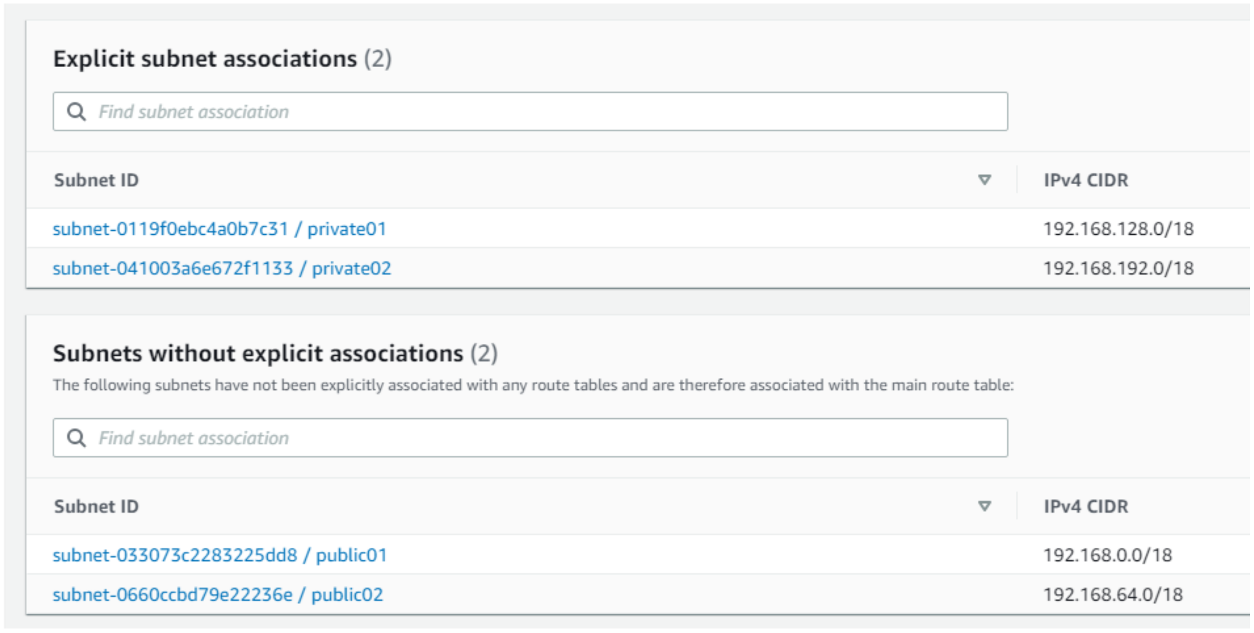
Subnets without explicit associations (2)

The following subnets have not been explicitly associated with any route tables and are therefore associated with the main route table:

Find subnet association

Subnet ID	IPv4 CIDR
subnet-033073c2283225dd8 / public01	192.168.0.0/18
subnet-0660ccbd79e22236e / public02	192.168.64.0/18

Go into the subnet association of privateRTand attach the two privateips to it.



Explicit subnet associations (2)

Find subnet association

Subnet ID	IPv4 CIDR
subnet-0119f0ebc4a0b7c31 / private01	192.168.128.0/18
subnet-041003a6e672f1133 / private02	192.168.192.0/18

Subnets without explicit associations (2)

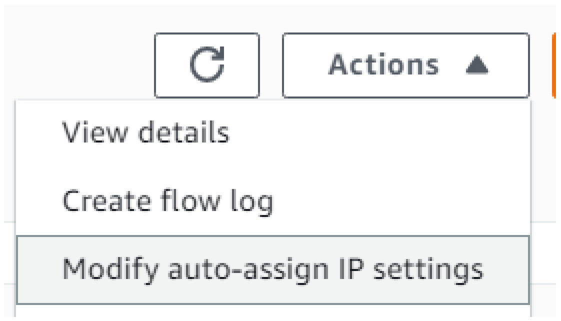
The following subnets have not been explicitly associated with any route tables and are therefore associated with the main route table:

Find subnet association

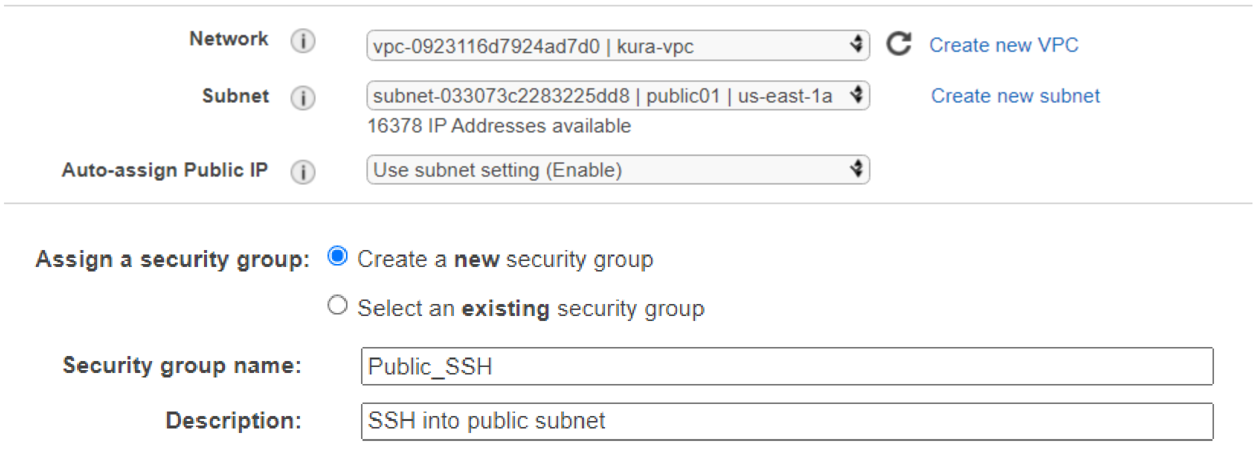
Subnet ID	IPv4 CIDR
subnet-033073c2283225dd8 / public01	192.168.0.0/18
subnet-0660ccbd79e22236e / public02	192.168.64.0/18

Inside of the VPC subnet, select subnets. And actions enable auto sign ip address

----



Create a public EC2
JumpHost

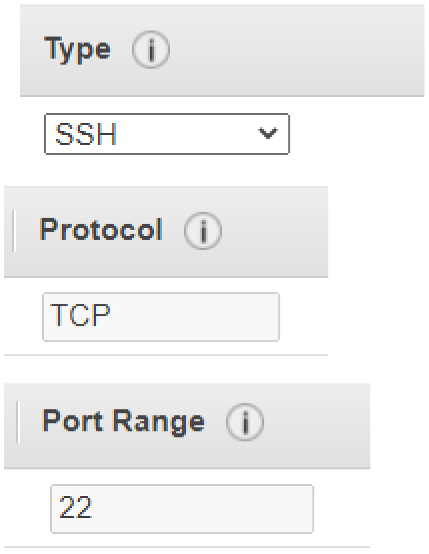


Network	vpc-0923116d7924ad7d0 | kura-vpc
Subnet	subnet-033073c2283225dd8 | public01 | us-east-1a 16378 IP Addresses available
Auto-assign Public IP	Use subnet setting (Enable)

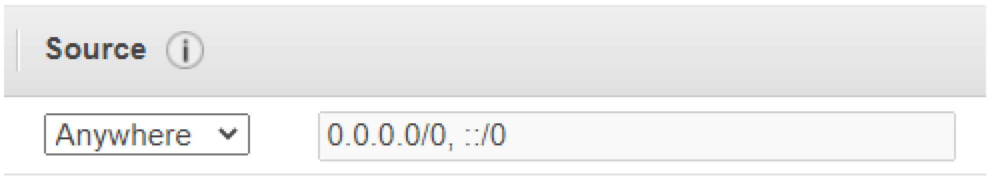
Assign a security group: [✓ Create a **new** security group] Select an **existing** security group

Security group name: Public_SSH

Description: SSH into public subnet



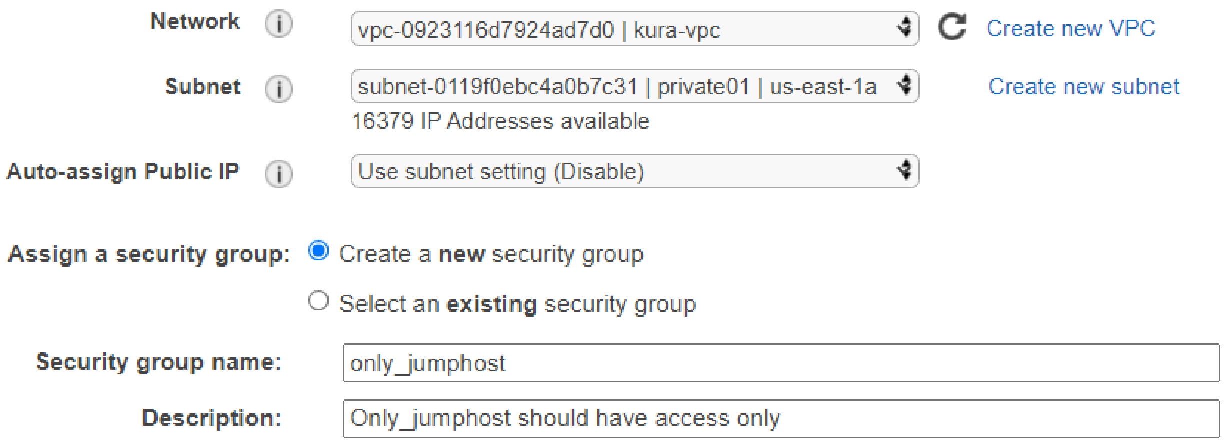
Type	Protocol	Port Range
SSH	TCP	22



Source	
Anywhere	0.0.0.0/0, ::/0

Launch and select the keypair that you have downloaded

Create a private01 EC2 instance



Network: vpc-0923116d7924ad7d0 | kura-vpc

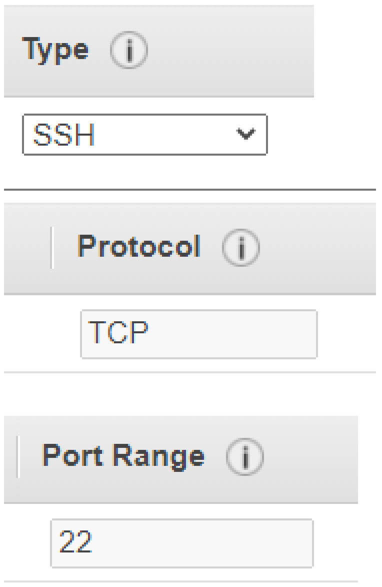
Subnet: subnet-0119f0ebc4a0b7c31 | private01 | us-east-1a
16379 IP Addresses available

Auto-assign Public IP: Use subnet setting (Disable)

Assign a security group: [✓ Create a **new** security group] Select an **existing** security group

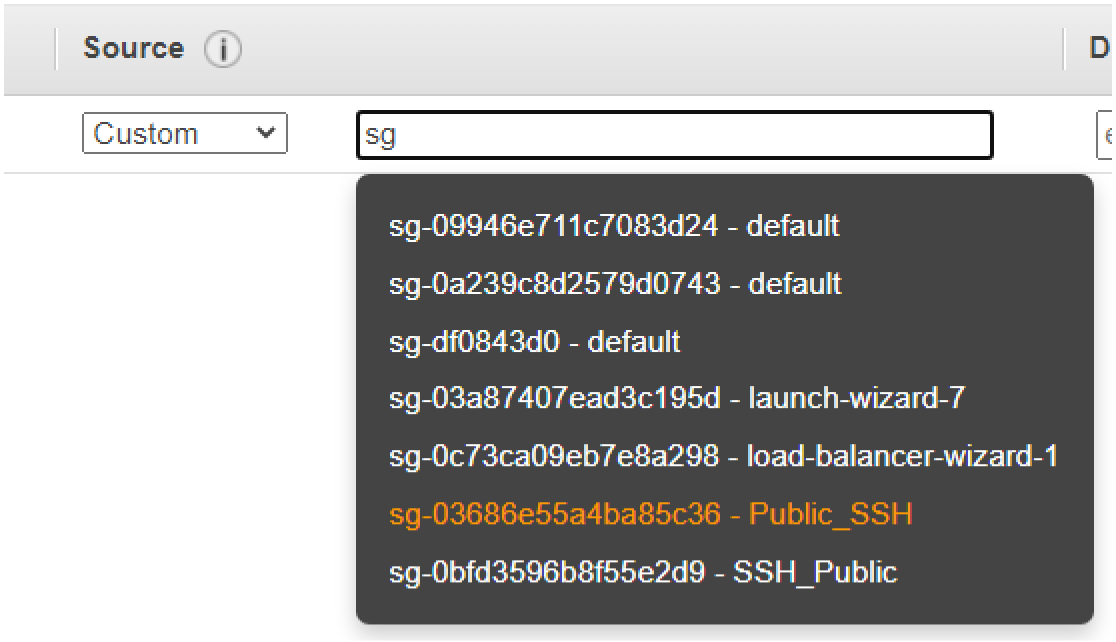
Security group name: only_jumphost

Description: Only_jumphost should have access only



Type	Protocol	Port Range
SSH	TCP	22

Select the security group you created for JumpHost (public ec2) which is Public_SSH



sg-09946e711c7083d24 - default
sg-0a239c8d2579d0743 - default
sg-df0843d0 - default
sg-03a87407ead3c195d - launch-wizard-7
sg-0c73ca09eb7e8a298 - load-balancer-wizard-1
sg-03686e55a4ba85c36 - Public_SSH
sg-0bfd3596b8f55e2d9 - SSH_Public

Launch and select the keypair that you have downloaded

Connect to the Public SSH named JumpHost
ssh -i .key.pem ec2-user@Public IPv4 address

Run ping 8.8.8.8
You should get some requests.

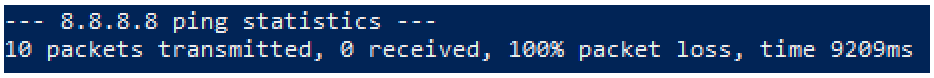
nano linux.pem

Now get the information from your pem keypair that you had downaloded and paste it in linux.pem on the ec2 instance

Save it. Control + O to save and Control + X to exit

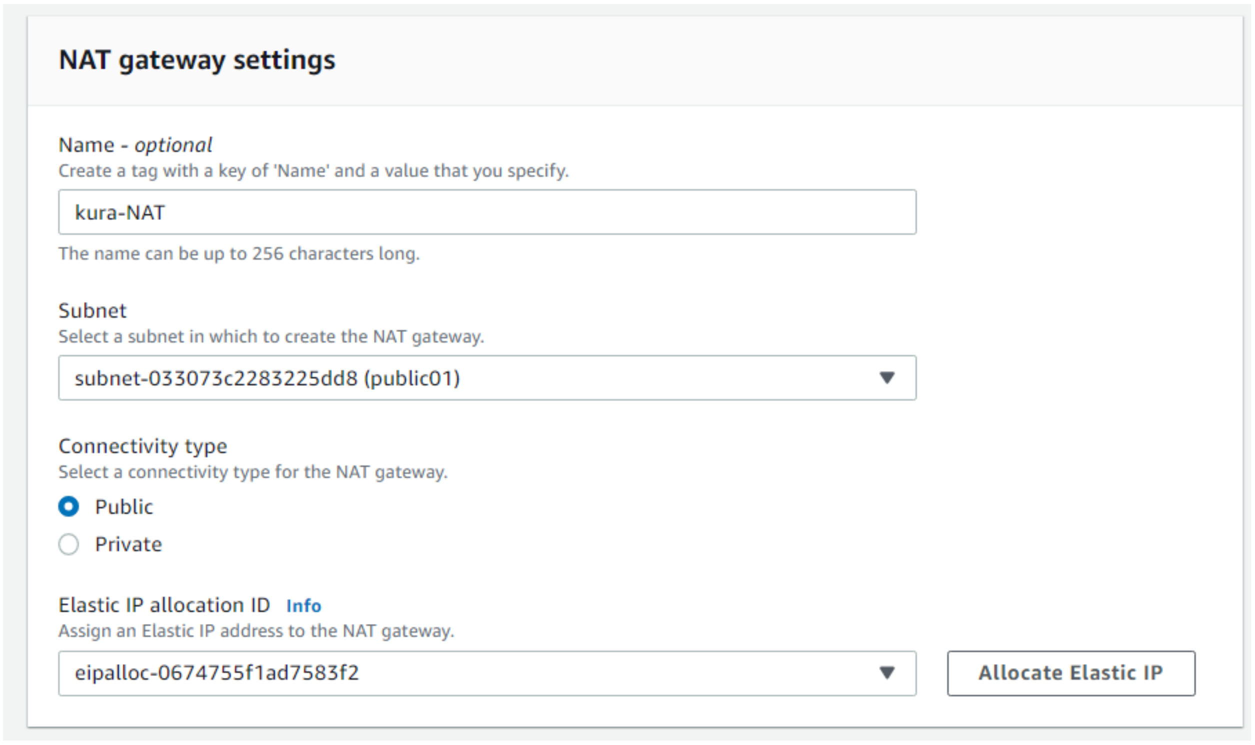
chmod 400 linux.pem

The Private IPv4 addresses is from the private01 ec2 instance.
ssh -i linux.pem ec2-user@Private IPv4 addresses
ping 8.8.8.8 and you should have 100% packet loss



```
--- 8.8.8.8 ping statistics ---
10 packets transmitted, 0 received, 100% packet loss, time 9209ms
```

NAT gateway, allows us to restrict inbound but allow us to do outbound.
Go into aws VPC
Create a NAT Gateway on the left side



NAT gateway settings

Name - *optional*
Create a tag with a key of 'Name' and a value that you specify.
kura-NAT
The name can be up to 256 characters long.

Subnet
Select a subnet in which to create the NAT gateway.
subnet-033073c2283225dd8 (public01)

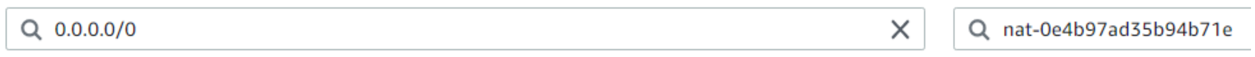
Connectivity type
Select a connectivity type for the NAT gateway.
[✓ Public]
Private

Elastic IP allocation ID Info
Assign an Elastic IP address to the NAT gateway.
eipalloc-0674755f1ad7583f2

Go to Routing table

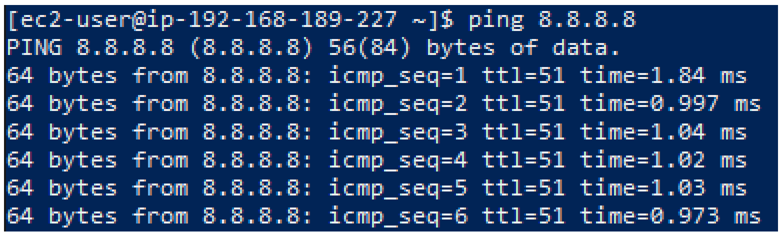
Select the private-RT
Edit the Routes

Add Routes



0.0.0.0/0 nat-0e4b97ad35b94b71e

Now go back into terminal and inside the private ec2 that you SSH into, run ping 8.8.8.8
You should see some responses.



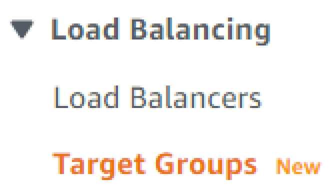
```
[ec2-user@ip-192-168-189-227 ~]$ ping 8.8.8.8
PING 8.8.8.8 (8.8.8.8) 56(84) bytes of data.
64 bytes from 8.8.8.8: icmp_seq=1 ttl=51 time=1.84 ms
64 bytes from 8.8.8.8: icmp_seq=2 ttl=51 time=0.997 ms
64 bytes from 8.8.8.8: icmp_seq=3 ttl=51 time=1.04 ms
64 bytes from 8.8.8.8: icmp_seq=4 ttl=51 time=1.02 ms
64 bytes from 8.8.8.8: icmp_seq=5 ttl=51 time=1.03 ms
64 bytes from 8.8.8.8: icmp_seq=6 ttl=51 time=0.973 ms
```

DEPLOYMENT 5

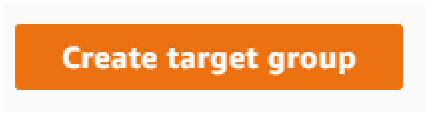
Step 1

```
sudo amazon-linux-extras install java-openjdk11

sudo amazon-linux-extras install epel


sudo wget -O /etc/yum.repos.d/jenkins.repo \
https://pkg.jenkins.io/redhat-stable/jenkins.repo


sudo rpm --import https://pkg.jenkins.io/redhat-stable/jenkins.io.key

sudo yum upgrade

sudo yum install epel-release java-11-openjdk-devel

sudo yum install jenkins

sudo systemctl start jenkins
```

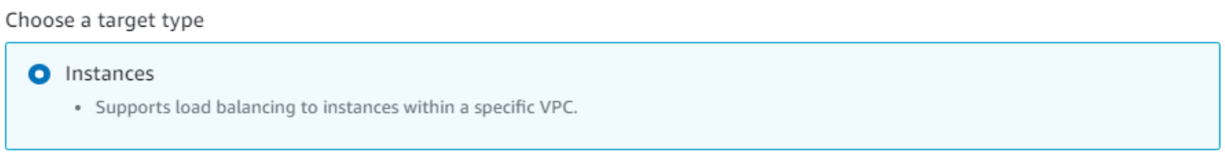
Step 2
Select Target Group inside of AWS EC2



Then create a target group.

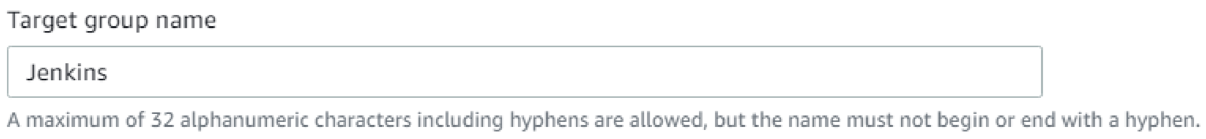


Then select instances


Choose a target type

(●) Instances
- Supports load balancing to instances within a specific VPC.

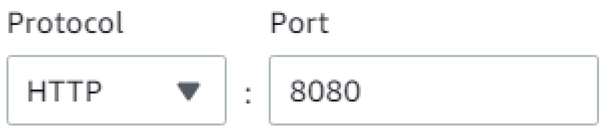
Create a target group name


Target group name

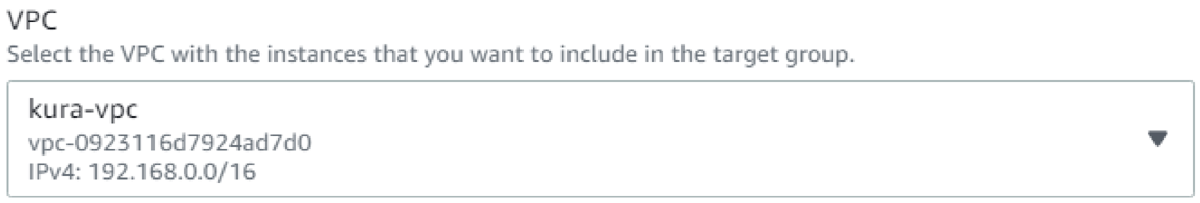
Jenkins

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

Select protocol HTTP and put port 8080


Protocol: HTTP
Port: 8080

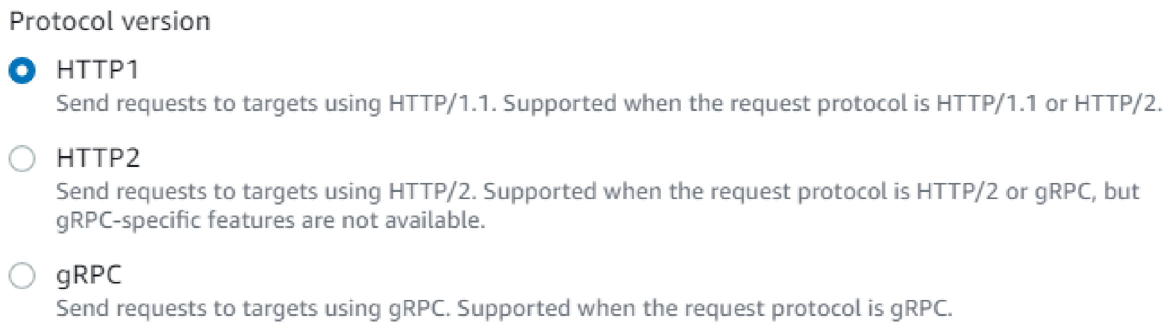
Select your VPC


VPC

Select the VPC with the instances that you want to include in the target group.

kura-vpc
vpc-0923116d7924ad7d0
IPv4: 192.168.0.0/16

Select HTTP1

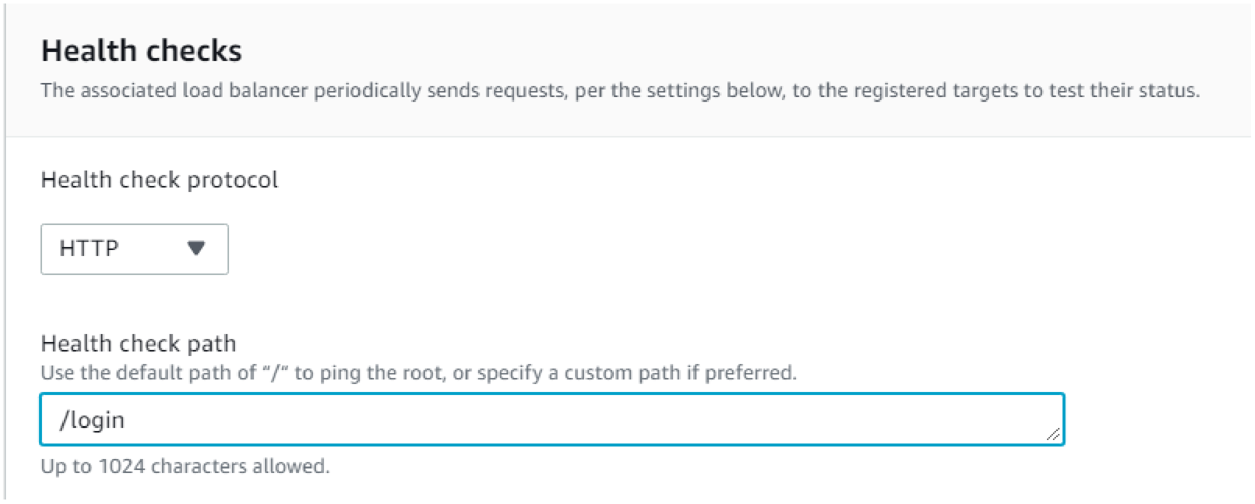

Protocol version

(●) HTTP1
Send requests to targets using HTTP/1.1. Supported when the request protocol is HTTP/1.1 or HTTP/2.

( ) HTTP2
Send requests to targets using HTTP/2. Supported when the request protocol is HTTP/2 or gRPC, but gRPC-specific features are not available.

( ) gRPC
Send requests to targets using gRPC. Supported when the request protocol is gRPC.

Select HTTP and enter /login


Health checks

The associated load balancer periodically sends requests, per the settings below, to the registered targets to test their status.

Health check protocol

HTTP

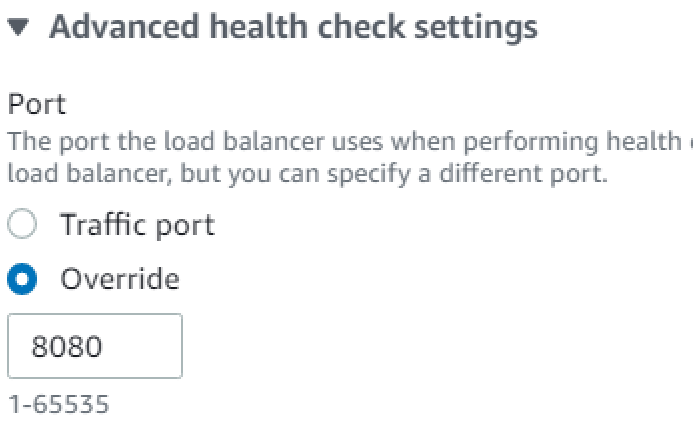
Health check path

Use the default path of "/" to ping the root, or specify a custom path if preferred.

/login

Up to 1024 characters allowed.

Select Advanced Health check settings and select override and enter 8080


Advanced health check settings

Port

The port the load balancer uses when performing health
load balancer, but you can specify a different port.

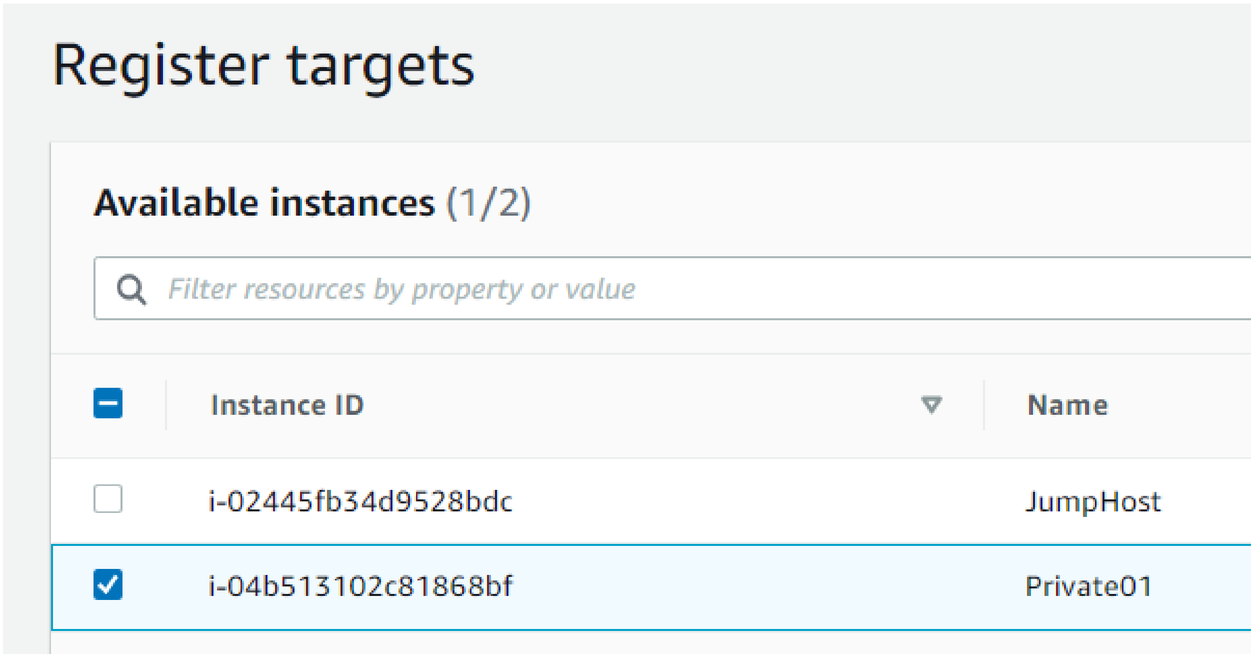
Traffic port [✓ Override]

8080

1-65535

Select next page

Click on your instance

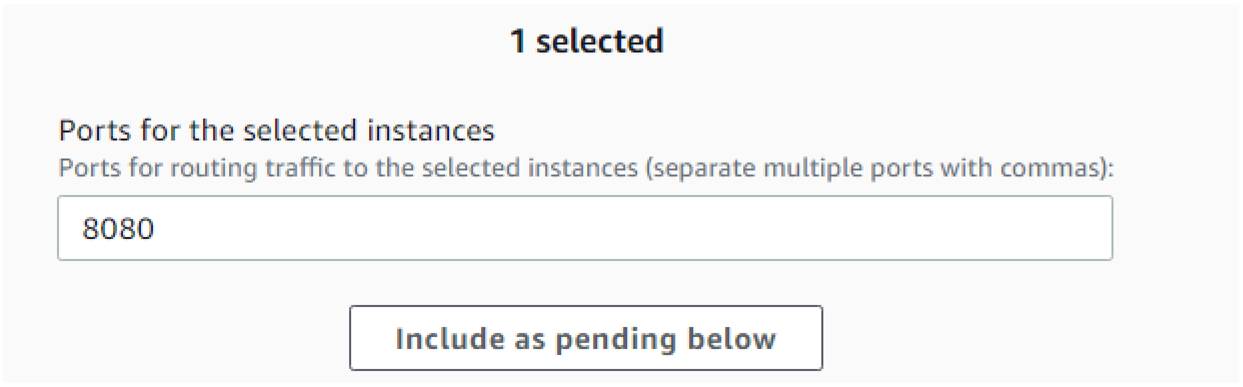

Register targets

Available instances (1/2)

Filter resources by property or value

	Instance ID	Name
☐	i-02445fb34d9528bdc	JumpHost
✓	i-04b513102c81868bf	Private01

Click include as pending below

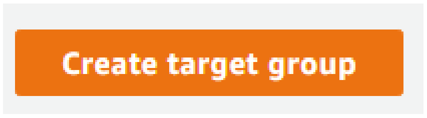

1 selected

Ports for the selected instances

Ports for routing traffic to the selected instances (separate multiple ports with commas):

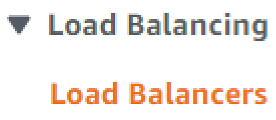
8080

Select create group



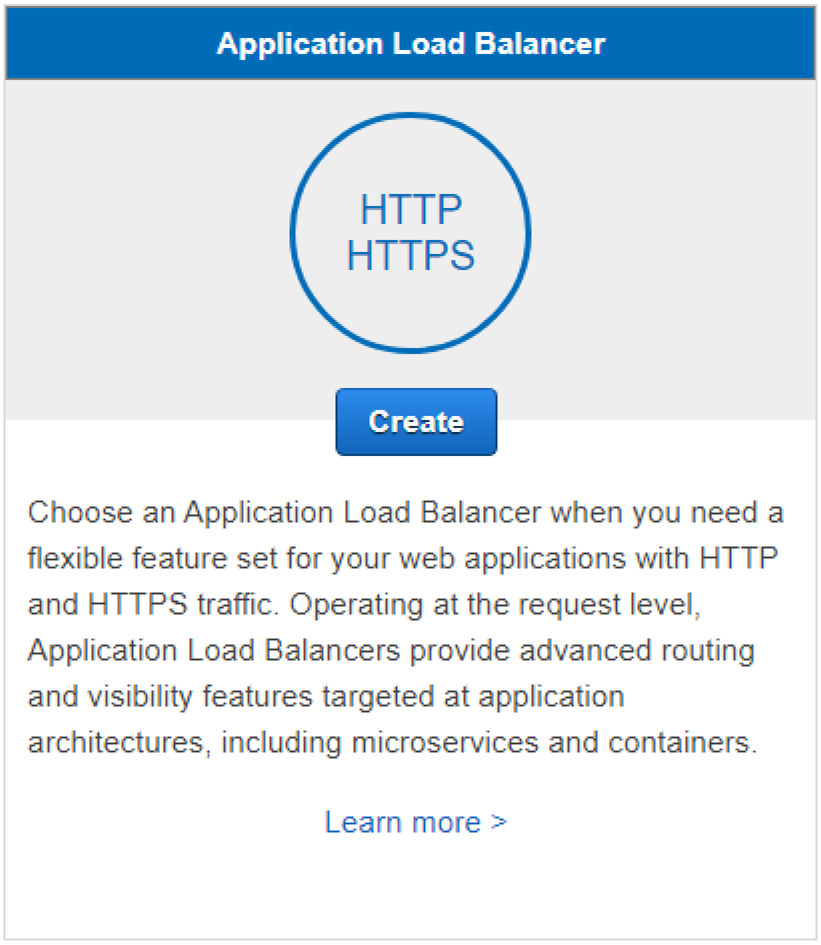
Now create your ALB:

Select Load balancers



Select create Load Balancer

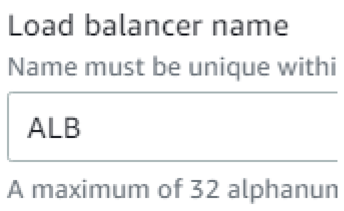
Select ALB



Choose an Application Load Balancer when you need a flexible feature set for your web applications with HTTP and HTTPS traffic. Operating at the request level, Application Load Balancers provide advanced routing and visibility features targeted at application architectures, including microservices and containers.

Learn more >

Name the load balancer



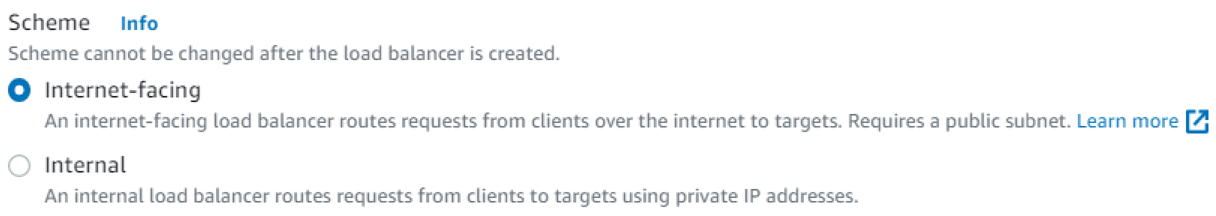
Load balancer name

Name must be unique withi

ALB

A maximum of 32 alphanun

Select Internet facing

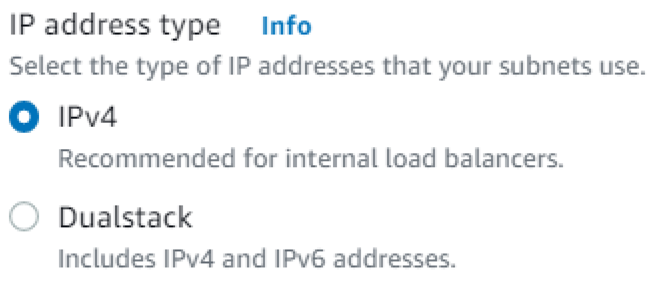

Scheme Info

Scheme cannot 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.

Select IPv4

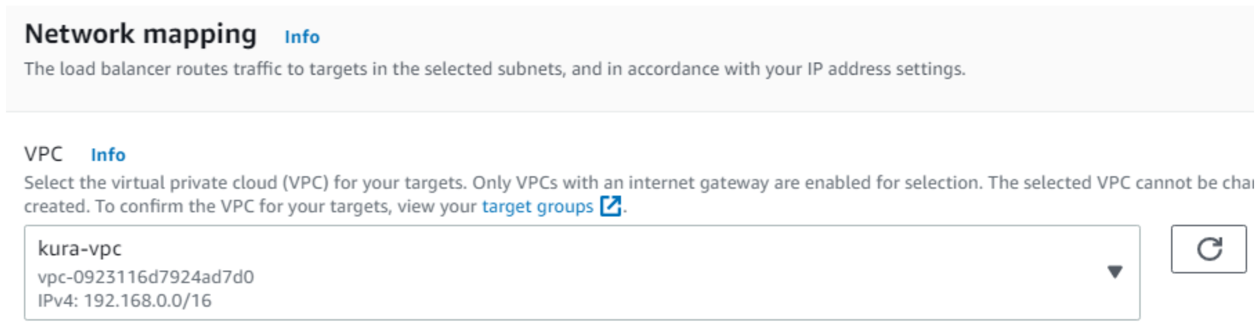

IP address type Info

Select the type of IP addresses that your subnets use.

● IPv4
Recommended for internal load balancers.

○ Dualstack
Includes IPv4 and IPv6 addresses.

Select your VPC


Network mapping Info

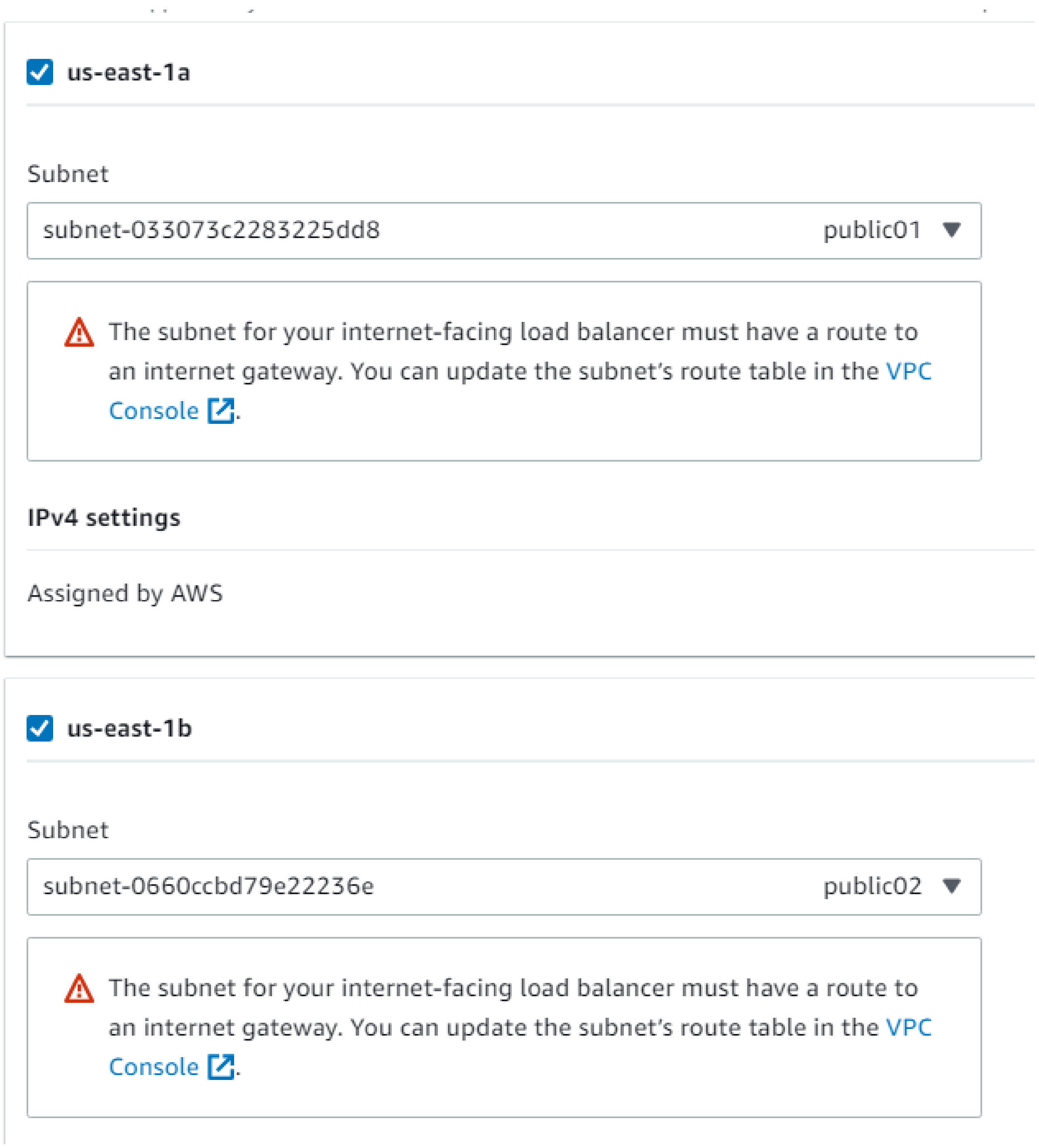
The load balancer routes traffic to targets in the selected subnets, and in accordance with your IP address settings.

VPC Info

Select the virtual private cloud (VPC) for your targets. Only VPCs with an internet gateway are enabled for selection. The selected VPC cannot be cha
created. To confirm the VPC for your targets, view your target groups.

kura-vpc
vpc-0923116d7924ad7d0
IPv4: 192.168.0.0/16

Select two AZ’s and two public subnets



✓ us-east-1a

Subnet

subnet-033073c2283225dd8 public01

The subnet for your internet-facing load balancer must have a route to an internet gateway. You can update the subnet's route table in the VPC Console.

IPv4 settings

Assigned by AWS

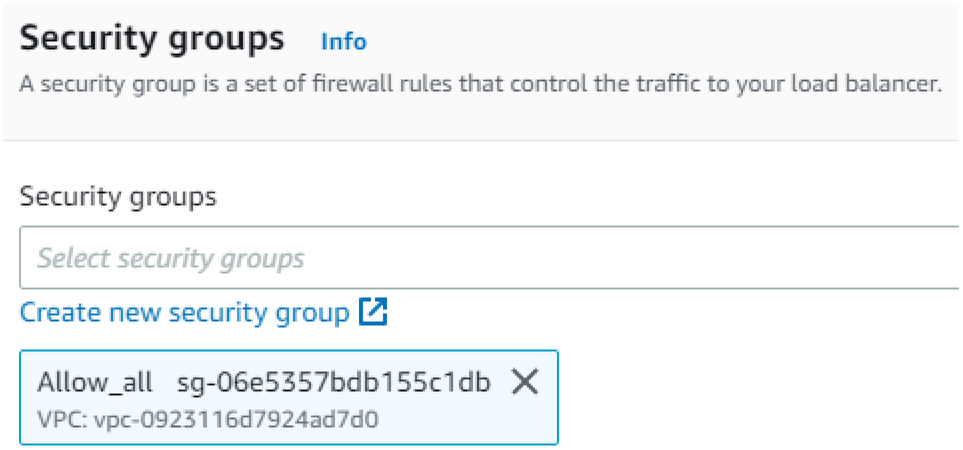
✓ us-east-1b

Subnet

subnet-0660ccbd79e22236e public02

The subnet for your internet-facing load balancer must have a route to an internet gateway. You can update the subnet's route table in the VPC Console.

Select the security group for the ALB


Security groups Info

A security group is a set of firewall rules that control the traffic to your load balancer.

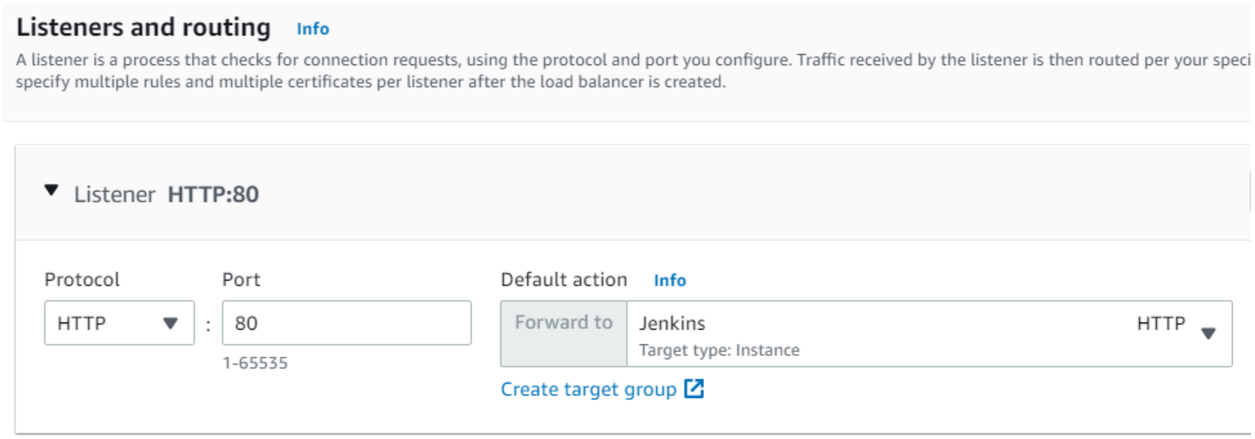
Security groups

Select security groups

Create new security group

Allow_all sg-06e5357bdb155c1db
VPC: vpc-0923116d7924ad7d0

Select HTTP and your target group


Listeners and routing Info

A listener is a process that checks for connection requests, using the protocol and port you configure. Traffic received by the listener is then routed per your speci
specify multiple rules and multiple certificates per listener after the load balancer is created.

Listener HTTP:80

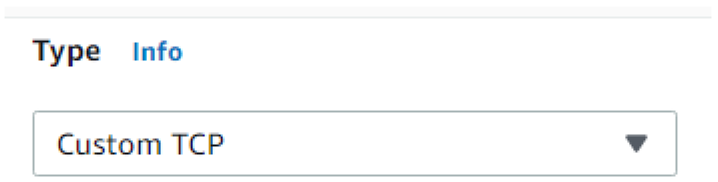
Protocol: HTTP
Port: 80 (1-65535)
Default action: Forward to Jenkins HTTP
Target type: Instance

Create target group

Finally select create load balancer

Takes a few minutes to set up. You will see the status is active and the target group health is healthy in the target group section

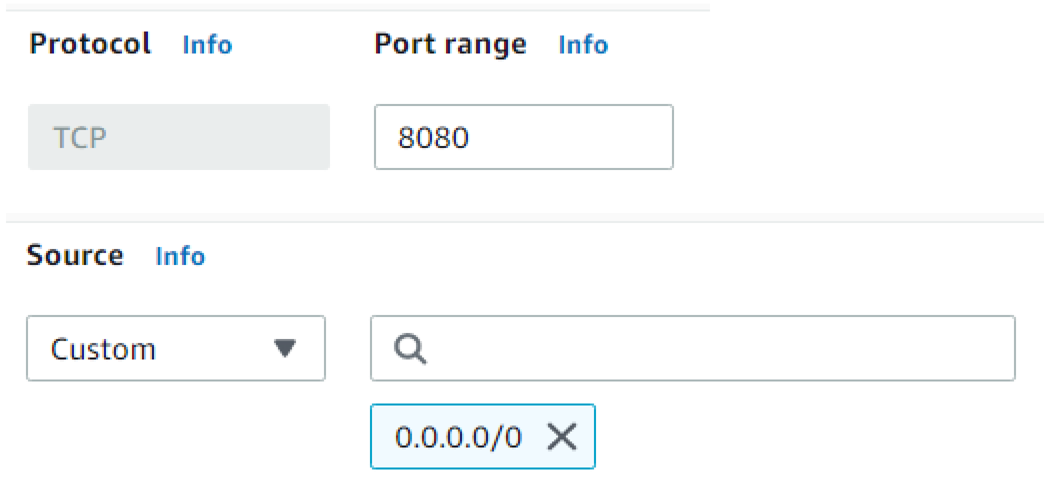
Edit only_jumpshot
Custom TCP port 8080
Source 0.0.0.0



Type Info

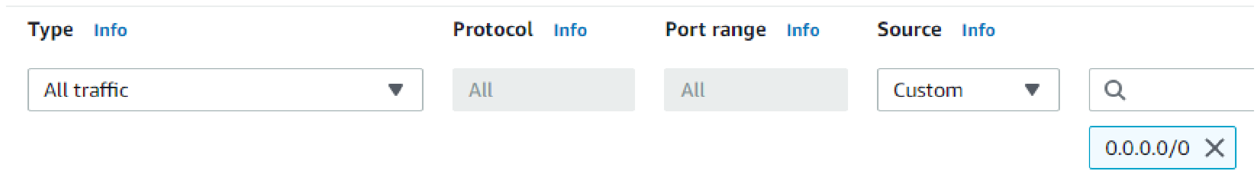
Custom TCP

.



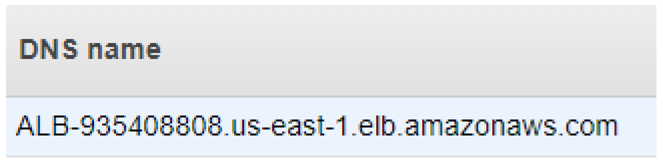
Protocol	Port range	Source	
TCP	8080	Custom	0.0.0.0/0

Allow_all security group



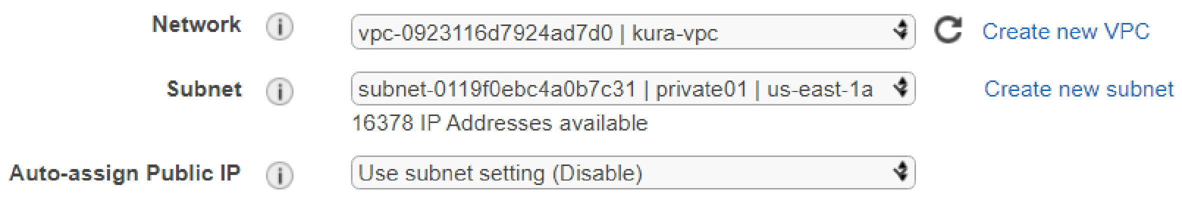
Type	Protocol	Port range	Source	
All traffic	All	All	Custom	0.0.0.0/0

Go into Load Balancer and copy the DNS name and paste it in url



DNS name
ALB-935408808.us-east-1.elb.amazonaws.com

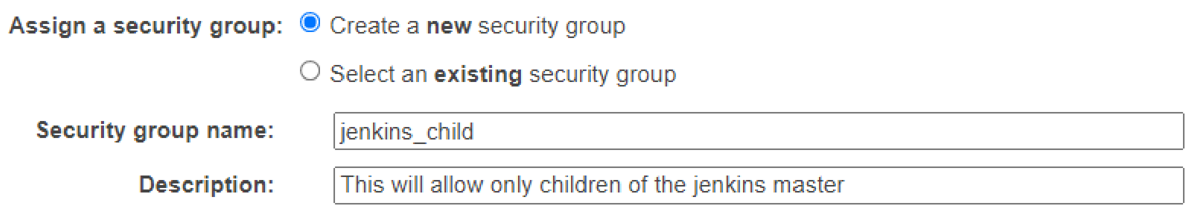
Create another EC2 inside the same private subnet of the Jenkins master (This will be the agent)



Network	vpc-0923116d7924ad7d0 | kura-vpc	Create new VPC
Subnet	subnet-0119f0ebc4a0b7c31 | private01 | us-east-1a 16378 IP Addresses available	Create new subnet
Auto-assign Public IP	Use subnet setting (Disable)	

Tag
Name - “Private01 - Child”

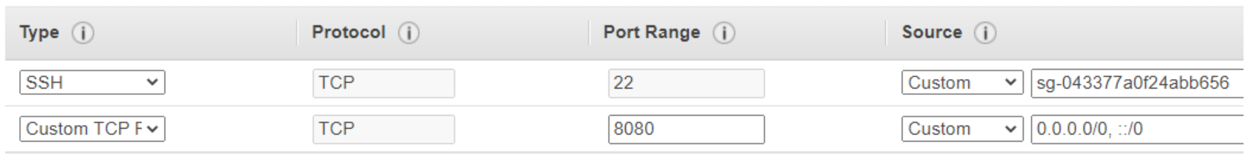
Create a new security group



Assign a security group: [✓ Create a **new** security group] Select an **existing** security group

Security group name: jenkins_child

Description: This will allow only children of the jenkins master



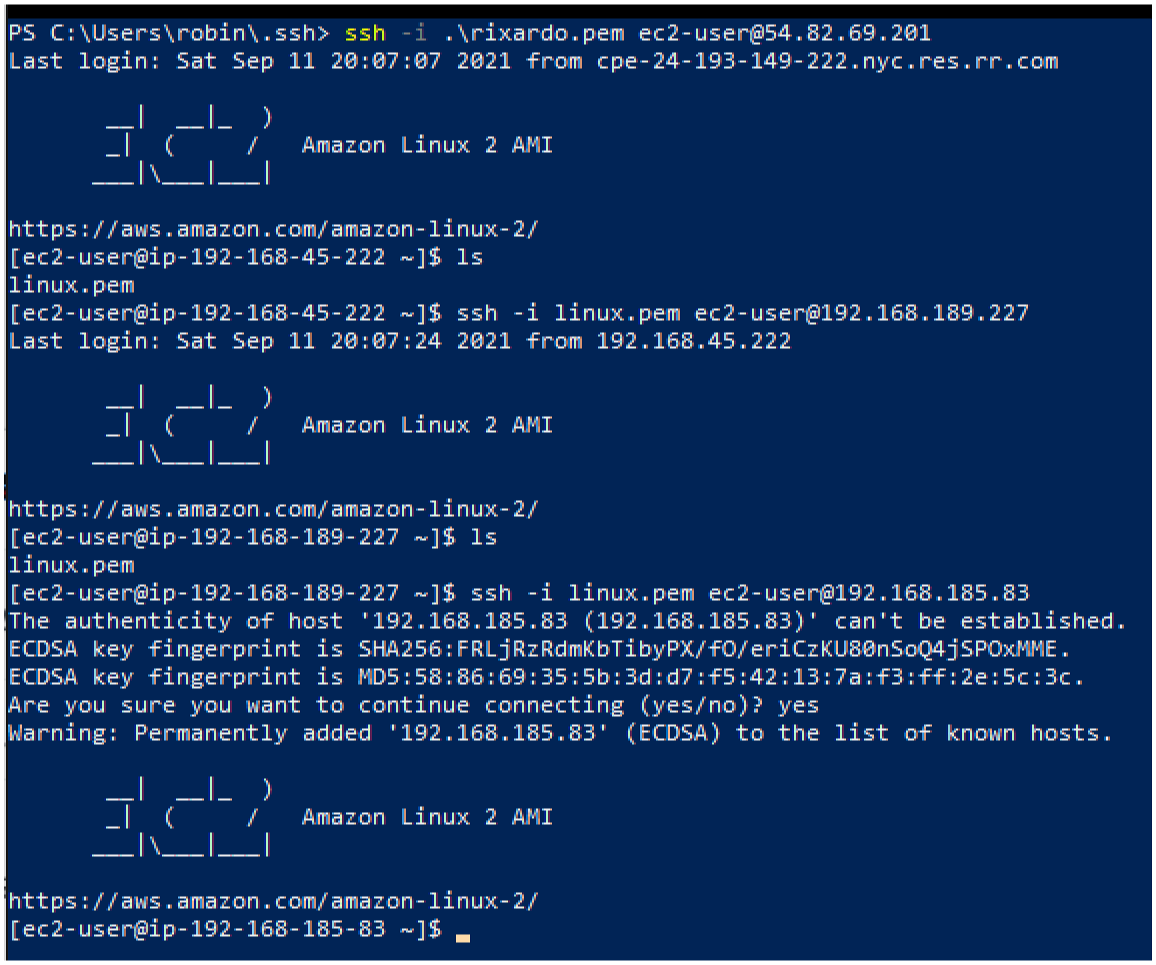
Type	Protocol	Port Range	Source	
SSH	TCP	22	Custom	sg-043377a0f24abb656
Custom TCP F	TCP	8080	Custom	0.0.0.0/0, ::/0

For SSH Source. Put the security group that has jenkins on it. This is only_jumphost

SSH into JumpHost (Public01),

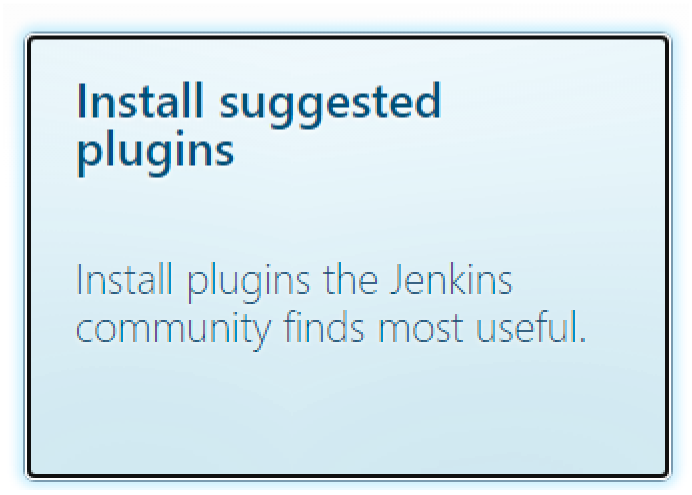
Once inside, then SSH into private01.
Create a new key and put the RSA information into it
nano linux.pem
chmod 400 linux.pem

Once inside there, SSH once again into private01-child
ssh -i linux.pem ec2-user@Private IPv4 addresses



```
PS C:\Users\robin\.ssh> ssh -i .\rixardo.pem ec2-user@54.82.69.201
Last login: Sat Sep 11 20:07:07 2021 from cpe-24-193-149-222.nyc.res.rr.com

       __|  __|_  )
       _|  (     /   Amazon Linux 2 AMI
      ___|\___|___|

https://aws.amazon.com/amazon-linux-2/
[ec2-user@ip-192-168-45-222 ~]$ ls
linux.pem
[ec2-user@ip-192-168-45-222 ~]$ ssh -i linux.pem ec2-user@192.168.189.227
Last login: Sat Sep 11 20:07:24 2021 from 192.168.45.222

       __|  __|_  )
       _|  (     /   Amazon Linux 2 AMI
      ___|\___|___|

https://aws.amazon.com/amazon-linux-2/
[ec2-user@ip-192-168-189-227 ~]$ ls
linux.pem
[ec2-user@ip-192-168-189-227 ~]$ ssh -i linux.pem ec2-user@192.168.185.83
The authenticity of host '192.168.185.83 (192.168.185.83)' can't be established.
ECDSA key fingerprint is SHA256:FRLjRzRdmKbTibyPX/fO/eriCzKU80nSoQ4jSPOxMME.
ECDSA key fingerprint is MD5:58:86:69:35:5b:3d:d7:f5:42:13:7a:f3:ff:2e:5c:3c.
Are you sure you want to continue connecting (yes/no)? yes
Warning: Permanently added '192.168.185.83' (ECDSA) to the list of known hosts.

       __|  __|_  )
       _|  (     /   Amazon Linux 2 AMI
      ___|\___|___|

https://aws.amazon.com/amazon-linux-2/
[ec2-user@ip-192-168-185-83 ~]$
```

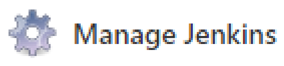
Once on Jenkin's page
sudo cat /var/lib/jenkins/secrets/initialAdminPassword


Install suggested plugins
Install plugins the Jenkins community finds most useful.

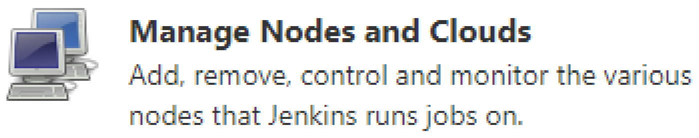
Once that is done, put in information

Configure the Jenkins master to SSH into the agent

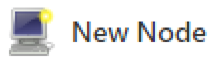
Once logged into jenkins, go to Mange Jenkins



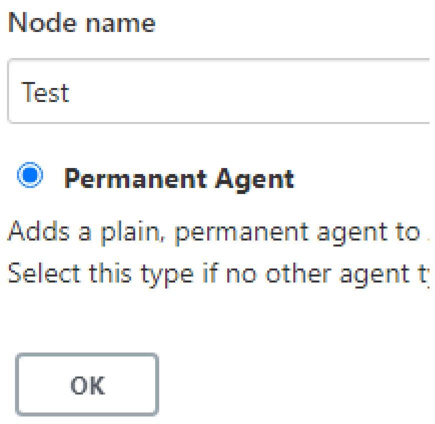
Select manage nodes


Manage Nodes and Clouds
Add, remove, control and monitor the various nodes that Jenkins runs jobs on.

Select new node in the left



Create a name for the node and select permanent agent.

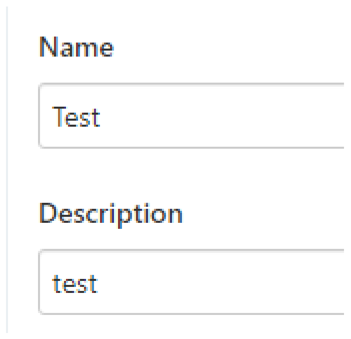

Node name

Test

● **Permanent Agent**

Adds a plain, permanent agent to
Select this type if no other agent t

Create a name and description

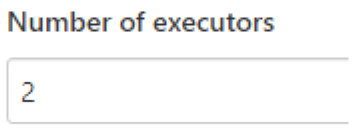

Name

Test

Description

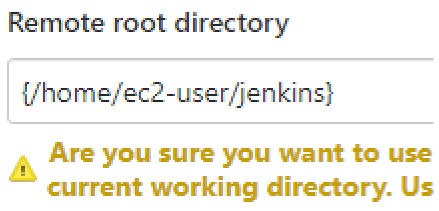
test

Enter 2 for executors


Number of executors

2

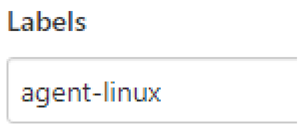
Enter {/home/ec2-user/jenkins} for remote root directory


Remote root directory

{/home/ec2-user/jenkins}

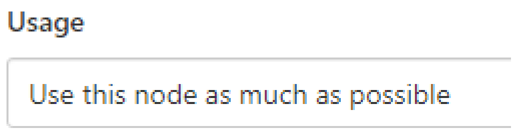
⚠ Are you sure you want to use
current working directory. Us

Create a label - agent-linux


Labels

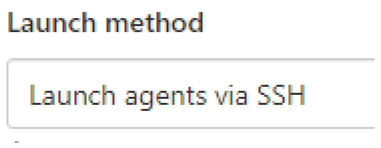
agent-linux

Select use this node as much as possible


Usage

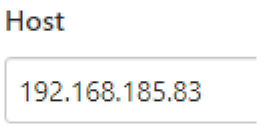
Use this node as much as possible

Select launch agent via SSH


Launch method

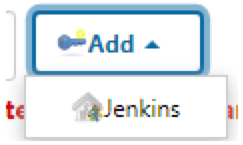
Launch agents via SSH

Enter the private IP address of the agent for Host - 192.168.185.83

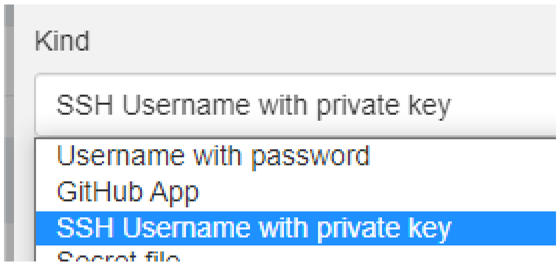

Host

192.168.185.83

Add SSH credentials (username: ec2-user | key: the private key you used to ssh into agent)



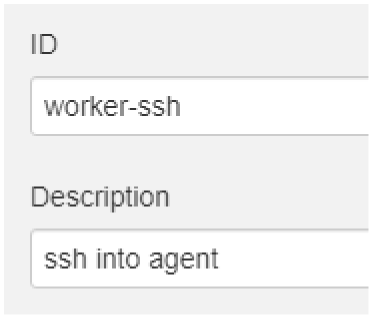
For Kind Select
SSH Username with private key


Kind

SSH Username with private key

Username with password
GitHub App
SSH Username with private key

Enter ID - **worker-ssh** and enter description - **ssh into agent**

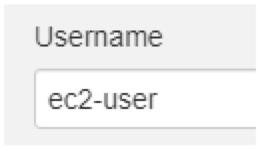

ID

worker-ssh

Description

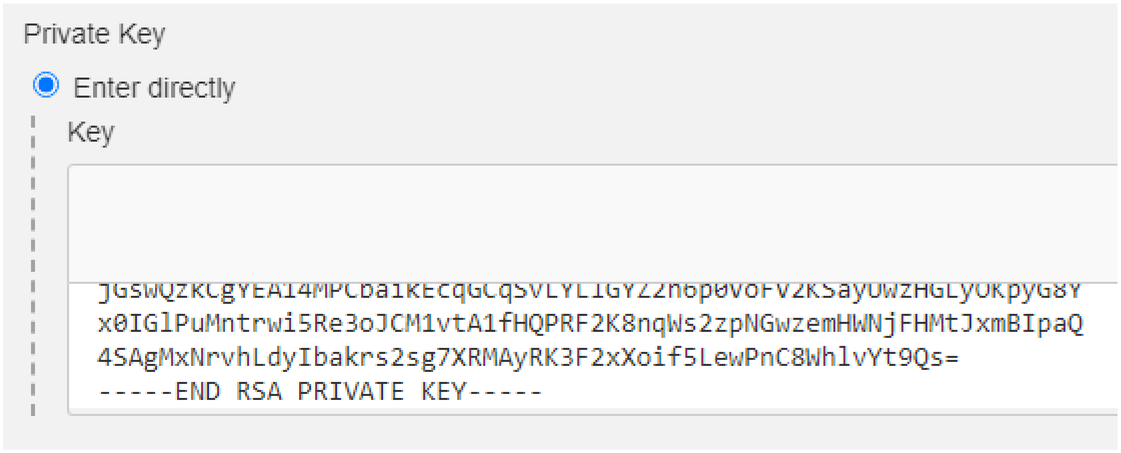
ssh into agent

Enter username **ec2-user**


Username

ec2-user

For private key, enter your RSA key information directly into the box.


Private Key

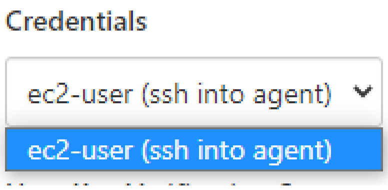
Enter directly

Key

```
jGsWQzkCgYEA14MPCba1kEcqGCqSVLYLIGYZ2n6p0voFV2kSayOWzHGLyOkpyG8Y
x0IGlPuMntrwi5Re3oJCM1vtA1fHQPRF2K8nqWs2zpNGwzemHWNjFHMtJxmBIpaQ
4SAgMxNrvhLdyIbakrs2sg7XRMAyRK3F2xXoif5LewPnC8WhlvYt9Qs=
-----END RSA PRIVATE KEY-----
```

No passphrase for the key. Press Add

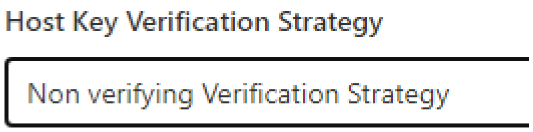
Select your credentials


Credentials

ec2-user (ssh into agent)

ec2-user (ssh into agent)

Select non verifying verification strategy

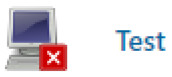

Host Key Verification Strategy

Non verifying Verification Strategy

Save and then look at the logs to see if the setup was successful.

Look at the logs to see if your setup was successful

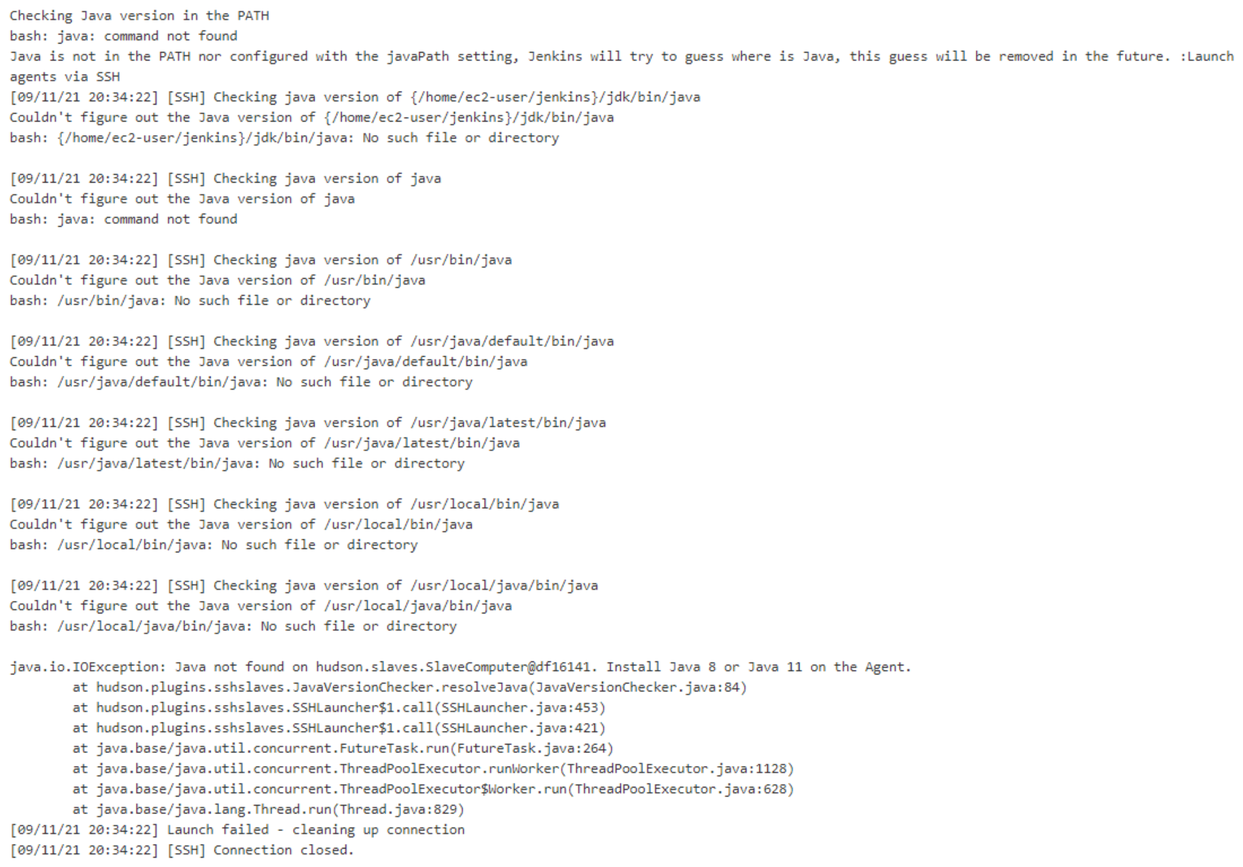
Click on agent



Log

Click on Logs on the left side.

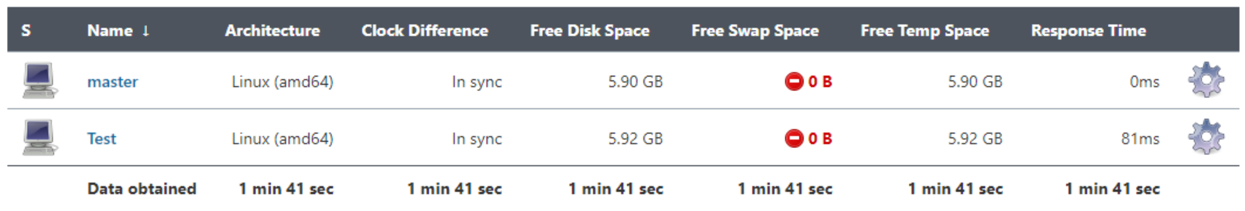
Errors - Java


```
Checking Java version in the PATH
bash: java: command not found
Java is not in the PATH nor configured with the javaPath setting, Jenkins will try to guess where is Java, this guess will be removed in the future. :Launch
agents via SSH
[09/11/21 20:34:22] [SSH] Checking java version of {/home/ec2-user/jenkins}/jdk/bin/java
Couldn't figure out the Java version of {/home/ec2-user/jenkins}/jdk/bin/java
bash: {/home/ec2-user/jenkins}/jdk/bin/java: No such file or directory

[09/11/21 20:34:22] [SSH] Checking java version of java
Couldn't figure out the Java version of java
bash: java: command not found

[09/11/21 20:34:22] [SSH] Checking java version of /usr/bin/java
Couldn't figure out the Java version of /usr/bin/java
bash: /usr/bin/java: No such file or directory

[09/11/21 20:34:22] [SSH] Checking java version of /usr/java/default/bin/java
Couldn't figure out the Java version of /usr/java/default/bin/java
bash: /usr/java/default/bin/java: No such file or directory

[09/11/21 20:34:22] [SSH] Checking java version of /usr/java/latest/bin/java
Couldn't figure out the Java version of /usr/java/latest/bin/java
bash: /usr/java/latest/bin/java: No such file or directory

[09/11/21 20:34:22] [SSH] Checking java version of /usr/local/bin/java
Couldn't figure out the Java version of /usr/local/bin/java
bash: /usr/local/bin/java: No such file or directory

[09/11/21 20:34:22] [SSH] Checking java version of /usr/local/java/bin/java
Couldn't figure out the Java version of /usr/local/java/bin/java
bash: /usr/local/java/bin/java: No such file or directory

java.io.IOException: Java not found on hudson.slaves.SlaveComputer@df16141. Install Java 8 or Java 11 on the Agent.
        at hudson.plugins.sshslaves.JavaVersionChecker.resolveJava(JavaVersionChecker.java:84)
        at hudson.plugins.sshslaves.SSHLauncher$1.call(SSHLauncher.java:453)
        at hudson.plugins.sshslaves.SSHLauncher$1.call(SSHLauncher.java:421)
        at java.base/java.util.concurrent.FutureTask.run(FutureTask.java:264)
        at java.base/java.util.concurrent.ThreadPoolExecutor.runWorker(ThreadPoolExecutor.java:1128)
        at java.base/java.util.concurrent.ThreadPoolExecutor$Worker.run(ThreadPoolExecutor.java:628)
        at java.base/java.lang.Thread.run(Thread.java:829)
[09/11/21 20:34:22] Launch failed - cleaning up connection
[09/11/21 20:34:22] [SSH] Connection closed.
```

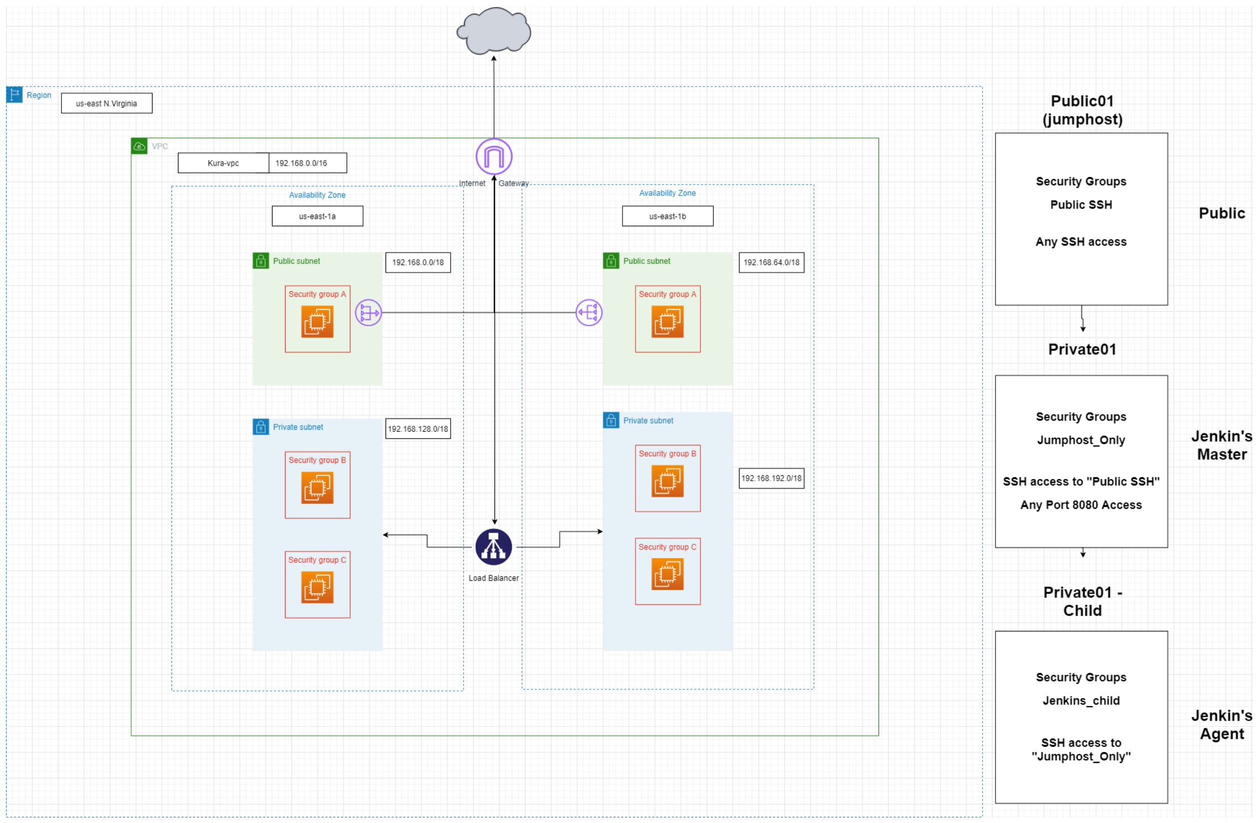
Fix: Install the following in the agent ec2 terminal

```
sudo yum install maven
sudo yum install git
```

Success:



S	Name ↓	Architecture	Clock Difference	Free Disk Space	Free Swap Space	Free Temp Space	Response Time	
	master	Linux (amd64)	In sync	5.90 GB	⛔ 0 B	5.90 GB	0ms	
	Test	Linux (amd64)	In sync	5.92 GB	⛔ 0 B	5.92 GB	81ms	
	Data obtained	1 min 41 sec	1 min 41 sec	1 min 41 sec	1 min 41 sec	1 min 41 sec	1 min 41 sec	



So we created a VPC (virtual private cloud) Then we created 4 different subnets with different IP ranges using subnetting. Once we had that we created an internet gateway which basically allows our vpc/devices to communicate outside of the network. In other words it's like a router. Then we created two routing tables for publicRT and privateRT. The routing table is for traffic inside the VPC. For the public subnets, we associated the public routing tables to them and vice versa.

Then we created a public EC2 called jumphost which is the public EC2. This ec2 instance has a public subnet and allows auto-assign public IP.
We then created a private ec2 instance that has the private01 subnet attached. For the security group we assigned the SSH access to the public01 security group. So that basically means that you can only SSH into private01 if you are inside of the public01 (jumphost) instance. Then we created a pem keypair and pasted the information into the file and chmod it. Once inside the private01 instance we pinged and got no response.

We then created a NAT gateway to allow us to restrict inbound but allow us to do outbound for updating. We attached the NAT gateway to the publicRT which basically gave us a response when we pinged

Then we created another EC2 private instance in the same pirvate01 subnet and named it child. For the security group, the SSH’s value is the only_jumphost security group. So basically the only_jumphost(private01) can ssh into the child ec2 instance.
User -> Internet/Cloud -> Internet Gateway -> EC2 with attached Nat Gateway -> private01 jenkins

So for this topology there are two AZ zones. They both have a public subnet and a private subnet. Both of them can ssh into the public subnet and the private subnet has a master jenkins program on it. When someone accesses the application load balancer, traffic is either gone to us-east-1a or us-east-1b. This is in case one zone is overloaded and for redundancy. Once inside, the target group redirects traffic from the public subnet to the private subnet that has jenkins installed. It uses port forwarding to direct the traffic.