LAB: Create a Task Definition and run it with Fargate ECS

You need:

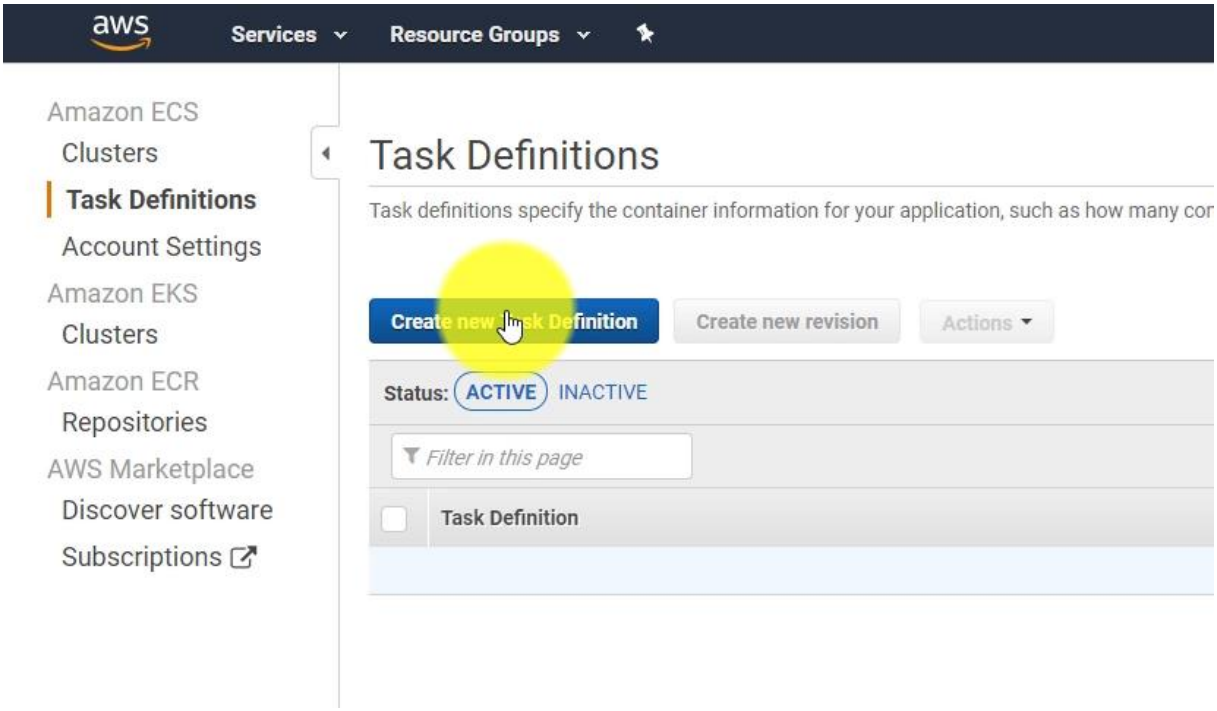
- An AWS Account

Duration of the Lab: 30 Minutes.

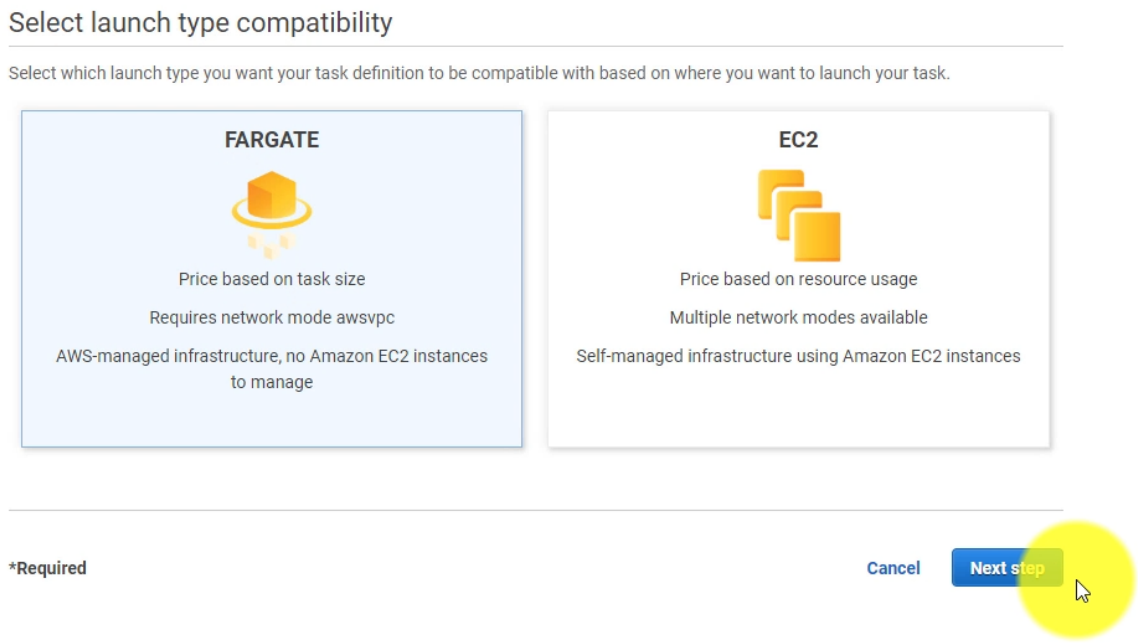
Difficulty: easy

Create a Task Definition

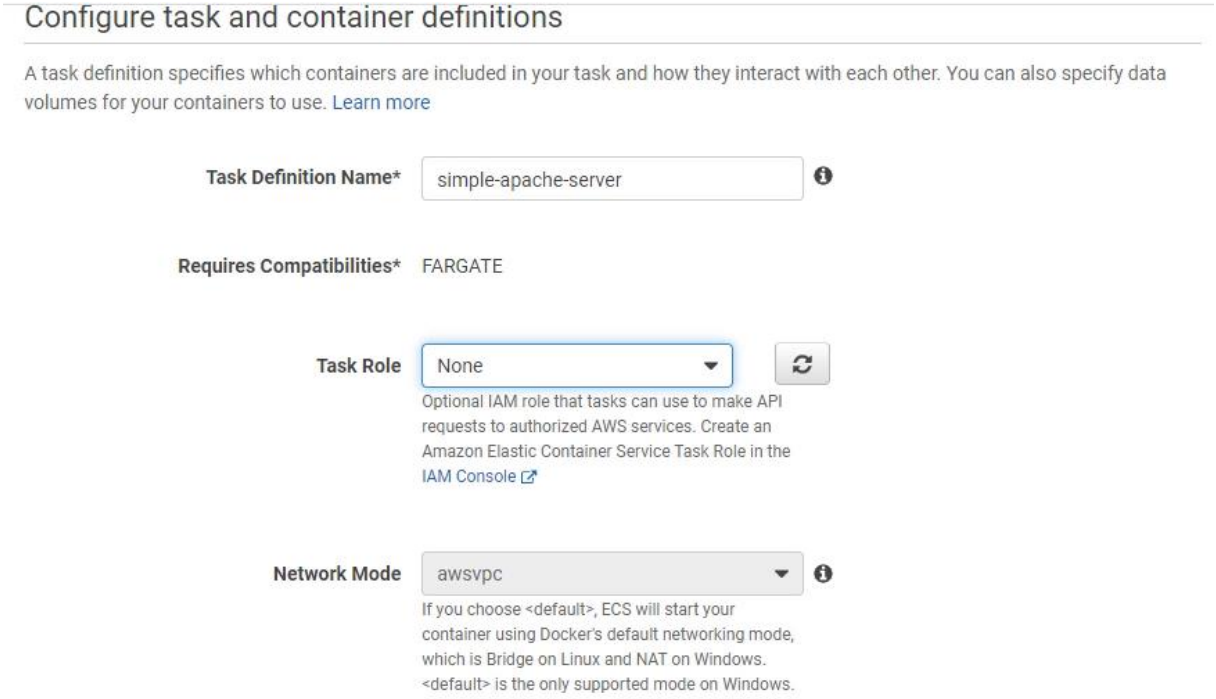
Before we can get started, we have to create a new Task Definition. Create one by going into the "Elastic Container Service" Dashboard and open "Task Definition" on the left side and then "Create new Task Definition":



Select the Launch Type "Fargate", because we want to run this on a Fargate Cluster:



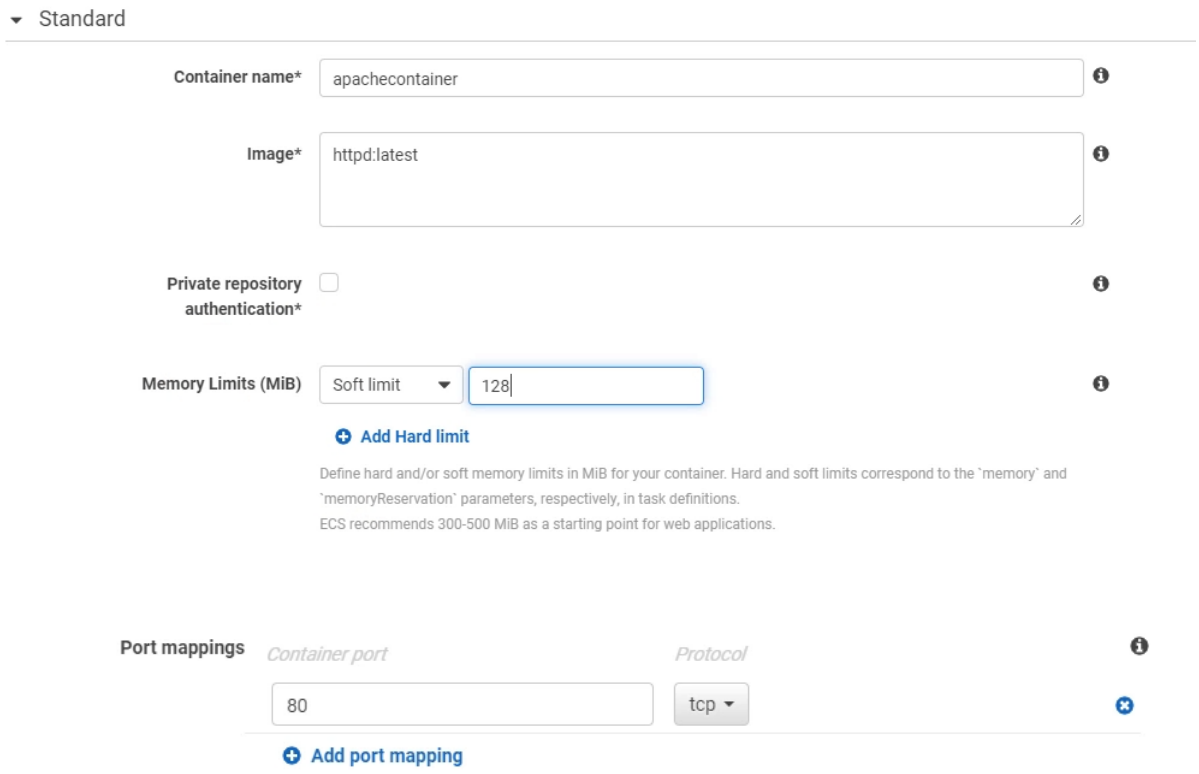
Enter a Task-Definition name, like “Simple-apache-server”, don’t give it any Task Role:



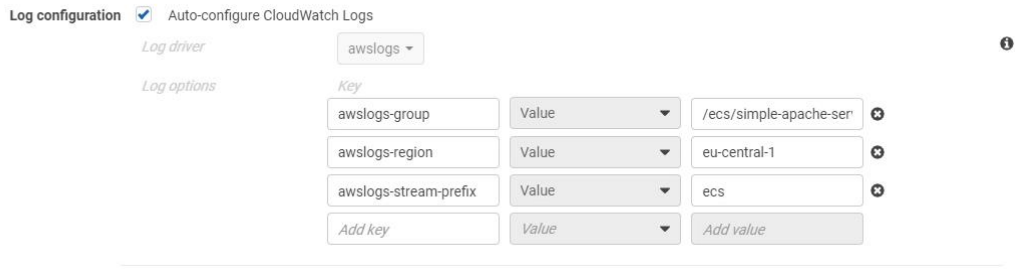
Give it 0.5 GB of RAM and 0.25 vCPUs.

Then add a container:

Give it a name, e.g. “apachecontainer”, and specify the image. We take the httpd image from Docker Hub with the tag “latest”. Give it 128 MB of Ram as a soft limit. Also map Port 80 from the container.



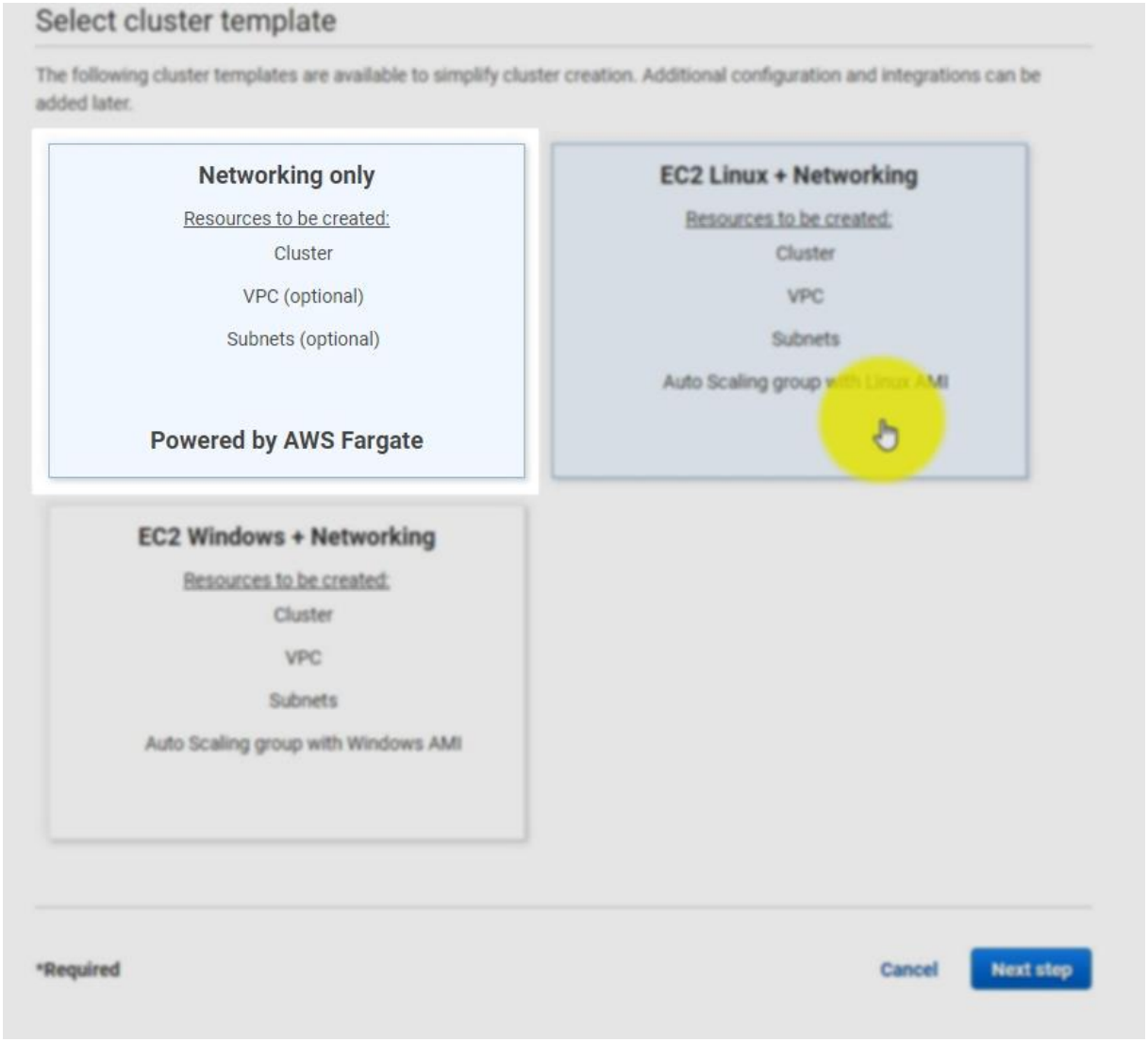
Add the cloudwatch log so that it auto-configures CloudWatch logs. This means you can then watch the logs in a combined way:



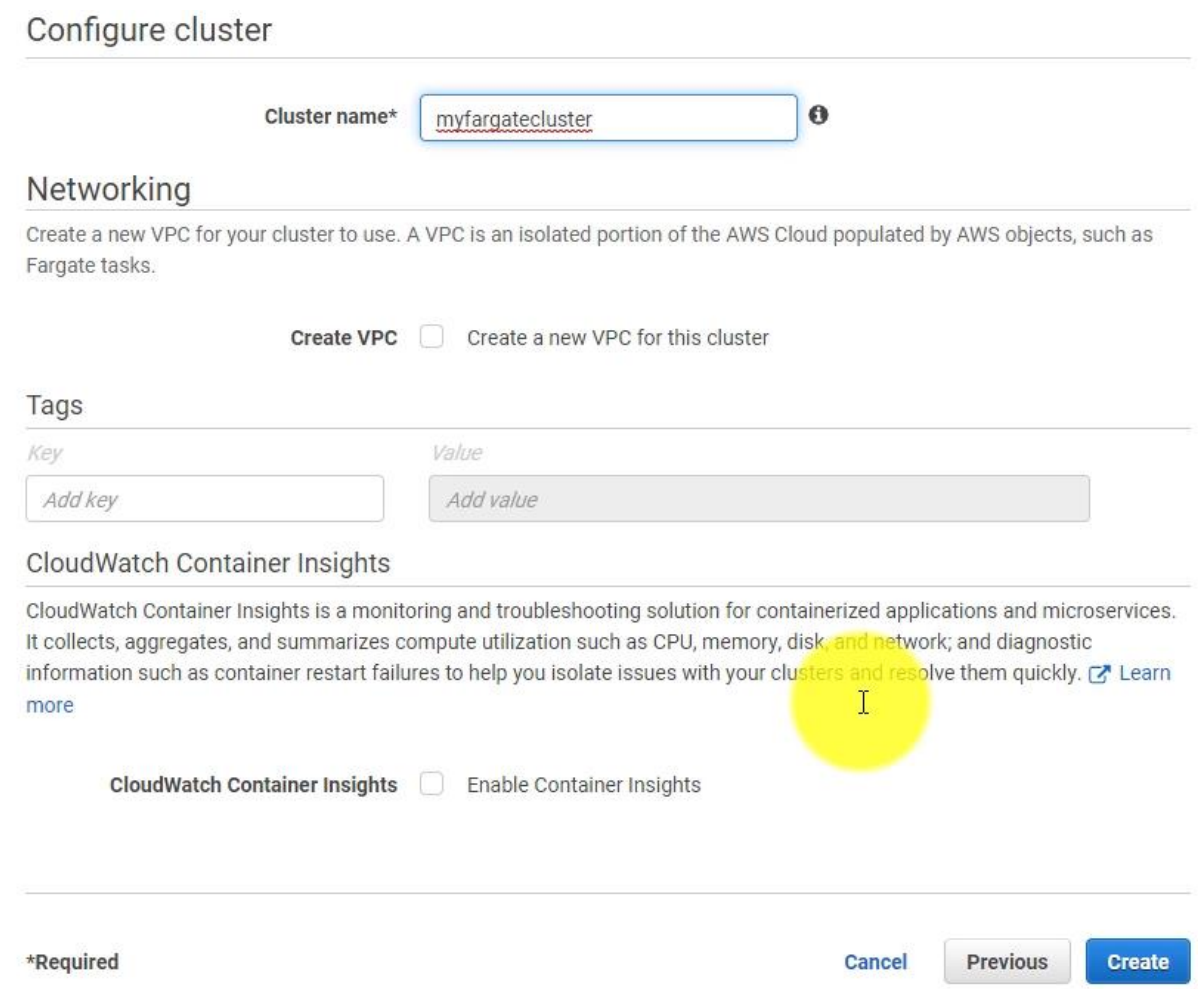
Then add the container. And also create the Task Definition.

Create a Cluster

Select a Networking Only Cluster:



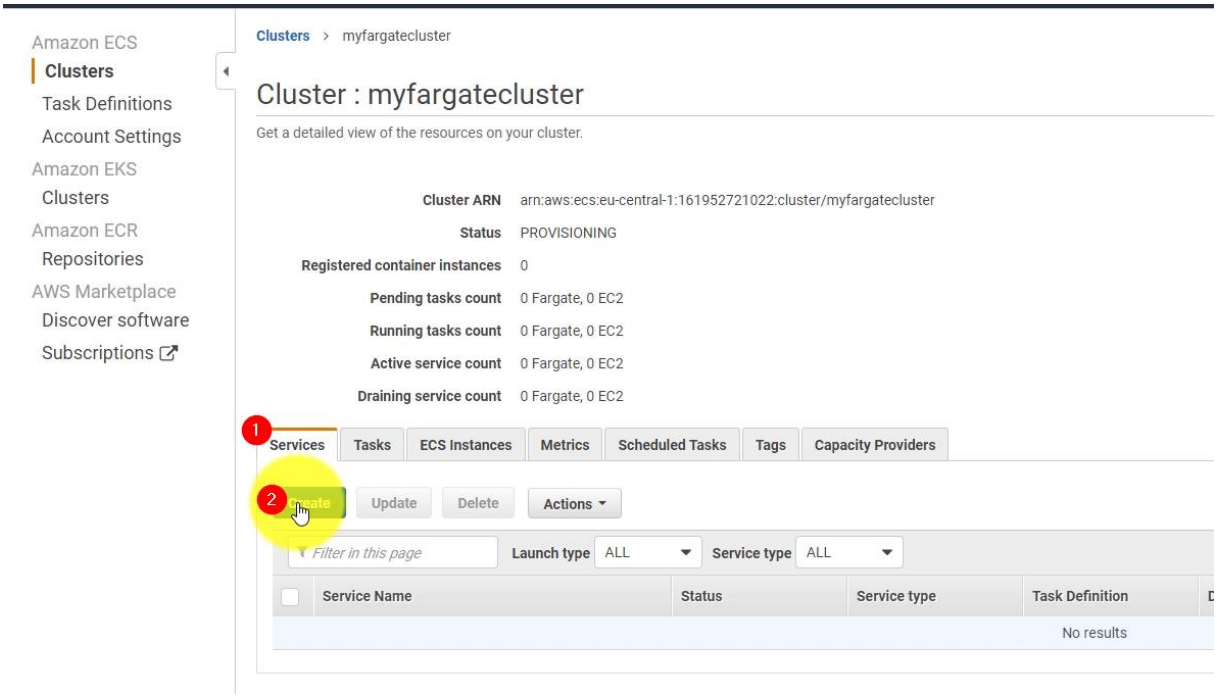
Give the Cluster a Name, e.g. “myfargatecluster”



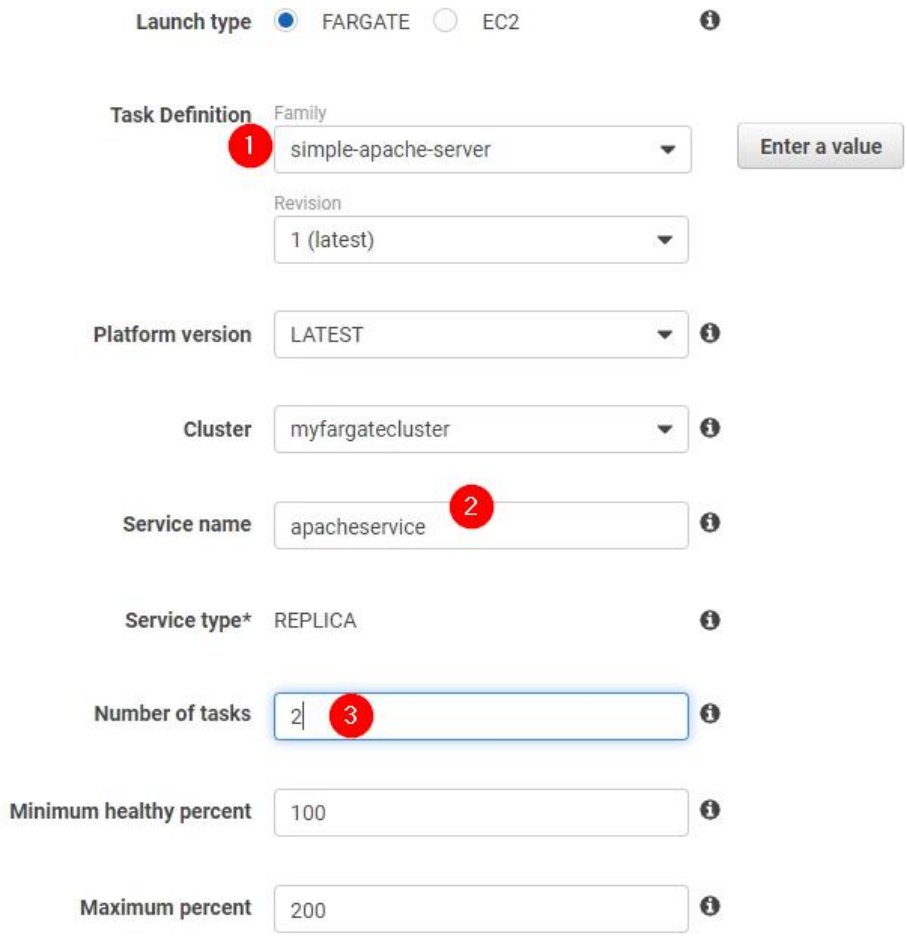
And hit Create.

Create a new Service

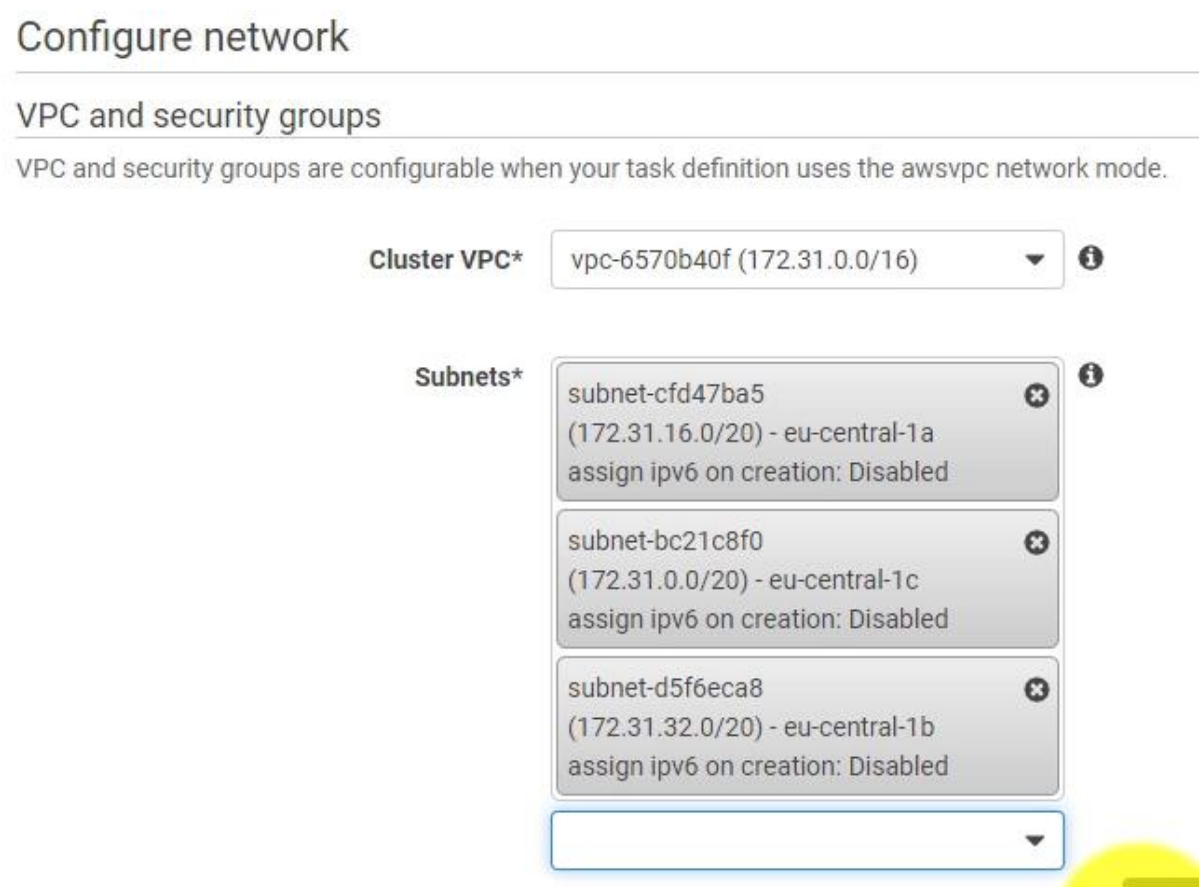
Inside the new Cluster open the Services tab and hit create:



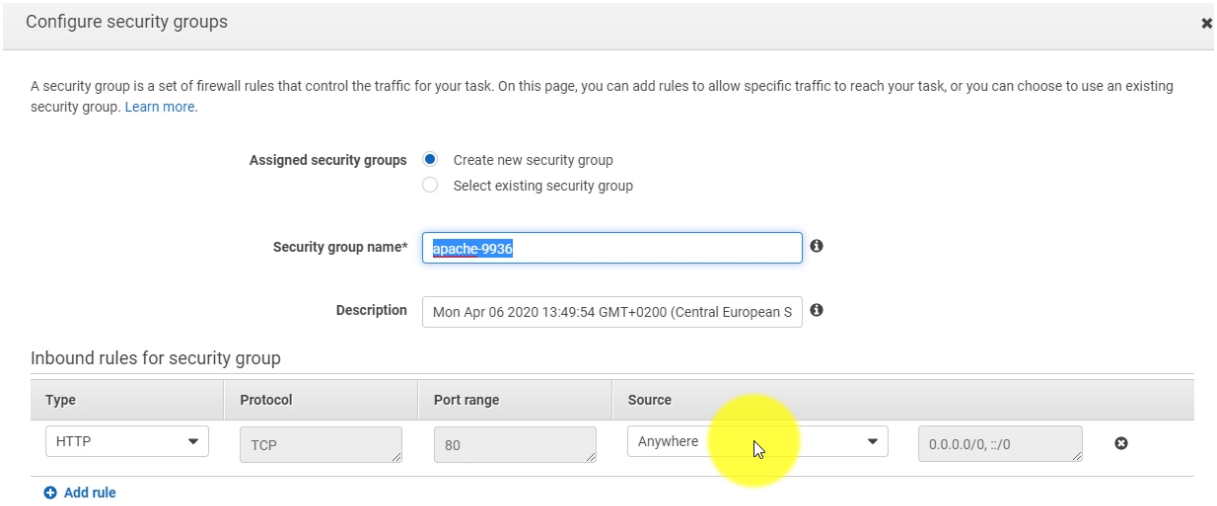
Run the TaskDefinition we created earlier (1) give it a name, for example apacheservice (2) and set the number of tasks to run to 2 (3):



Select your standard VPC and place the tasks in any of the three subnets:



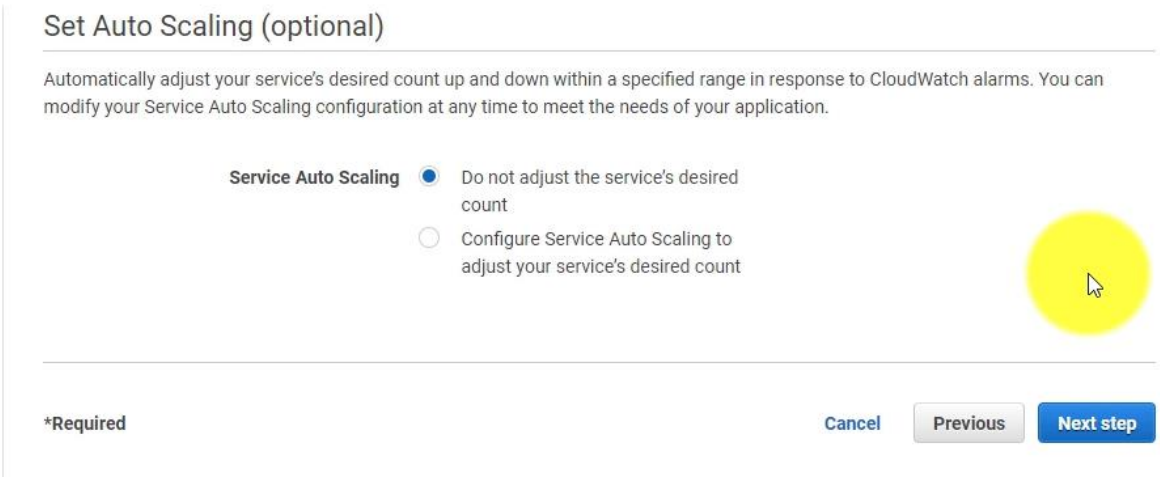
Make sure in the security group Port 80 as inbound traffic is allowed:



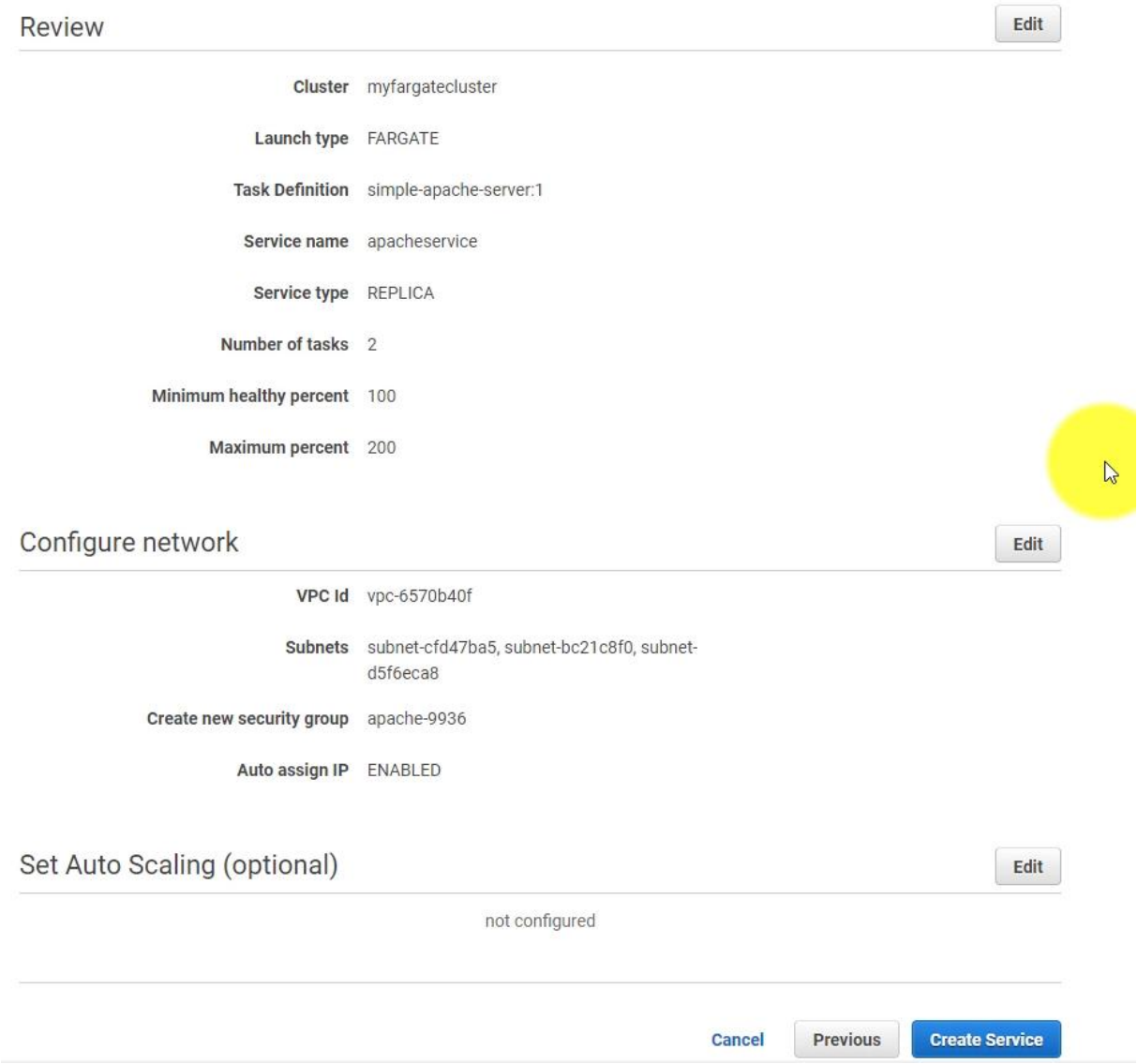
Auto-Assign a public IP: Enabled

Select “none” as load balancer and disable the service discovery.

Don’t do any autoscaling for this service:

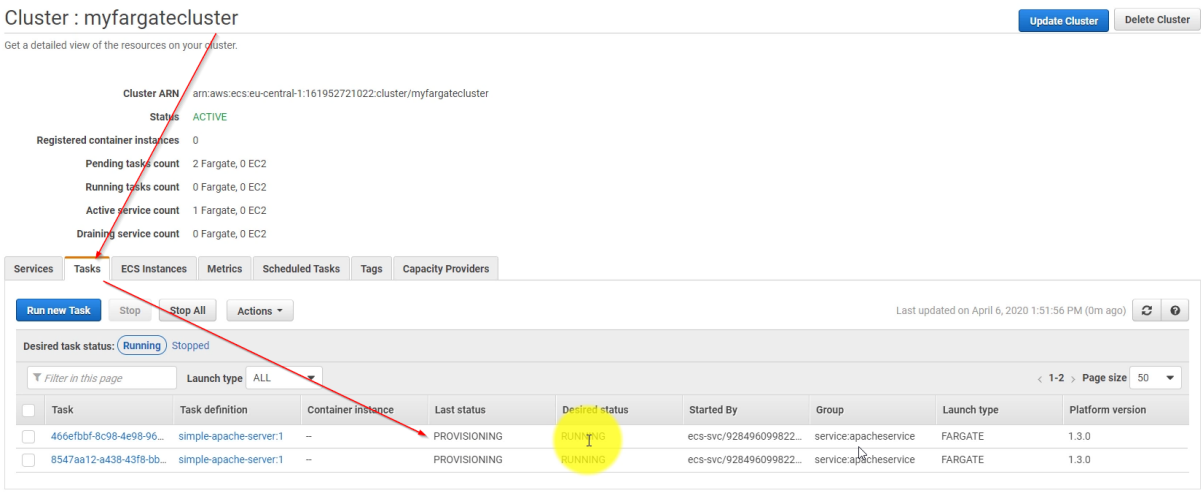


Review everything and launch the service:



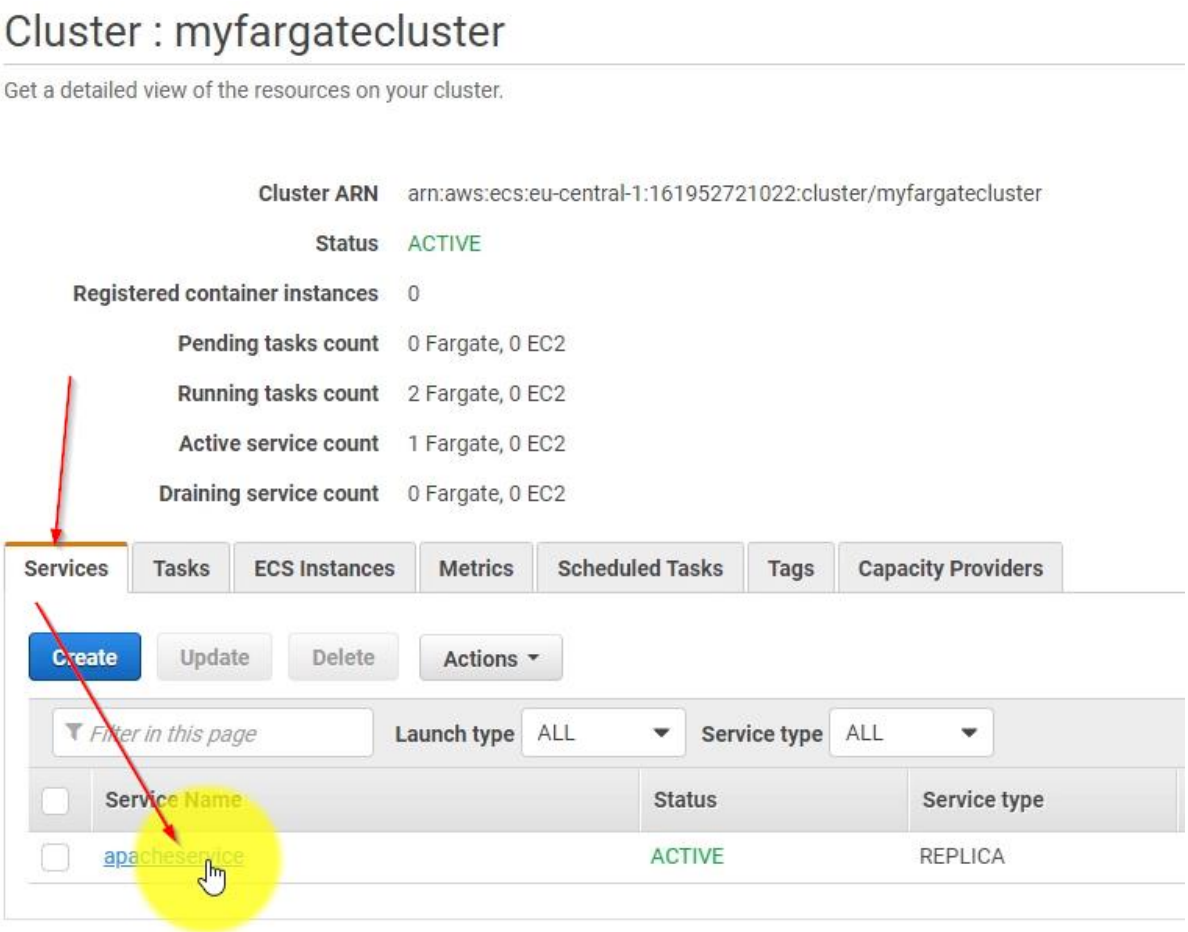
Watch the running Tasks

Once your service is starting to run the tasks, you can switch over to your cluster Tasks and see how they slowly change the state from Provisioning -> pending -> running:

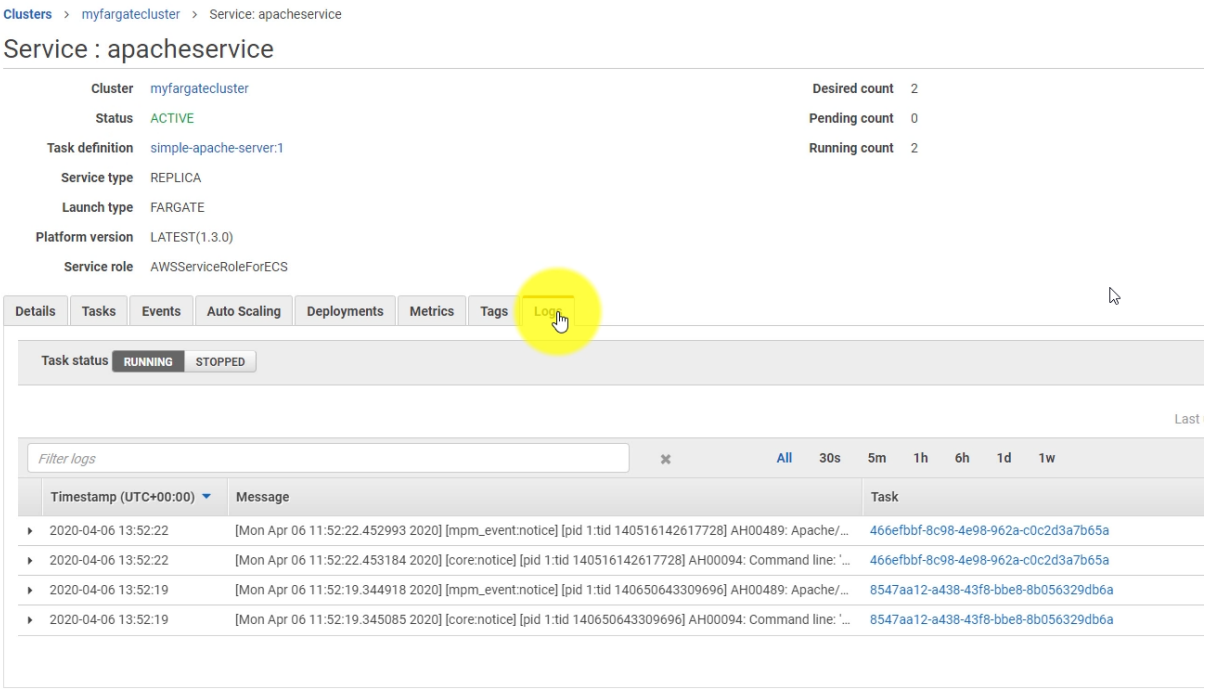


Logs of running Containers

To get the logs of all running containers in all tasks, go back to your service, open it:

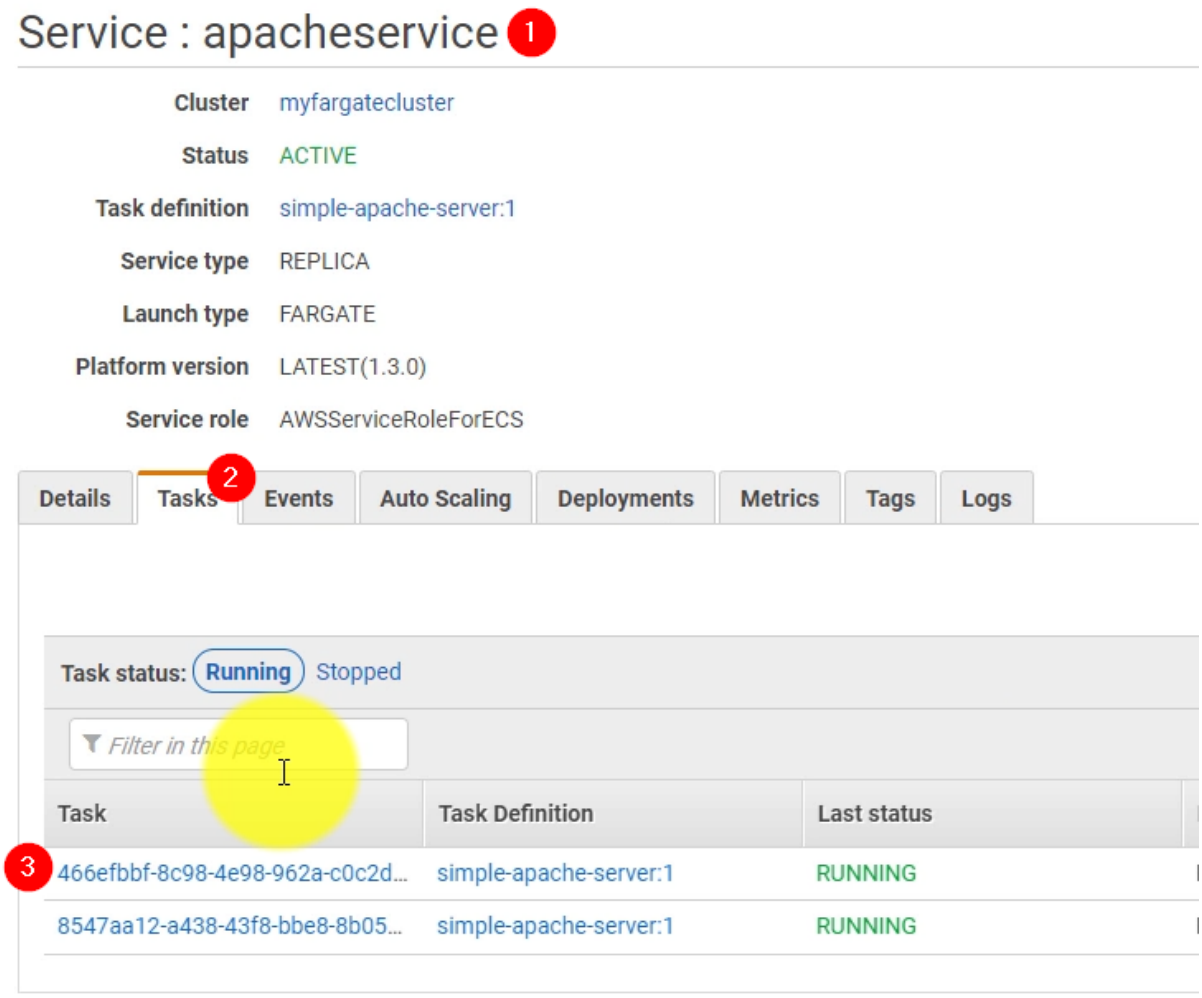


Then open the Logs-Tab and see that you get the logs from all running containers. You can also filter logs here:



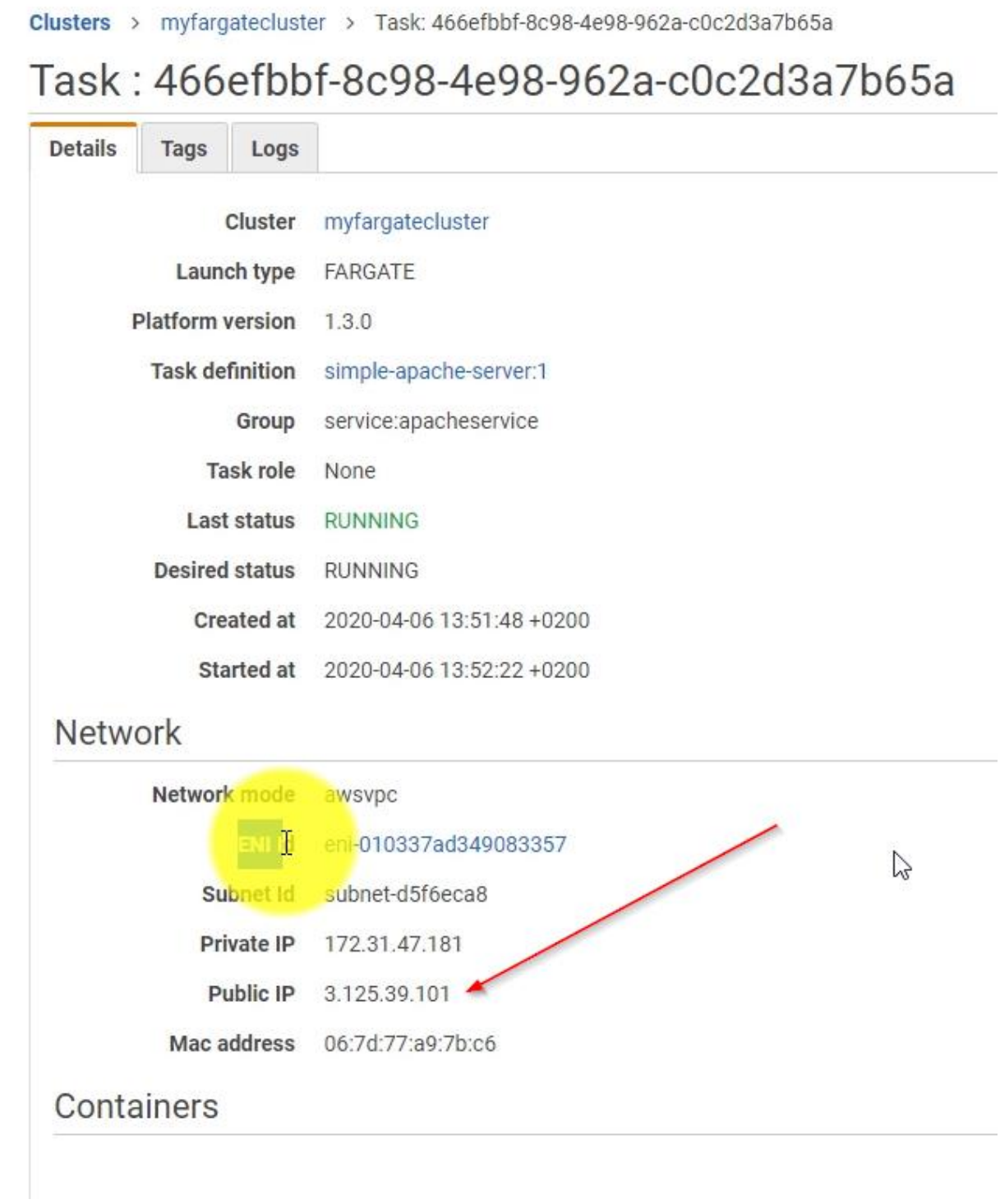
Open the Apache in the Container

To get access to the underlying services, you have to get access to the IP Addresses of the running tasks. Open the tasks tab from your service:

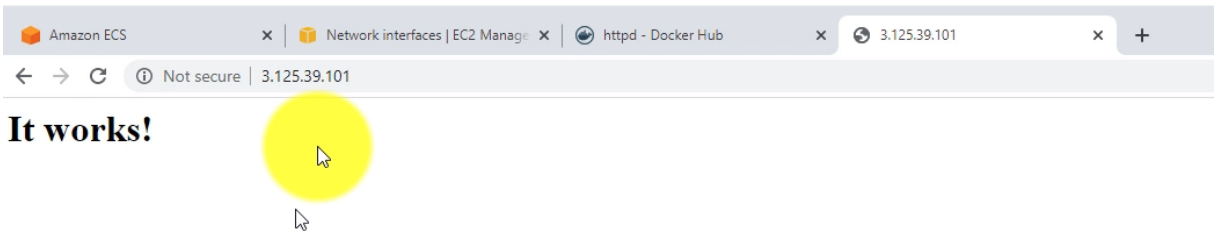


And open one of the services in your tasks:

Each task has their own Elastic Network Interface (ENI). And each ENI has its own IP Address:



Copy the Address, and open a new Browser Tab:



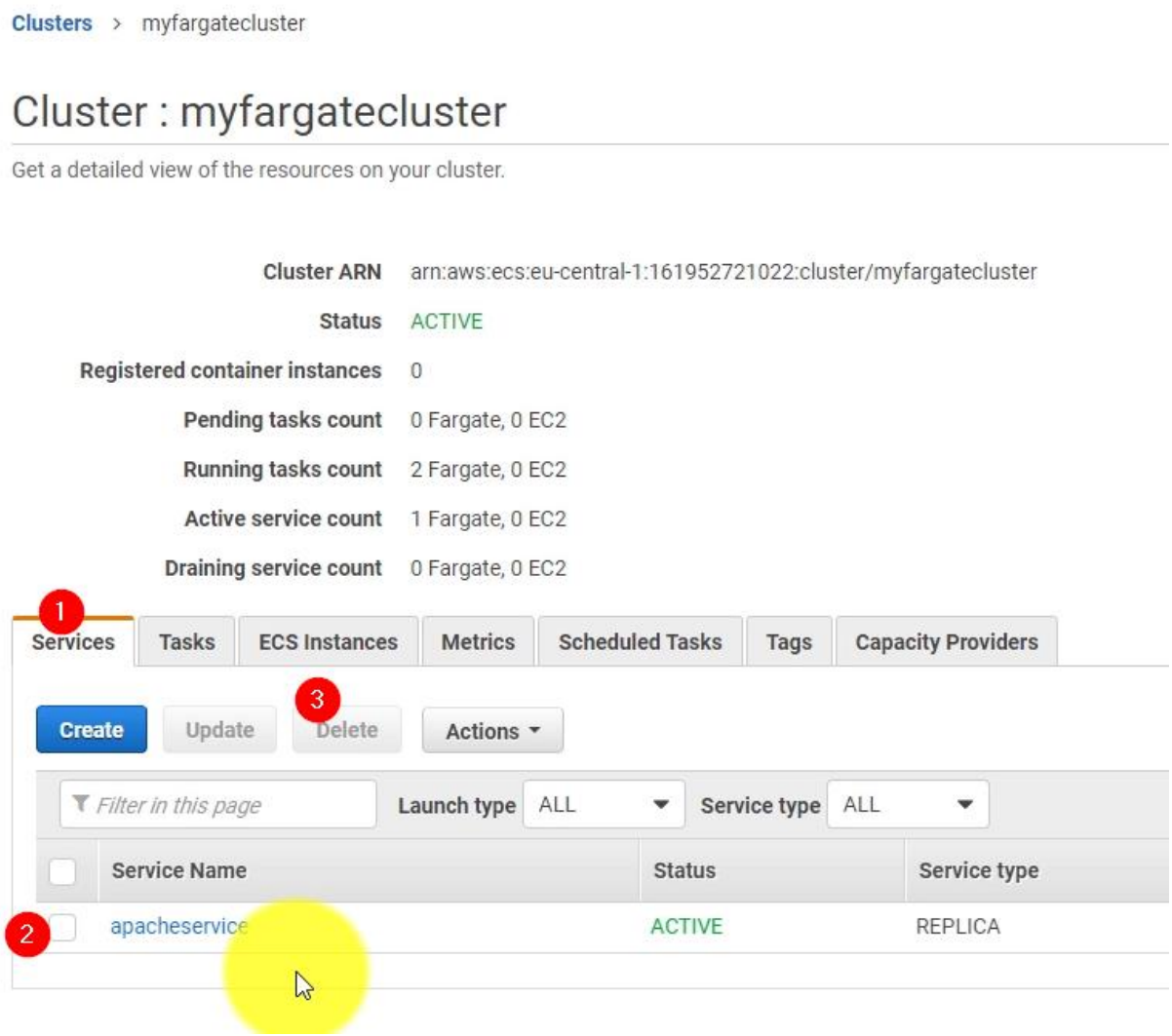
It should output that it works.

Repeat the same with the other tasks, it should have a different IP Address.

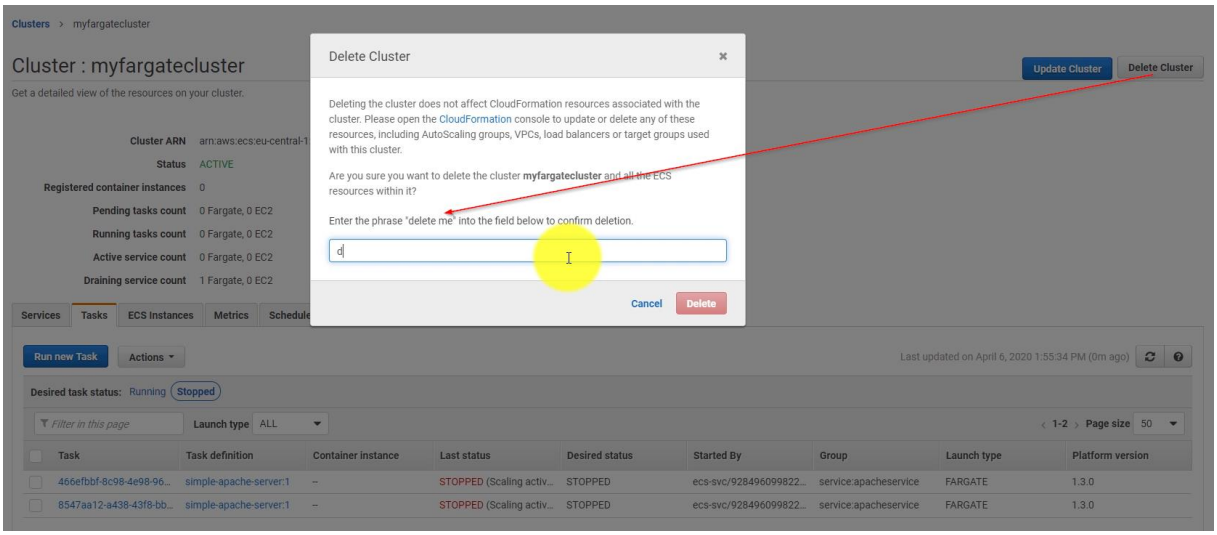
Because we have no load-balancer the two tasks are running an apache on two different IP addresses. A Load-Balancer could balance the load by spreading traffic between those two tasks now.

Cleanup

To save money tear down your Service:



And as soon as the Tasks stopped also delete the Cluster:


Clusters › myfargatecluster
Cluster : myfargatecluster
Get a detailed view of the resources on your cluster.
Cluster ARN
Status ACTIVE
Registered container instances 0
Pending tasks count 0 Fargate, 0 EC2
Running tasks count 0 Fargate, 0 EC2
Active service count 0 Fargate, 0 EC2
Draining service count 1 Fargate, 0 EC2
Update Cluster
Delete Cluster
Delete Cluster
Deleting the cluster does not affect CloudFormation resources associated with the cluster. Please open the CloudFormation console to update or delete any of these resources, including AutoScaling groups, VPCs, load balancers or target groups used with this cluster.
Are you sure you want to delete the cluster myfargatecluster and all the ECS resources within it?
Enter the phrase "delete me" into the field below to confirm deletion.
d
Cancel
Delete
Services
Tasks
ECS Instances
Metrics
Run new Task
Actions
Last updated on April 6, 2020 1:55:34 PM (0m ago)
Desired task status: Running Stopped
Filter in this page
Launch type ALL
1-2
Page size 50
Task
Task definition
Container instance
Last status
Desired status
Started By
Group
Launch type
Platform version
466efbbf-8c98-4e98-96...
simple-apache-server:1
STOPPED (Scaling activ...
STOPPED
ecs-svc/928496099822...
service:apacheservice
FARGATE
1.3.0
8547aa12-a438-43f8-bb...
simple-apache-server:1
STOPPED (Scaling activ...
STOPPED
ecs-svc/928496099822...
service:apacheservice
FARGATE
1.3.0

Lab End