

Github Url

<https://github.com/ZinnLiu233/6650Assignment/tree/main/A3>

Design

For Consumer:

1. Init Factory:

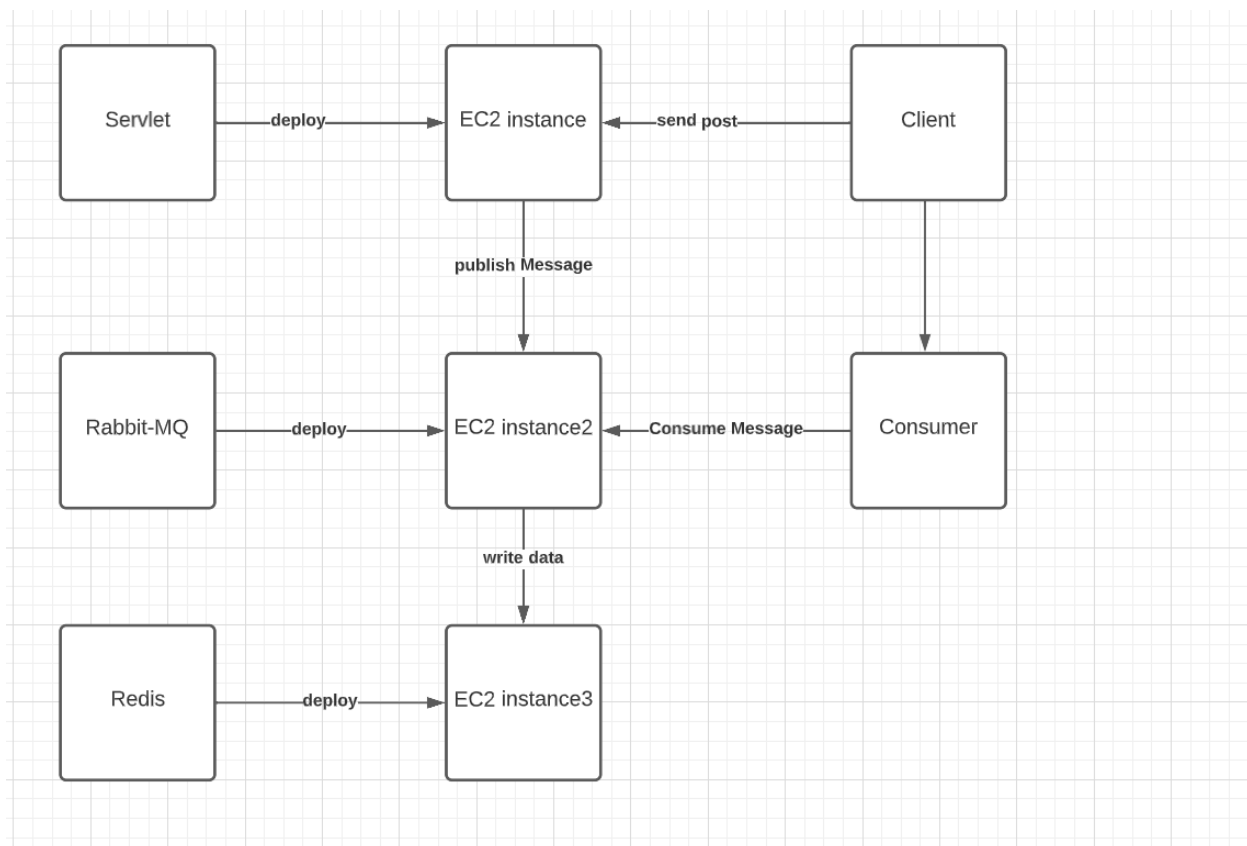
1. Set Host, which is the EC2 instance where rabbit-mq is.
2. Set the Port which is 5672
3. Set the userName and password to access the UI monitoring.
4. Create the runnable thread to keep running consuming.
5. Implement the Jedis for storing data in Redis which is deployed on the AWS EC2.
6. In the thread, I design the deliverCallback function, to get the message from the queue and consume it.

For Server:

1. Almost same as the design from previous project. Here are the extra designs for the server:
 1. Create a channel pool factory to connect the message queue.
 2. In the do post function, create the JsonObject to store the LiftRide object, and put it into queue.

General Idea

For single servlet:



For Redis design:

skier information:

```
Map<skierId : map{"days" : 1, "vertical" : +, "lifts" : "+" , resortId: "+"}>
```

```
[127.0.0.1:6379> hgetall 1
1) "days"
2) "1"
3) "vertical"
4) "650"
5) "lifts"
6) "65"
```

Resort in every day:

```
Map<resortId : set(skierId)>
```

EC2 instance setting:

Change instance

From

t2.micro : 1vCPU 1GiB Memory

To:

t2.medium: 2 vCPU 4GiB Memory

Instance ID i-07f0b-0f-0f-0f (MyFirstWebServer)	Public IPv4 address -	Private IPv4 addresses ip-10-0-0-1
IPv6 address -	Instance state ⏸ Stopped	Public IPv4 DNS -
Hostname type ip-10-0-0-1	Private IP DNS name (IPv4 only) ip-10-0-0-1	Elastic IP addresses -
Answer private resource DNS name IPV4 (A) -	Instance type t2.medium	AWS Compute Optimizer finding Opt-in to AWS Compute Optimizer for recommendations. Learn more
Auto-assigned IP address -	VPC ID vpc-07f0b-0f-0f-0f	Auto Scaling Group name -
IAM Role -	Subnet ID sub-07f0b-0f-0f-0f	

t2.medium

Family: t2 2 vCPU 4 GiB Memory

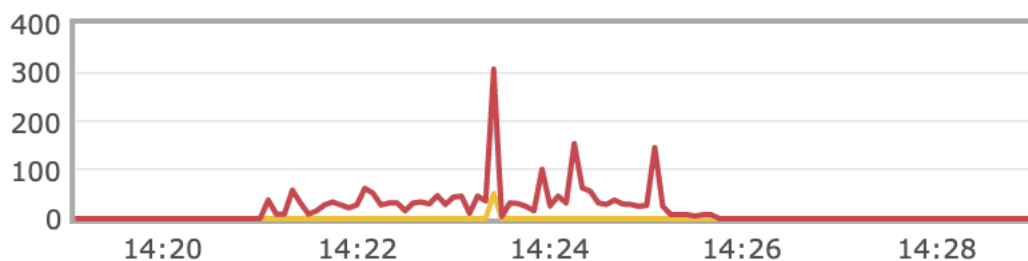
On-Demand Linux pricing: 0.0464 USD per Hour

On-Demand Windows pricing: 0.0644 USD per Hour

Output:

```
-----part1 info-----  
It takes the time: 283735  
number of successful post: 200000  
number of unsuccessful post: 0  
Throughput: 704  
-----part2 info-----  
mean response time : 40ms  
median response time : 36ms  
throughput (requests/second) : 704  
p99 response time: 103ms  
min response time: 16ms  
max response time: 353ms
```

Queued messages last ten minutes ?



Message rates last ten minutes ?

