

Small Project 2

Membangun Infrastruktur Berbasis Cloud

by FAISAL



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Background

Overview of the project

Sebuah perusahaan bernama Gawai Studio memiliki sebuah layanan web yang dijalankan di beberapa server yang telah running selama 5 tahun dan sudah mendekati batas maksimal kapasitas penggunaan. Akhirnya, perusahaan tersebut akan melakukan migrasi dari server on premises yang mereka miliki menjadi sistem cloud karena kebutuhan pengguna yang sangat meningkat.



Requirement of the Project



VPC & 3 AZ

Menentukan region, dimana tempat project akan dibangun, beserta VPC, konfigurasi IP dan routing nya

EC2

Menggunakan service AWS yakni EC2 sebagai instance/VM server aplikasi.

RDS

Menentukan service database yang akan digunakan, seperti MySQL, dan jumlah instancenya

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S3

Menggunakan service S3 sebagai object storage untuk menyimpan file aplikasi

Auto Scaling & LB

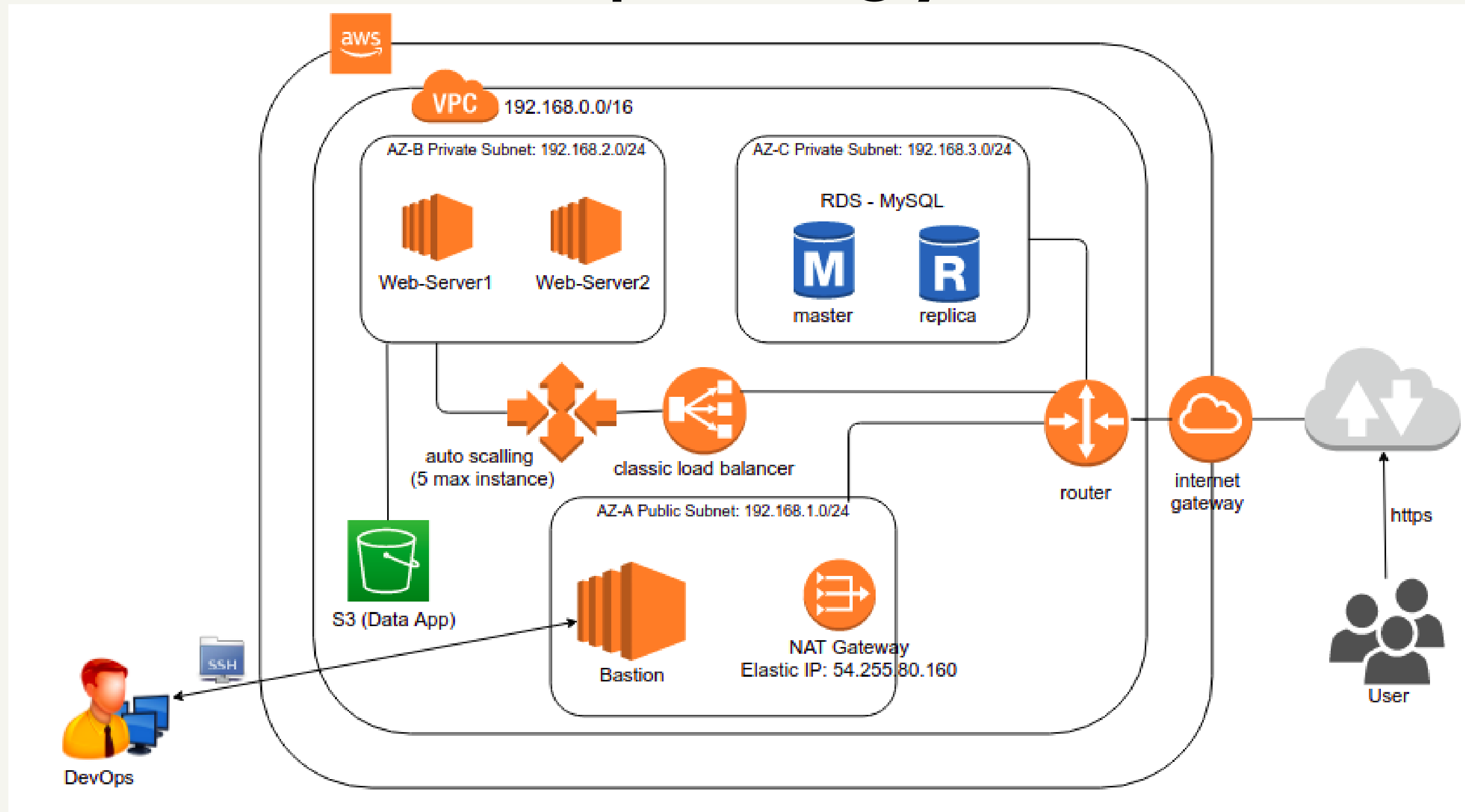
Agar aplikasi yang dibangun High Availability maka perlu diterapkan Auto Scaling & Load Balancer

Domain & SSL

Menentukan nama domain dari aplikasi yang dibangun serta diterapkan SSL sebagai protokol keamanan terenskripsi



Cloud Infrastructur Topology



Cost Budget

Budget details

Edit

Name

Gawai Studio Project Budget

Period

Monthly

Start Date

Feb 1, 2021

End Date

Mar 1, 2021

Budgeted amount

\$200

Advanced Options

Aggregate costs by:

Unblended costs

Include costs related to:

Taxes, Support charges, Other subscription costs, Recurring reservation charges, Upfront reservation fees, Discounts

Exclude costs related to:

Credits, Refunds

Thresholds

Edit

Threshold 1 - Actual cost is greater than 80% (\$160.00) | 1 email recipients

Threshold 2 - Forecasted cost is greater than 80% (\$160.00) | 1 email recipients

Services	Type	Estimate (per month)	Count	Total (USD)
EC2	t2.micro, Memory 1GB , vCPUs 1	2,117	2	4,234
Elastic Block Storage (EBS)	SSD 20GB	3,6	2	7,2
S3	S3 Standard 10GB, with calculate data transfer 100GB	17,53	1	17,53
RDS For MySQL	db.t3.micro, Memory 1GB, vCPUs2	19,105	2	38,21
NAT Gateway	10GB data process per month	43,66	1	43,66
		TOTAL (per month)		110,834

IAM User For Finance

Identity and Access Management (IAM)

Dashboard

Access management

Groups

Users

Create New Group

Group Actions

Search

Showing 1 results

<input type="checkbox"/>	Group Name	Users	Inline Policy	Creation Time
<input type="checkbox"/>	financegroup	2		2021-01-22 05:27 UTC+0700

Users

Permissions

Access Advisor

Managed Policies

The following managed policies are attached to this group. You can attach up to 10 managed policies.

Attach Policy

Policy Name	Actions
Billing	Show Policy Detach Policy Simulate Policy

Identity and Access Management (IAM)

Dashboard

Access management

Groups

Users

Roles

Policies

Add user

Delete user

Find users by username or access key

Showing 3 results

<input type="checkbox"/>	User name	Groups	Access key age	Password age	Last activity	MFA
<input type="checkbox"/>	faisal	None	✓ 17 days	17 days	Today	Not enabled
<input type="checkbox"/>	userfinance1	financegroup	✓ Today	Today	Today	Not enabled
<input type="checkbox"/>	userfinance2	financegroup	✓ Today	Today	Today	Not enabled



Provisioning



Instances (7) Info

Refresh

Connect

Instance state

Actions

Launch instances

Filter instances

< 1 >

Settings

<input type="checkbox"/>	Name	Instance ID	Instance state	Instance type	Status check	Alarm status	Availability Zone
<input type="checkbox"/>	Bastion	i-0d1f8bfd98357c97f	Running	t2.micro	2/2 checks ...	No alarms +	ap-southeast-1a
<input type="checkbox"/>	ServerForAMI	i-0292af3edb9c88b1b	Running	t2.micro	2/2 checks ...	No alarms +	ap-southeast-1b
<input type="checkbox"/>	Production-Web1	i-0cfeaceb72441cd52	Running	t2.micro	2/2 checks ...	No alarms +	ap-southeast-1b
<input type="checkbox"/>	Production-Web2	i-04a33e864f522e432	Running	t2.micro	2/2 checks ...	No alarms +	ap-southeast-1b

Buckets (1)

Refresh

Copy ARN

Empty

Delete

Create bucket

Find buckets by name

< 1 >

Settings

<input type="radio"/>	Name	Region	Access	Creation date
<input type="radio"/>	gawaistudio	Asia Pacific (Singapore) ap-southeast-1	Bucket and objects not public	January 22, 2021, 02:10:52 (UTC+07:00)

Databases

Group resources

Refresh

Modify

Actions

Restore from S3

Create database

Filter databases

< 1 >

Settings

<input type="radio"/>	DB identifier	Role	Engine	Region & AZ	Size	Status
<input type="radio"/>	mastersdb	Primary	MySQL Community	ap-southeast-1c	db.t2.micro	Available
<input type="radio"/>	replicagsdb	Replica	MySQL Community	ap-southeast-1c	db.t2.micro	Available



Auto Scaling & ELB

EC2 > Auto Scaling groups > Auto-Scaling-Web

Details

Activity

Automatic scaling

Instance management

Monitoring

Instance refresh

Group details

Desired capacity

2

Minimum capacity

2

Maximum capacity

5

Auto Scaling group name

Auto-Scaling-Web

Date created

Fri Jan 22 2021 13:33:31 GMT+0700 (Western Indonesia Time)

Amazon Resource Name (ARN)

arn:aws:autoscaling:ap-southeast-1:768876311475:autoScalingGroup:72a443ba-f99a-4526-a8e7-580c7c21eb87:autoScalingGroupName/Auto-Scaling-Web

Scaling policies (1) Info

Target Tracking Policy

Policy type:

Target tracking scaling

Enabled or disabled?

Enabled

Execute policy when:

As required to maintain Average Network In at 1000000

Take the action:

Add or remove capacity units as required

Instances need:

60 seconds to warm up before including in metric

Scale in:

Enabled

Create Load Balancer

Actions

Filter by tags and attributes or search by keyword

Name	DNS name	State	VPC ID	Availability Zones	Type
LB-Classic	LB-Classic-826964374.ap-s...		vpc-07db7d442368c9e30	ap-southeast-1b, ap-so...	classic

Load balancer: LB-Classic

Description

Instances

Health check

Listeners

Monitoring

Tags

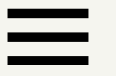
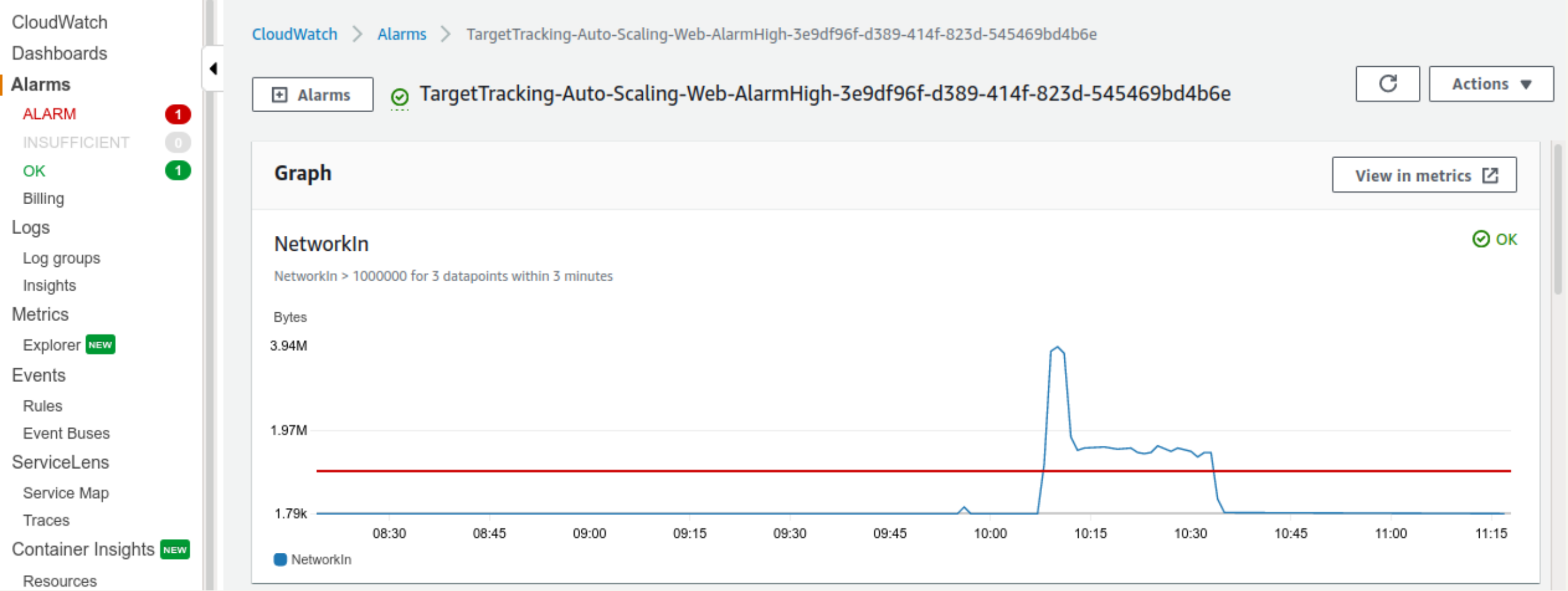
Migration

Basic Configuration

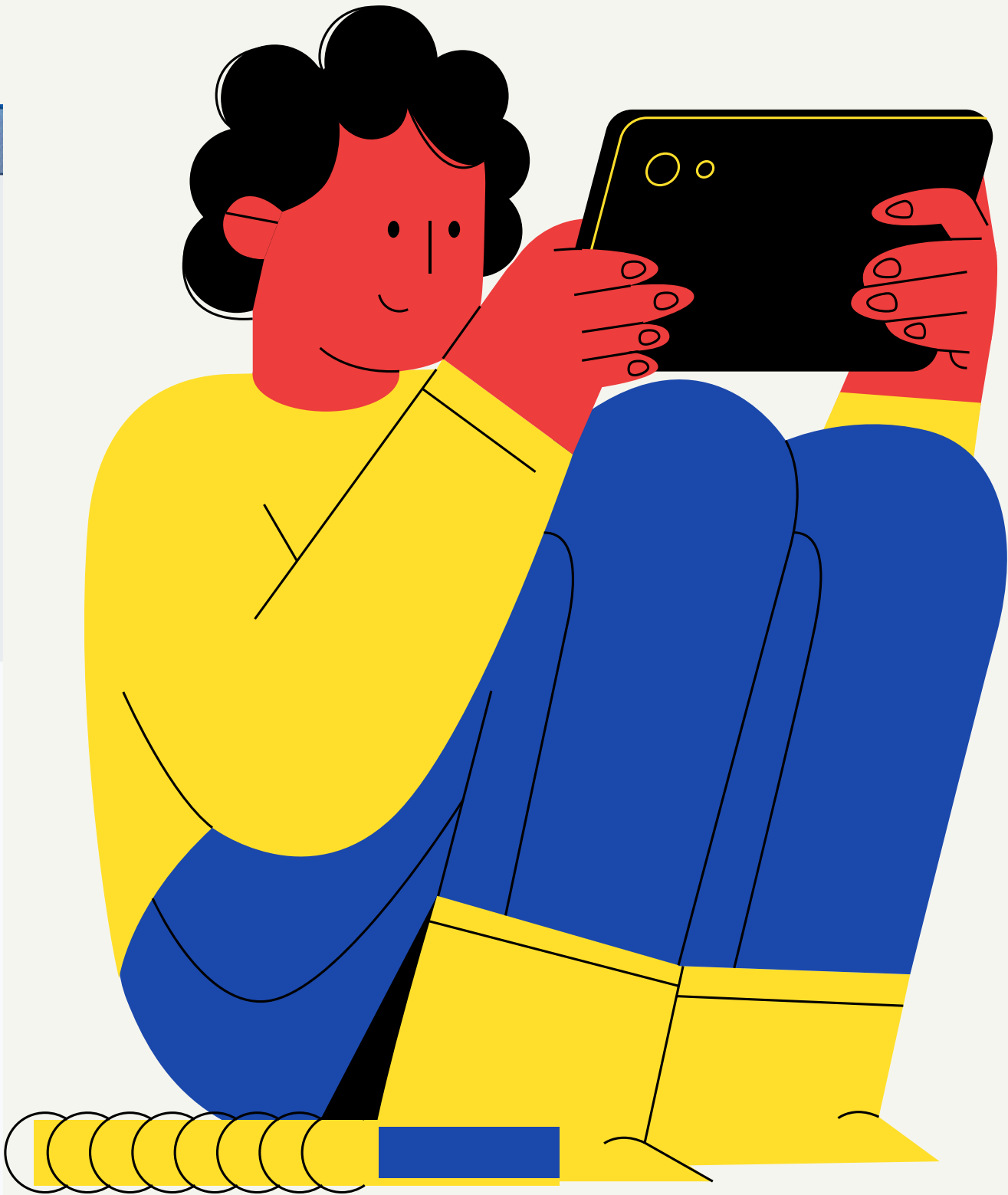
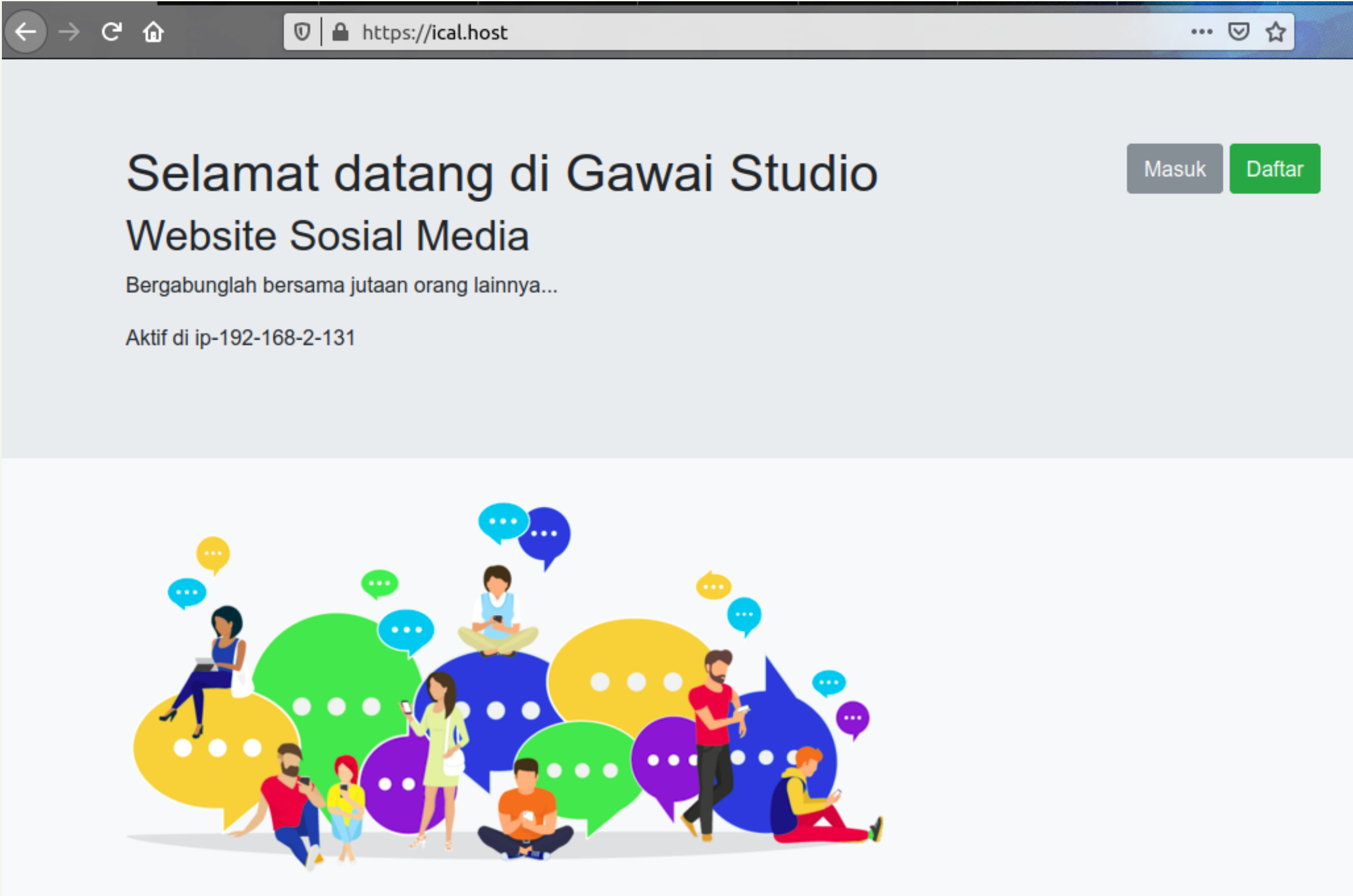
Name	LB-Classic	Creation time	January 22, 2021 at 9:45:57 AM UTC+7
* DNS name	LB-Classic-826964374.ap-southeast-1.elb.amazonaws.com (A Record)	Hosted zone	Z1LMS91P8CMLE5
Type	Classic (Migrate Now)	Status	2 of 2 instances in service
Scheme	internet-facing	VPC	vpc-07db7d442368c9e30
Availability Zones	subnet-05fb0e64c54c1ad7b - ap-southeast-1a, subnet-0ed510bfc2d65043d - ap-southeast-1b		

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Monitoring Cloudwatch



Result





Thank You!

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