**TO get domain for free**

https://www.freenom.com/en/index.html?lang=en

**SQS (Simple Queue Service)** - Theory

Using route53 we link the domain name to the load balancer.

Behind the load balancer there are three webservers.

Load balancer will receive the traffic and then the traffic is distributed to the available web servers.

Web servers sometimes needs to communicate application server.

Web server only delivers web pages.

Applications will be running in application server.

Simple Queue Service plays a role between webservers and application servers.

Application server finally connected to database.

Route 53 (www.sunilcloud.com)

LB

Ws1 Ws2 Ws3

SQS

AS1 AS2

DB

The backup mechanism for Application server is SQS

All the requests from webservers will be stored in SQS in Queue format.

Application server will pull the requests from SQS.

SQS will control the flow of the requests.

Once the request is pulled from the SQS, the request in SQS will not be deleted. It will be invisible for 30 sec

Within 30 sec Application server should process the request.

Within 30 sec, if Application server process the request, it will be deleted from SQS.

Within 30 sec, if Application server unable to process the request, it will be visible again in SQS.

If Application server takes more than 30 sec?

We can increase the visibility time out up to (max)12 hrs

By default, SQS will maintain the request for 4 days.

We can set maximum request to 14 days

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**SNS (Simple notification service)**

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When auto scaling launches new machine, we need notification.

In route53, failover routing policy, one region is down, we need notification.

We can receive the notification by using SNS

Subscribers -- Are nothing but users.

**Step 1:** We create a group (It is also called topic)

We add email address of subscribers into the group.

The process of adding subscribers to the group, is called subscription.

Notifications we can receive through

1) Email with normal text.

2) Email with JSON Script

3) Mobile SMS

4) Http / https requests

**Practical:**

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Services -- Application Integration - Simple notification service.

Create topic - MyTopic1 -- Next Step --Create topic

Scroll down

Click on Create subscription

Protocol - Email

Endpoint - sunildevops77@gmail.com

Create Subscription

Observation: Status as pending confirmation.

When the status is confirmed?

We need to login to email and accept the email.

We will get email with subject - AWS Notification - Subscription Confirmation.

Confirm the subscription.

Now, go to SNS and refresh

Observation: Status as confirmed.

Now, let’s test the SNS with respect to Autoscaling

InEC2 dashboard -- select launch configuration -- Create launch configuration -- Next --

Name - MyLC -- Next -- Next --Review -- Create launch configuration.

Create an auto scaling group using this launch configuration.

Group Name - MyASG

Subnet - 1b -- next -- Next --

Step 3: Add notification

send a notification to - My AWS (we can see our topic name)

(We get notification whenever we launch, terminate, fail to launch, fail to terminate)

(Let’s say, I want to add another email.

Go to subscriptions -- Create subscriptions -- Select existing topic -- Protocols: Email

Endpoint - Enter new email)

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cancel autoscaling group, delete launch configuration.

Select the subscription -- Delete

Select the topic -- delete

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**CloudWatch (monitoring Service)**

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**Step 1:** Create two EC2 machines.

Name it as i) Machine 1

ii) Machine 2

Monitoring tab, helps you get the cloudWatch metrics like

1) CPU Utilization

2) Disk read (Bytes)

3) Disk write (Bytes)

4) Network packets in

5) Network packets out etc

These metrics will be updated every 5 min.

What is detailed monitoring?

we get the metrics for every one min. (Its paid service)

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Let’s go to cloudwatch dashboard.

Services -- Management and Governance -- CloudWatch

Select Metrics --- EC2

We can see all the metrics available.

Select the required Machine and metrics, so that we can monitor.

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Setting up an Alarm, to take the action.

Topic Name - TEST\_TOPIC

Alarm Name - My\_alarm2

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How to set billing Alarm?

Go to My Account -- Billing Preferences -- Select receive billing Alerts.

In the navigation pane, choose Alarms, Create Alarm.

Choose Select metric. In the All metrics tab, choose Billing, Total Estimated Charge.

Select the check box next to EstimatedCharges, and choose Select metric.

Under Conditions, choose Static.

For Whenever Estimated Charges is, choose Greater.

For than, enter the monetary amount (for example, 10) that must be exceeded to trigger the alarm.

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**Deletion process**

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1) Delete Alarm

2) Terminate EC2 Machine.

