Introduction to cloud computing - CS360

End Term Exam

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7A) The EC2 instance stopped means an instance is shutdown and can't be used again. Actually it is a temporary shutdown when you are not using an instance, but you should need it in later. And also when we stop EC2 instance the instance will shutdown and virtual machine that was provisioned for you will be permenantly taken away and no there there will be no charges for instance usage and terminate it when we no longer use that instance.

8A) Steps to recover the key for EC2 instance after lossing key-pair

1) Gather config details of original instance

2) Power off the original EC2 instance of which you want to regain access.

3) Launch new (recovery) instance and generate new key-pair.

4) login via ssh to new, recovery instance

5) Detach the primary EBS volume from original instance (taking note of its current attachment)

6) Attach / mount the previously detached volume to new (recovery) instance.

7) Copy authorized keys from recovery instances to mounted volume.

8) Unmount target volume from recovery instance and reattach back to original instance using configs noted earlier.

9) Start the original instance and log-in with new key-pair.

10) Delete temporary (recovery) instance.

4A) Hosting a static website requires to a bucket to follow DNS restrictions. Amazon S3 buckets follow the DNS rules so that you can use same website endpoints.

DNS is a collection of rules and records which helps the client understand how to reach the server through URL's.

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③ Hosting a website.

1) Create a S3 Bucket with a name to same as your domain name.

2) Create another S3 bucket with subdomain www

3) Configure S3 main bucket to redirect to, Subdomain.

4) Upload website to www Subdomain bucket

5) Configure www bucket for website hosting.

6) Add a Bucket policy for making bucket contents public.

7) Create AWS route 53 hosted zone with same name like domain name.

8) Update Domain providers to Name servers with AWS to provided name Server.

9) In AWS route 53 create a record set for main domain and select to point it to S3 domain bucket.

10) In AWS Route 53 create a record for www subdomains and point to S3 www bucket

11) Access website using a domain name.

like these we can host a static website that follows DNS restrictions.

eg: bucket name "Naleen Nischal
region AP - South - 1 (Asia Pacific)

URL's to request a file index-html in bucket

https://Naveen nischal.s3.website-APSouth-1.amazon
aws.con

https://Naveen nischal.s3.website - eu-west 3. amason
. aws.com

6A) DDOS (distributed denial of service) attacks are attempts by a malicious acts to flood a systems & application with more traffic, connections & requests than its it able to handle. This overloads victims computer can even make it unusable during such attack.

To protect from DDOS we can use a AWS Shield a DDOS protection service provided by AWS to all AWS customers with no external charge

We can use A WS Shield in conjunction with DDOS- resilent web services such Amazon cloud Front and Amazon Route 53 to improve ability to defend against DOOS attacks. We can also use Route 53 with externally hosted CDN.

Elastic load Balancing also helps to achieve greater fault tolerance by routing in bound traffic across multiple AWS EC2. instances, it also reduce your attack by retelling requests on behalf of your.

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Ex:

~~A = 105370~~
~~one Solution~~ Example for the defending of DDOS attacks

c) A users browser makes a DNS request to Route 53

2) Route 53 has a hosted zone for your domain

3) The hosted zone serves record.
   a) If request is for apex zone, the alias resource record set for CFD is served.
   b) If the request for subdomain the CNAME for externally hosted CDN is served.

3) cloud front forwards request to AWS S3

4) S3 performs a secure redirect from domain to CDN.

AWS services used in these are Route 53, S3, cloud front.

3) a) cloud watch, logs

   b) SNS (Simple Notification service)

5A) Various modes of accessing AWS cloud.

- AWS CLI
- AWS console
- AWS SDK

AWS CLI :-

The AWS command line Interface (CLI) is a unified tool to manage your AWS services - with just one tool to download and configure and you can control multiple AWS services from command line and automate through scripts. It is one of several methods a developer can use to create and manage tools.

AWS SDK:

AWS has tools for developing and managing applications on AWS. AWS supports these programming languages at the time of writing C++, Go, Java, PHP, Python etc. It provides support for API lifecycle consideration such as credential management, retries, data marshalling and serialization.

AWS - Console.

This is the easiest way to manage resources on AWS. You can log in with the user you created. It is a web-application that composes and refers to

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broad collection of service console for managing AWS. The home page provides access to each service console as well as an intuitive user interface for exploring AWS and getting used to the.

2A) To integrate AWS lambda with APIgateway

1) open functions page on lambda console

2) choss a function

3) under Functionals overview chosse Add trigger

4) Select API gateway

5) for API chose create an API

6) for security chose open

7) chose Add

8) Deploy API

9) Triggers function with an HTTP request

Now create API using AWS API gateway and create resource Set lambda method on resource as destination.

This is method AWS API invokes you make an HTTP request for rest method endpoint.

1 A) import OS

def lambda_handler (event, contlext)
a, b)

```
a = ' @ 'username'' | d = "username 3"
b = "username 2"
c = input ("use enter user name":)
if (c = a)
    k = 1
    for i in orange 1 to 10
    k = k + i
    return k
c, d)  elseif (c = d)
    print (welcome)
    return d
else
    return error
```