Challenge #1

A 3-tier environment

1st create VPC

3 Public subnets that are in 3 Availability Zones for Web server

3 Private subnets that are in 3 Availability Zones for Application deployment

3 Private subnets that are in 3 Availability Zones for database.

Then for Incoming and outgoing traffic we need internet gateway and NAT.

IGW should be created and create RT in between subnet and IGW. So that the internet will come from outside . and then create NAT inside public subnet and NAT should be connected to DB for the internet connections .

We need to create 2 EC2 in both AZ

So 1st create VPC - create VPC – MY\_VPC (Name) and giving CIDR value to my VPC (10.0.0.0/16)

(10.0.0.0/16) = it means I can lunch 65536 ips inside my VPC. Next choose No IPv6 CIDR block .

Next create the VPC.

Next subnet creations. Make sure to choose our created VPC while creating subnet.

My naming convetion of Subnets are like below.

My\_PUB\_WEB\_SUBNET-1 and next select AZ and then put CIDR of IPv4 as 10.0.1.0/24

Create next subnet as - My\_PUB\_WEB\_SUBNET-2 and CIDR =10.0.2.0/24

My\_PUB\_WEB\_SUBNET-3 and CIDR =10.0.3.0/24

Next create App subnets

My\_pvt\_app\_SUBNET-1 10.0.4.0/24

My\_pvt\_app\_SUBNET-2 10.0.5.0/24

My\_pvt\_app\_SUBNET-3 10.0.6.0/24

Next for DB

My\_pvt\_DB\_SUBNET-1 10.0.7.0/24

My\_pvt\_DB\_SUBNET-2 10.0.8.0/24

My\_pvt\_DB\_SUBNET-3 10.0.9.0/24

Next create Route table for web

My\_PUB\_RT select created VPC and create it

For app – My\_pvt\_rt and for DB- My\_pvtDB\_rt

Next associate the RT to the respective subnets

Web Rt to web subnets and app rt to app subnets and db rt to db subnets.

Next create the IGW for the internet connectivity and the IGW is created attach it to the VPC.

Next create NAT and select pub subnet and allocate the Elastic IP and the create it

Add the internet value that is 0.0.0.0/0 in the RT of three Route tables of web , app and Db and point to NAT .

Now create EC2 instance for my jumpserver with port 22 and attach public subnet and our created VPC

Next create another EC2 for my php app , and her in security group we need to add the entry of jumpserver . means we will allow ssh connections from only jump server .

Next create another EC2 for my php select our vpc and select another app subnet .

Now logged in to jumpserver EC2 instance

Next logged into php app server install php and apache packages inside it

And next enable the apaches services and start the services and we need to configure Myphp admin for this we need to install the required packages and give the required permissions .

Next create load balancer with application load balancer and the schme is internet facing only once its is done next establish connection bwt elb and ec2 .

And check the dns of elb and it will work. Means we should see the apache

Now do cd /var/www/html

Put the web contetns

And we need to do it for both the apaches/.

Once done check DNS of elb and it should route the traffic to healthy servers and should distribute the traffic equally .

This is the two -tier architecture.

Now for DB .

Create subnets for the db

Now create the DB select the db and the templates as per the requirement .

Once DB is created enable the connection between app server and db server make sure to add the rule of 3306 in SG.

Now take the end point and go to PHP server next do

Go to phpMyAdmin folder

Rename the file config.sample.inc.php to config.inc.php

Then go inside config.inc.php and add the host entry .

And then check the myphp app in the browser.

Challenge #2

connect to ec2 linux server

first curl the url that is -- curl http://169.254.169.254

the o/p will we can see bunch of dates

no do curl http://169.254.169.254/latest/

o/p - we will see meta-data and dynamic this output we get from user-data

now switch to meta-data

http://169.254.169.254/latest/meta-data/

so get the output in json format for iam securty credentials we need to write the query as below

we need to attach a iam role to our service lets say EC2

http://169.254.169.254/latest/meta-data/iam/securty-credentials/iamrole

the o/p will in a json format.

Challenge #3

term.log("outputis'a.b.c': ",\_.get(object, 'a.b.c'));

term.log("outputis 'a.b.key': ",\_.get(object, 'a.b.key'));

variable object2 = {"x":{"y":{"z":"a"}}};

term.log("outputis 'x.y.z': ",\_.get(object2, 'x.y.z'));