My Last two Months Interview Questions

Note - These all questions are from various top product based companies, Please take this as an challenge and complete all questions including coding in python🙂

If you are not able to complete the coding in python then go over the solution in internet

Thanks
Singam

Zeta - Meal cards / HDFC / Payments gateway

1) How the pods are communicating with each other
2) You have 500GB data how you will store in S3 and what steps you will take to make sure you have time, cost and security implemented
3) What is vpc endpoint
4) In other words, the function needs to find out if we can get the sequence array from the array, when we delete some or no elements in the array without changing the order of the remaining elements.
array: [3, 1,1, 7, 5, 10, 2];
sequence: [1,1, 5, 2]
Output: true
array: [3,1,7,5,10,2]
sequence: [1,3]
output: false

5) What is the network flow when you hit the www.google.com
6) What is TLS and SSL encryption
7) What will you do to make you application more secure
8) What is the architecture of your application CICD deployment in current org
9) What is multistage docker file and its uses
10) What are cgroups and namespace

Zoom - Video conferencing

1) What are tags in ansible
2) What is tf state file and how it is stored
3) How do you clear the server if you continuously get "Space not available"
   By clearing the INODE
4) Write a script to check vowels in a string

Ness - Service based company/ Product

1) What is pod security policy
2) Difference between AMI and snapshot
3) How to upgrade the DB and cluster in k8
4) Pod Security Admission labels for namespaces

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Kubernetes defines a set of labels that you can set to define which of the predefined Pod Security Standard levels you want to use for a namespace. The label you select defines what action the control plane takes if a potential violation is detected:

enforce	Policy violations will cause the pod to be rejected.
audit	Policy violations will trigger the addition of an audit annotation to the event recorded in the audit log, but are otherwise allowed.
warn	Policy violations will trigger a user-facing warning, but are otherwise allowed.

Cimpress: [Product based company]

1) ****How the networking happens when you hit https

First it goes to TLS and SSL
Cache mentions
Security layers mention

2) How you design your pods ito have highly available
3) How the heap memory is shared between

processes [i.e registers/variables same take heap memory or different]

4) What is a shared library
5) What are the difference between single and multi threading

Verient - Product based company

Security

1) How to implement security in k8
2) How you will get the list of Ips of EC2 from various regions that are exposed to internet
3) How will you implement the security for a running container if you find an vulnerability [Redeploy changes via CICD]

[AWS] Numeris

09:09
How do you configure CloudWatch to recover an EC2 instance?

09:10
Consider a situation, where a company wants to

increase its efficiency and the speed of its technical operations by maintaining minimal costs. How do you think the company will try to achieve this?
09:13
What is the use of Orchestration in DevOps?
09:15
How to Ignore the Error Duplicate Resource when applying Terraform?

ORACLE

1) First round LINUX

What are lvms/PV [How to create a logical volumes]

What types of OS patchings you have done

What are the issues in the RHEL side

What is setUID in linux and what it is used for?

What is the version you have used?
cat /etc/os-release

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How to check the linux ip / DNS name

GROWW:- Startup and into stocks

1) What is an ingress controller
2) How you design the node pool in k8

Node pools are the same nodes that share the same GPU,memory, networking, max number of pods.

We can have multiple node pools under same cluster

K8 has two types of nodepools

Systemnodepool
User node pool

3) What are taints and tolerations

AP MOLLER MAERSk - Shipping Containers

1) What is MTR
2) What is some issues of prod
3) What is chaos engg and how you have fixed its issues
4) What are the metrics your monitor
5) Write the code to find duplicate in the array using time complexity
6)

DENSITY EXCHANGE - Co founders / founder - Cryptocurrency

1) Can you explain the ingress controller routing mechanism
2) What will happen if you get no space left on device
3) How you will achieve the DB high availability and fault tolerance
4) What is jenkins and security tools
5) How docker is integrated in jenkins
6) Write terraform code to have the AWS with1 VPC 2 Subnets and each having 1 ec2 instance
7) What is DNS caching
8) What is an i node

```
df -ih

for i in /*; do echo $i; find
```

```
                    $i |wc -l; done
```

Wayfair - Similar like walmart [Stores sale and online shopping website]

how does we know if the linux system is up without logging in

CIMPRESS:

1) Write the Python code to hit the rest endpoint and take our all the urls from the json and again check if the status is 200 or not

```python
import json
import requests
from socket import timeout
import logging


def hit_endpoint(url):
list=[]
```

```python
if(url!="null"):
data = requests.get(url)
#print(data.json())
dump = data.json()
print(dump["count"])
for link in dump["entries"]:
print(link['Link'])
try:
data2 =
requests.get(link['Link'],timeout=10
)
if (data2.status_code==200):
list.append(link['Link'])
print(list)
else:
print("Status Code is not 200")
except requests.exceptions.Timeout:
logging.error("timeout")

else:
print("Error loading the url")
```

```
hit_endpoint("https://api.publicapis
.org/entries")
```

CALIX [MOST SCENARIO BASED QUESTIONS]

1) How to use a pod to have the shell script without the container

Use configmap as data and add it to pod

2) Who tells tells the kubernetes to run a pod
   KIND:pod
   There are system-

3) What are CRDs in kubernetes
4) What are terraform state files and how you will read a value from it
5) What is the k8 version you are using
6) When you did kubectl get nodes [What engine it is using other than docker]
7) What is the prometheus configuration file

The control plane pods are run as static Pods - static Pods are not managed by the control plane controllers like e.g. DaemonSet and ReplicaSet. *Static pods* are

instead managed by the Kubelet daemon on the local node directly.

8) What is BGP?

BGP (Border Gateway Protocol) is the routing protocol of the Internet, used to route traffic from one autonomous system (AS) to another. It's an important topic to understand if you work at an ISP or at a large company that is connected to two or more ISPs.

Rakuten:

1) What is difference between stateful sets and deployments in k8

stateless applications where the data from the clients do not get saved in the server between servers, stateful applications store data in persistent disk storage and keep tracking so that it can be used by clients, servers, or other applications.

Deployments are used for stateless applications Statefullsets are used which need the persistent storage

2) What is containerd

Containerd is a container runtime that manages the lifecycle of a container on a physical or virtual machine (a host).

MONITORING:

1) **Do you have any experience on Appdynamics, Dynatrace**
2) **What are k8 operators**
3) **How to convert the Jar into a helm chart**

ADOBE:

1) Create the architecture for cloud
2) Give the best security for a trading app

3) Give the design for CICD with helm/docker/K8 deployment
4) How will you manage your cost on AWS for each service can you write a python code for getting the difference for each day cost
5) Write the terafform / pipeline for creating a cassandra DB / MYSQL
6) What type of scaling is used in front of DB if we used ALB then scaling will effect DB
7) What is packer and how will you create the GOLDEN AMI
8) How you can get the IP address from 1 lakh servers and on that server you need to replace a file

TERRAFORM [VARIENT ROUND 2]

1) What are the commands of terraform apart from init, apply, plan
2) How you maintain the state file

**YULU**: BIKES Startup

1) What are k8 webhooks
2) What is an admission controller?
3) To reduce the number of intakes in front of API server
4) What is the life cycle of pv
5) Have you done the backup of etcd

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6) Where the certificates are stored in control plane
7) what are collectors/epoters in prometheus
8) what are the use of partitions of kafka
9) How to do offset maintenance in kafka
10) What are consumer groups
11)   How the schema is designed in kafka
12) How the DB is having multi region and the delta change is detected
13) What is the main difference between cassandra and mysql
    Cassandra is for click based events
    Mysql is for translation related events

MYNTRA/GROWW SYSTEM DESIGN AND CODING ROUND

1) **Design a high availability 3 tier system where your deployments will happen on EC2**
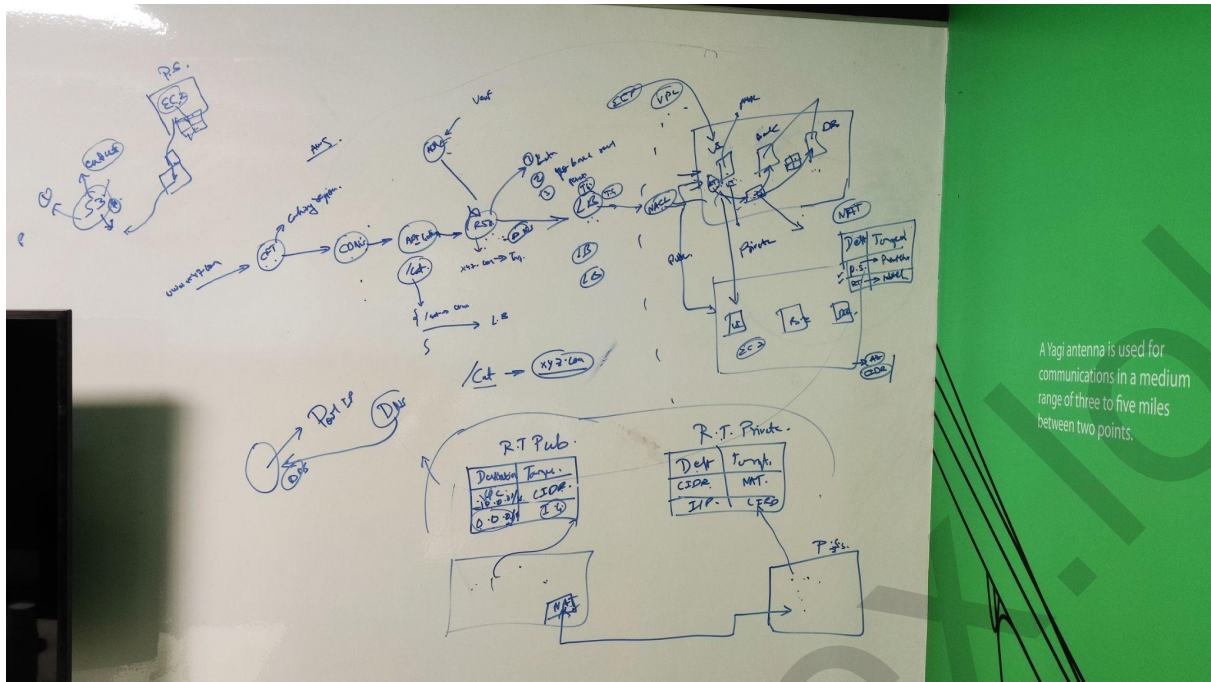
What is Route table

What are default Rt when your VPC is created

What will happen if your one server in one AZ has to talk with other server on other AZ

What is CDN and Cloud front

What is the NAT gateway and its rules

2) Design your pipelines

3) Design a system ONPREM so that your 100kb file is accessed by 1 million users

4) Write the code for below use case
   https://leetcode.com/problems/asteroid-collision/

5) What is a DHCP server

   On an IP network, each device connected to the Internet must be assigned a unique IP address. DHCP helps network administrators to monitor and assign IP addresses in a centralized manner. It can automatically assign a new IP

address to a computer when it is moved to another location.

FRESHWORKS CODING QUESTIONS

Print the non-matching (unique) characters in a string with time complexity O(n)? Input: str = "aabdeffe" Output: b, d Input: str= "abcbde" Output: acde
Given an array of random numbers, Push all the zero's of a given array to the end of the array. For example, if the given arrays is {1, 9, 8, 4, 0, 0, 2, 7, 0, 6, 0}, it should be changed to {1, 9, 8, 4, 2, 7, 6, 0, 0, 0, 0}. The order of all other elements should be same. Expected time complexity is O(n) and extra space is O(1). Example: Input : arr[] = {1, 2, 0, 4, 3, 0, 5, 0}; Output : arr[] = {1, 2, 4, 3, 5, 0, 0, 0}; Input : arr[] = {1, 2, 0, 0, 0, 3, 6}; Output : arr[] = {1, 2, 3, 6,

1) **What is the docker cache**

HOTSTAR:

- # Library management system
- # Any library member should be able to search books by their title, author, subject category as well by the publication date.
- # Each book will have a unique identification number and other details including a rack number which will help to physically locate the book.
- # There could be more than one copy of a book, and library members should be able to check-out and reserve any copy. We will call each copy of a book, a book item.
- # The system should be able to retrieve information like who took a particular book or what are the books checked-out by a specific library member.
- # There should be a maximum limit (5) on how many books a member can check-out.
- # There should be a maximum limit (10) on how many days a member can keep a book.
- # The system should be able to collect fines for books returned after the due date.
- # Members should be able to reserve books that are not currently available.

- # The system should be able to send notifications whenever the reserved books become available, as well as when the book is not
 returned within the due date.

ATLASSIAN:

1) Round1 - Coding [Jira Platform design and code on various features]
    - User takes subscription of Jira as premium or standard
    - User should get the total cost of the subscription at end of the month
    - If he subscribes in middle of month he should get prorata

2) Round2 - SRE craft interview

Design given by panellist

 Client -> Loadbalancer -> Webtier -> DB tier -> Messaging queue -> SMTP -> Process

How will you include observability in all the systems

Client side - Number of requests coming in [RUM] Geographical locations of the users

Loadbalancer side - Latency/ Number of requests coming in and going out /<u>Status codes</u>

<u>Web tier side</u> - **Lanecy**
Incoming and outgoing requests

Kafka Side - Retention perids/ Batch process time / Compression type

Client Side DDOS - Use the CDN [Rate limit the incoming requests]

FOX ENTERTAINMENT:

1) **How the k8 node scaling is taken care/what tool you are using**
2) **You have two env and you need to create the VPC/EKS. Create a folder**
3) **You have the pods and you need to have replicaset and how will you tell pods to deploy in multiple instances**

NETWORKING RAZOIRPAY

1) **What is the load average**

Linux load average is a metric that shows the number of tasks currently executed by the CPU and tasks waiting in the queue.

2) **If you want to set the alert how can you add that load average in that alert**

n a **quad-core CPU system**, a load average of less than 4 is normal. However, if the load average is consistently above the number of CPU cores, it indicates that the system is under a heavy load.