שאלות לראיון עבודה

\ Cloudops Senior Devops

**שאלת פתוחות \הגיון**

1. הסבר את ההבדל בין Difference between BM – VM – container?

Bare metal is the basic machine – with the CPU and memory. A VM – can take a BM machine and split it up into several smaller machines. For this you need a Hypervisor – and the HW ability to allow that. Each machine is separate from each other. There are some types of VM that allow for overloading of the CPUs – so that you can actually allocate more than the number of CPUs – based on the premise that not all VMs will be fully working 100% of the time.

Containers are like micro machines or functions – that run as separate entities on a VM ( or BM) – they share the resources of the machine – i.e each container does not really have exclusive rights over the CPU and Mem of the machine. Also the disk can / might be shared. For a container to run – you need a container runtime – like docker or containerd.

1. הסבר כיצד ניתן להגדיר תהליך CICD המשתמש בJENKINS SLAVES דינמיים (AWS \ OS \ VMWARE)
2. פרויקט מעניין, הצלחה וכישלון

# **Docker \ containers :**

## What is container?

Containers are **lightweight packages of your application code together with dependencies such as specific versions of programming language runtimes and libraries required to run your software services**. A container is **a unit of software that packages code and its dependencies so the application runs quickly and reliably** across computing environments.

## What is docker image?

A Docker image is **a file used to execute code in a Docker container**. Docker images act as a set of instructions to build a Docker container, like a template. Docker images also act as the starting point when using Docker. An image is comparable to a snapshot in virtual machine (VM) environments.

## What is dockerfile?

A Dockerfile is **a text document that contains all the commands a user could call on the command line to assemble an image**.

## describe docker replacements?

Containerd ? Podman ?

## How to configure container to get host ip?

From stack overflow:   
/sbin/ip route|awk '/default/ { print $3 }'

Or via the AWS address space -   
curl http://169.254.169.254/latest/meta-data/local-ipv4

## Is data saved in container is ephemeral?

Yes – the data saved there is only available whilst the container runs. However, if you add a mount point, and save the data to the external mount point – then the data will still be available after the container exists.

## Where are images saved?

In the local docker registry on the machine.

## Other options? + bonus Explain CRI-O \ runtime \ containerd

A container runtime is **a low-level component of a container engine that mounts the container and works with the OS kernel to start and support the containerization process**.

**Git:**

## What is git ?

Source control system

## Github vs. gitlab (or similar)

## Describe the steps for creating and working with new repo

## Describe branch strategy you work with

## Other tools?

**Configuration mgmt.:**

## What is CMS?

Configuration Management system. Or a Content Management System.

## Tools you know \ worked with?

Have only worked with Git -

## Ansible vs. salt

Have used Salt – but not very knowledgeable about it. Used the salt stack to reach a certain state. Used Pillars as variable to the salt. Heavily used Jinja to with salt templates.

Ansible used to deploy and create infrastructure on AWS. But can be used for other stuff too. Ansible tends to be idempotent – i.e. you can run it again and again – and be sure you get the same results. We used it initially as iac.

## Describe CI\CD process

This was out CICD process:

* OS:

## Describe the MAIN components in OS

CPU, Mem, disks

## How to deploy OS?

Bootstrap with usbkey – to deploy mini OS – that will download via internet ( if available ) another OS – which is put onto boot sector – and deploys OS.

## Describe an auto way to install and configure BM server

Never done it.

**Jenkins:**

## What is Jenkins?

An opensource automation server. Loads of plugins – and has the ability to use – user created plugings.

I have only used managed Jenkins.

* .

## How to backup Jenkins

I saw on the internet – that one can use a jenkins backup plugin.

## How to deploy Jenkins using docker?

<https://www.jenkins.io/doc/book/installing/docker/>

## How to connect slave?

<https://www.baeldung.com/ops/jenkins-slave-node-setup>

## Jenkinsfile? Pipeline? Plugins?

## How would you configure HA?

**Orchestration:**

## Describe in short k8s, nomad other?

## Ways to deploy k8s

## 2 nic per pod?

<https://docs.aws.amazon.com/eks/latest/userguide/pod-multiple-network-interfaces.html>

## LB on premises k8s – and on cloud

## Helm? –

## CNI? –

**Monitoring:**

* Describe some monitoring tools you worked with \ implemented.
* main difference between ELK and zabbix

**AWS – CLOUD:**

* VPC?
* AZ?
* S3?
* How to work securely in private VPC with global regional services (like s3)?
* Cost mgmt.?
* Deploying to AWS?