DOCKER QUESTIONS

1. what is docker?

Docker is a container technology used to build, run, test, and deploy applications.

1. What is docker image?

Docker images are read only templates that contains set of instructions for creating a docker container, It provides a convenient way to package up applications.

1. What is docker container?

Docker containers are ready applications created from docker images. Docker containers are used to isolate the applications and their dependencies from the host system.

1. What are the different ways of building docker images?

* Docker image can be built by docker build command from the docker file.
* Docker images can also build manually by pulling the docker images from the docker hub and then building the image by docker image build command.

1. What is dockerfile?

* A dockerfile is a simple text file with instructions and arguments. Docker can build images automatically by reading the instructions given in a docker file.

1. How is container different from VM?

* Docker container and virtual machines both are used to isolate applications.
* Docker containers share the host operating system kernel, while virtual machines have their own operating system.
* Docker containers are lightweight and use fewer resources than virtual machines, as they do not require a separate operating system.
* Docker containers can be easily moved between different host systems.

1. Can you tell something about namespaces and how they are used in docker?

Isolations on the linux machines are created using a linux kernel feature called Namespaces.

* **pID** namespace (Process Namespace) creates the isolated process tree inside container
* **net** namespace (Network Namespace) creates the isolated networking for each container with its own network interface.
* **mount** namespace creation allows each container to have a different view of entire systems mount point, this allows containers to have their own file system view which starts from root
* **user** namespace allows to create whole new set of user & groups for the containers

1. What is the difference between ADD and COPY instruction?

* ADD instruction can add the files into docker image from local file system as well as from http(s). ADD instruction can have sources
  1. local file system
  2. git repo
  3. url
* COPY supports only local file system

1. Can you explain the concept of Layers in docker image?

* Docker image is collection of layers and some metadata, it gets first set of layers from base image. Any additional changes in dockerfile like ADD/COPY creates extra layers. Each RUN instruction which needs some storage creates layer.
* It is recommended to use Multiple commands in RUN instruction rather than multiple RUN instructions as this leads in creating multiple layers.

1. What is the purpose of EXPOSE and VOLUME instruction in dockerfile?

EXPOSE: This adds ports to be exposed while starting the container

VOLUME: This instruction is used to specify a mount point for a volume within the container.

1. What is your workflow for CI/CD with docker containers and where do you store image?

CI/CD refers to Continuous Integration/Continuous Delivery. It is not a tool. It is a continuous methodology for SDLC ( Software Development Life Cycle).

ANSIBLE

1.What is ansible?