General questions

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1. What do you mean by continues integration, continues delivery and continues deployment
2. - Daily activites of devops engineer
3. - challenges that you have faced while working devops
4. - what are the envirnments which are there in the organization
5. - How the deployents move from one env to other env

GIT

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1. Why we need git? What makes git unique from other tools like SVN?

It’s faster to commit.

It’s avilable offline

No more single point of failure

Its avilable even offline

Because you commit to the central repository more often in SVN, network traffic slows everyone down. Whereas with Git, you’re working mostly on your local repository and only committing to the central repository every so often.

1. Let's say i have maven repo cloned on to my local, did some changes and i have build the code now target folder will be generated. So now when i do git operations like git add, git commit or any other git operations target folder should not be considered, how would you achieve the same?

After cloning the srouce code then, I will get into the source code folder and will apply mvn commands like mvn install(it place some directory for mvn to store files and dependencies along with artifacts) then MVN clean istall. Then target folder will appear then we must creat vi .gitignore and LS the files afer build get success then will copy target folder into .gitignore file the your target folder wont appear as you can see only .gitignore file

1. difference between git pull and git fetch?

Git pull=fetch+merge

When you do git fetch it shows the files present in local repository,

Git log origin/main- it shows the additional commits done by others

Git status: it shows commits pending from remote repo

Git merge origin/main: use to merge remote to local repository

Git pull=it fetch and merge the remote repo files to local repo directly

1. How to clone specific branch in git?

Git clone –b branch-name - -single- -branch “gitURL”

1. Lets say your organization has github and bitbucket to store code, you have cloned a repo onto your local and changed directory name. after some days one of your team members asks you to share clone link, how would you provide the same?

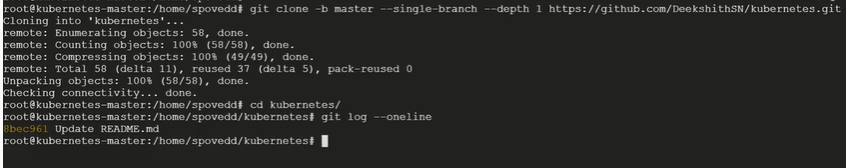
Use command git remote –v and you will get actually directory url for clone



1. I have shell script to delete particular dependency ( repo is maven project ). before running the script i need to clone repo to my local, here point to note i should only clone master branch and only last commit ( last commit has all the code ) how would you do this?

git clone -b main --single-branch --depth 1 <https://github.com/sinnycute/sweet_box.git>

git log --oneline (will get last commit)



1. what is submodule and why we need submodule?

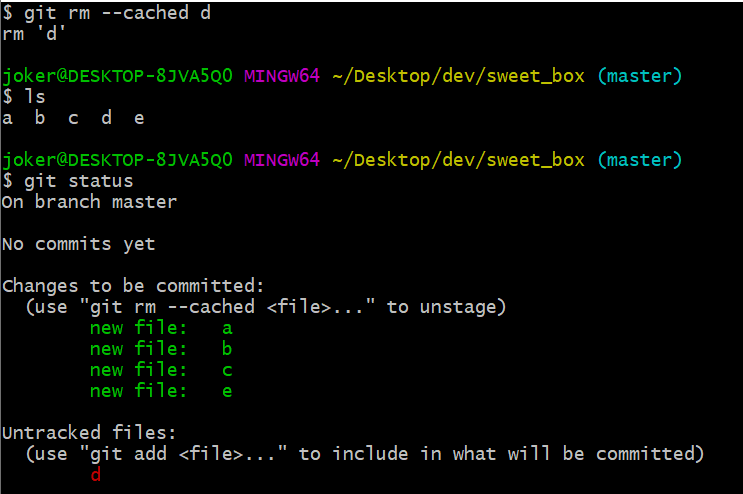
Whenever you need to commit some files into frontend from backend then we use submodule and it creates .git module file then each time you push from backend to frontend automatically the files get appear in front end

Git submodule add ./submariens

To surface and add, commit

1. Lets say you have changed 5 files a,b,c,d and e in a repo and you did git add ., now all the files are in staging area, now i decided not to commit file d. how would delete it from staging area?

Git rm –cached filename



1. What is git-cherry-pick? why we use it?

There are two branchs sonarxyz and test so sonar have abcd and test efgh then I want to pick specific commit b then I will use git cherry-pick commit id

Git cherry-pick 4e0zd

1. Let’s say you’re working on new feature in some branch, now your manager says stop working on that and change few other things on old code. Here after changing the old code, I need to work on new code, so I need to place my new changes some place How would handle this scenario?

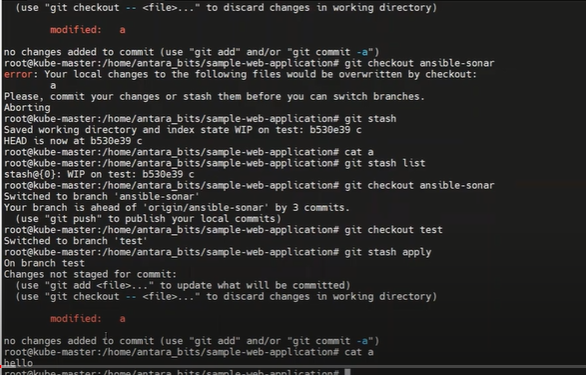
When you switching to other branch, it asks you to commit are add modified things, then you can stash it and you can swith other branch and you can start working once again you swith to particular old branch it show the modified one to opt for add or commit

Git stash

Git stash list

Git checkout old branch

Git stash apply



1. What is a conflict in git?

There are two developers, developer 1 modified file and pushed to master branch, devloper2 created separate branch and committed few changes then by doing git pull in master branch you can understand dev1 changes then, if you try to merge test branch to master. You will face conflicts then you must disucss with dev 1 and what changes need to do then you push to master

1. command to list all branches in a repo?

Git branch -a

1. What is git reset ? Types of reset ?

I commited recently and team lead told that other developer changed it, you must reset it

To commit new file then

To see recent commits

Git log –oneline | head(to see first 10 commits)

Git reset head~1(to reset the recent commit)

After doing this still the file present in untracked way in local directory

git reset - -hard HEAD~1

After this command file will be deleted from local directory

git reset - -soft HEAD~1

your commit id will get remove and file will be into staging area

1. How to delete local branch and remote branch in git ?

Git branch –D branch name

Git push origin - -delete branch name

1. Difference between git diff and git status ?

Git diff commitid-1 commitid-2

Comparing two commits

git status commits where exactly they are In staging area or in working directory and so

1. What are hooks in git?

If you take suppose kubernetes project there will be some validations will be there

When you connect to .git folder and switched to hooks/ folder

When you done some changes to deployment.yaml file then you do git add. And commit

It throw error that its not validaed yamal and kubernetes schema validation then you can swith to the

Particular links and you can enable or disable the permissions to commit the changes

1. what is the importance .git directory?

You cant execute any git related commands if you don’t have this .git folder it contains

Objects, branches, index and hooks information

18. what are the branches, diff between remote and local branches?

19. what Branching strategy that you are familier with?

Master branch..in the Develop-both devops engineer get task for one person create docker file or other person do some configuration file and wil raise it to pool request one of the seniors or team lead do some test validations once it get pass the relase will be pushed back into master and create tags the release wil deploy into produciton environment

20. What PR (Pull request) is? whats the importance of PR?

We create separate branch without touching the main branch and do some changes and for merge we call pool requests, seniors reviews it and if everything is ok after several checks will merge the pool to main

21. Which version of git you have used?

2.31.4 tell older version

22. Difference between git merge and git rebase?

23. What is git squash?

24. Branching strategy used in your project?

25. Command to list all commits?

Git log

26. Branching strategy?

27. Need a script which identify inactive branches ( no commits since 2 months )?

28. How to set configs globally in git?

Maven

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1. when i issue mvn install what all things happen in background?

See image 1 maven

There are three built in buildlifecycles: default, clean and site

It’s a project management tool

1. what are the settings you need to do before running mvn deploy?

In pom.xml under distribution management we must mention repository

Server url and in settings.xml we have to give the server id example:nexus repository

1. why maven takes much time for 1st execution and from 2nd execution it will take less time?

If dependencies already present in local repository it will take less time, if not it starts check in

To centrall repository so it will take much time

1. what is multi module project in maven and what are the setting you want to do in multi module parent and child project? what is dependency management?

In multi module project pom.xml the packaging must be given as “POM” and modules> child modules need to mention in child modules also we need to do change in parent group id must be parent details

5. what is transitive dependency?

6. .m2 is local repository for maven, now I don’t want to use .m2 folder as my local repository I want to use some other folder as my local, is it possible in maven? If yes, how would you do that?

```

mvn install -Dmaven.repo.local=/alternate/repo/location

```

7. maven follows convention over configuration that means it assumes code should be there under src/main/java, test cases under src/tests and many more.Here my requirement is I don’t want to follow that conventions I need to use different folder structure is that possible in maven?

```

mvn help:effective-pom -Doutput=pom\_eff.xml

```

8. What are dependency and plugin in maven? Give one example for each?

Dependency is like a framework, jar file or library, in pom.xml there are dependency group mentioned

In dependency tree with junit

Plugin is a piece of code reuse In all projects to get some dependencies and features in pom.xml we can see as artifact id for example: tidy-maven plugin

9. What are 3 build life cycles in maven?

Default:

Clean: its not only build tool, it is also a management tool so if already jar file is available in target folder done previously

Site:it creates projects site documentaion

Validate: correctness of project

Compile: compile source code of the project

Testing:

Package: take the compiled project make it distrubutal code to ex jar

Verify: run integration test and validate enusre that quality criteria met

Install: install the package into local repository and for use as a dependency in other projcets locally

Deploy: done in the build environment and copy the final package to remote repository for other developers

10. In Which tag we will mention output artifact type( like jar, war or any other)?

<Packaging>war<packaging>

Jar file no need to mention

11. What are things you need to set, if you want download dependency from private repository ?

Mvn clean install

Then it go through tests and all, then it download depencies in .m2 folder in the set.xml in <mirrors> </mirrors> we must have reffrence to ip and all, if some of plugins failed then you must install it

12. What are the issues you faced while working on maven projects?

13.Command to skip the test cases in maven

mvn clean install -DskipTests

14. what is multi module project?

The project folder consist of dependency management folder under that, parent and child modules are present there in pom.xml in <packaging> pom<packaging> act like parent suppose in <modules> add<modules> <modules> substraction<modules>

15. what is the importance of dependency managment?

Suppose your manager tells you that junit new version need to add this maven project then, there may n number of childs then we can go to parent pom.xml under dependency we mention the version it automated to child modules too, insteaed of manually changing version to all child modules,

17. mvn version that you have used?

19. Is there way by which we can set local repository as some other custom directory, other than .m2?

Its not mandatory to use same .m2 directory, if you want to use some custom directory then you can use this command

Mkdir maven-local-repo

Mvn clean install –Dmaven.repo.local= .m2 directory path name

20 Settings that you make for mvn deploy?

21. What is the default value of packaging tag? What other values for other artifact types?

Default packaging tag was jar, in case for web application is “war” , when you required war but you didn’t mentioned it but it generate jar but it wont work properly

22. What are GAV's?

Group id and artifact id and version in maven

Unix and Shell Scripting

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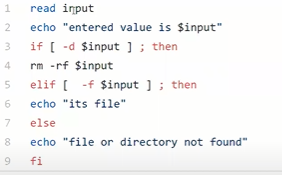
1. How to get present working folder?

Basename “$pwd”

1. How to copy files from local windows machine to cloud based Linux machine?

Scp filepath user@hostname:path

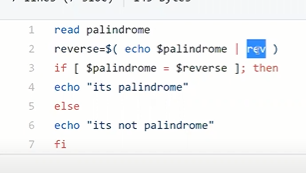
1. write a script which accepts file or folder, if its folder delete it else print "this is a file"?



1. How to check whether particular port is already in use or not?

Netstat –tupln

1. Logic for checking whether supplied string for a script is palindrome or not? what are all the commands you will use?



1. command to get number of lines in a file?

Cat palindrome.sh | wc –l

-c for char

-w for words

7. A shell script named test.sh can accept 4 parameters i.e, a,b,c,d. the parameters wont be supplied in order always and number of parameters might also vary( only 2 parameters user might supply sometimes), how to identify position of letter c?



Sh test.sh abdc

C in 4th position

8. In a file I have ip addresses , I want list unique ip addresses with number of times its present in file?

```

grep -E -o "([0-9]{1,3}[\.]){3}[0-9]{1,3}" logfile | sort | uniq -c | sort -nr

```

9. What is exit status in UNIX?

Echo $?

Must show zeo to succcessful exit

10. Lets say I have shell script name magic.sh when I execute. It gives “This is from magic.sh”, so now if I change file name to magic-test.sh I should get “This is from magic-test.sh” basically as name of file chages my output should also change?

Mv magic.sh magic-test.sh

Echo “this is from $0”

11. What is shebang ? Why it is used?

The shebang is a special character sequence in a script file that specifies which program should be called to run the script. The shebang is always on the first line of the file, and is composed of the characters #!

12. Command to find empty files in a given directory?

Find . -empty

13. Commands you will use it for configuring ssh connectivity between 2 machines and what files will be present in .ssh folder?

Ssh-keygen for first machine

Ssh-copy-id root@other machine

Id\_rsa

Id\_rsa.Pub

Known\_hosts

Authorized\_keys

14. How to schedule a shell script in unix machines?

Crontab –e

Go to site crontab

Copy the timing and in bash vi it with pasing code and ./file.sh

15. Command to get load average ?

top

16. Need to identify ip addresses in log file and count of ip addresses in log file?

grep -E -o "([0-9]{1,3}[\.]){3}[0-9]{1,3}" logfile | sort | uniq -c | sort -nr

1. what is command for checking the running process? how to get PID of process?

Ps -eaf

18.Command to get whether certain port is listing or not?

Netstat tunlp

1. How to indentify the number of params that has been sent to shell script?

Create file

File.sh

Vi it

Echo “Hello”

Echo “$#”

1. command to delete empty line in a file?

Sed -I ‘/^$/d’ file.sh

1. how you identify which machine it is

uname -a

21.Lets say you have a script that will take more than a day to execute, in this case how do you run that script. Also as user you might not able to keep machine in interactive mode for longer period.

Shedule it for 10 sec using script shedule command and use sleep rest of the time usin sleep()

22.is it possible to store a commands output, either success or failure to the same file?

echo hello

x=$(echo hello)

echo "$x",world!

23.what is debug mode in shell script?

shell scripting we don”t have any debugger tool but with the help of command line options (**-n, -v** and **-x** ) we can do the debugging

sh –n simple.sh( -n tell that don’t execute, I want to raise some syntax errors after check if I find)

sh –v simple.sh(verbose: it echos content before executing script)

sh –x simple.sh(xtrace: it telly echo each command with +symbol after each command executed)

24. set of commands executed at multiples places in shell script, want to standardize that is it possible something like to define function?

25.In shell script can we supply parameters to functions?

Ya you can supply parameters but you need to change the mode before execute it chmod +x simple.sh

26.what is the use of shift command?

Shift the positional parameter left by n

27. difference between break and exit 0 in shell script?

Break means exit from the loop, exit means exit from the program

28. delete files which are older than 10 days?

Find ./directory –mtime +10 -type –f -delete

29. delete empty files in a given directory?

**find** ~**/**Downloads**/** -empty -type d -delete

Ansible

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1. Why we need ad-hoc ansible commands, scenario where you have used ansible ad-hoc command?

Ad-hoc command uses user/bin/ansible

Version 2.4.1

To ping the host

To copy src to destination

Its not reusable again u have to write command to execute not like playbook

Ansible dev - i hosts –m copy -a ‘src=text.yml dest=a/b/host’

1. When i need detailed logs on executing ansible playbook what option i need to use?

Ansible-playbook –I hosts copy.yml -vvvv

1. what is ansible.cfg file?

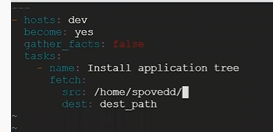
It present in etc/ansible

You can define certain settings in ansible.cfg

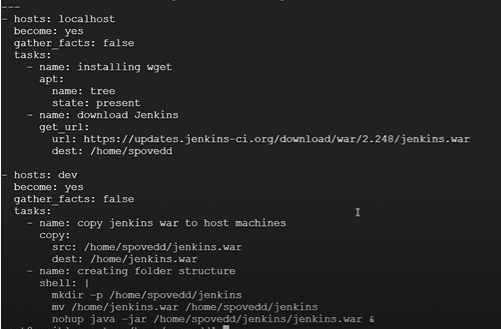
1. what are the modules have you worked on? which module will you use for getting the file from node to master?

Modules: copy, fetch, apt, command, shell, template, yum

Its basically fetch module, to fetch module from node to master



1. Lets say i have a playbook which has 5 tasks in playbook, first 2 tasks should run on local machine and other 3 tasks should run on node?



1. Lets say i have 4 machines consider 1 as ansible master other 3 as nodes, what are the basic setup you need to do for ansible cluster?

Ansible can run with any machine using python2 or 3

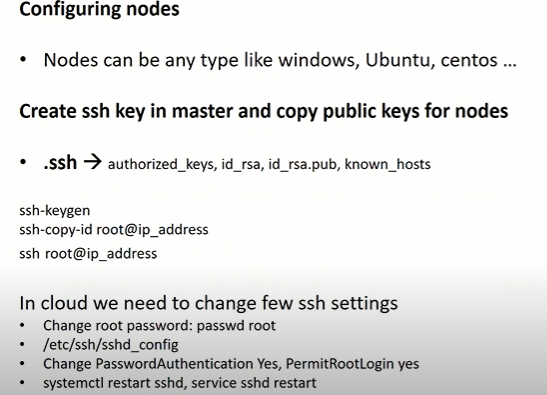
Apt get update

Install software common properties

Add repository

Apt update

Install ansible



1. what are ansible roles? why we need ansible roles? have you worked on ansible galaxy?

Place the group of playbooks in one file, and it reduces complexity and increase the code reusability

It’s a functionality not a playbook, it helps like framework for fully dependent or interdependent collections of variabls,task, templates and modules

Ansible galaxy create folder structure to ansible roles in a repository

1. What are ansible facts?

When you execute gather\_fact=yes then it gather all information of remote machine, version

Setup is a module to gether facts in terminal

1. Can we have windows machine as ansible master? as node?have you worked on any windows modules? can you list few?any extra configuration do we need to do?

Yes we can there is certain set of windows modules are available

Win-chocolatey package manager

Win-chocolatey-facts

Win-chocolatey-source or defrag

1. What is the best method to make your ansible YAML files reusable?

Creating roles make yaml resuable, we seggregate lot of things and you can distribute across

1. What is ansible vault and ansible tower?

Suppose we have any sensitive information need to store then we use vault suppose when we use env variable for dbpassword its not seen by others

Ansible-vault edit pass.yaml

It ask you the password

Tower is enterpraise version so far we have not used it

1. Lets say I have playbook need to be run with Root user how would you do this?

Any installations, update and upgrades you must run as a root to not to face any complexities

1. Difference betw18. Why ansible ? What makes ansible powerful than other tools like chef and puppet?

Suppose you need to install java, git or maven on 50 machines we need to do manually download .rar file and extract and install it on each machine its very time consuming, throw ansible we can write a playbook for listed hosts and execute on all machines suppose if time taken for that manually is 30 hrs it will be done in 3minutes

Chef and pupped use their one configuration language to configure machine from chef to puppet but now a days yaml is become common language and playbook also wrote on that and even it is faster, when it come to chef and puppet, once the host talks to nodes by ssl again nodes request instructions back and agent need to install on each machine, but in ansible if you get ssh connection that is more than enough to talk to nodes and it is fast again.

Ansible works even on cloud to create infrastructure

1. 5 modules that you have worked on? Can we create custom module ?

Copy, fetch, shell, command, apt,yum, template

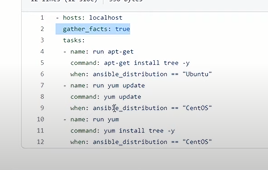
Yes you create module, but you need to know python

1. What is dynamic inventory in ansible?

Whenever we start or stop server we will get different ip’s, to fetch dynamically changing ip’s

We use dynamic inventory written by python scripts. We must have proper credentials to allocate it

1. Lets say I have both Ubuntu and centos machines as nodes I want install application tree using same playbook, how would you approach this scenario?



We use when condition ansible\_distribution to do that,

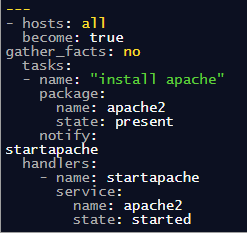
1. How to handle prompts with ansible playbook?een copy and fetch module?

There is no\_log true is there, when you create user with playbook (?i) for prompt. Your password wont visible to others when you create new user it will be the best practice for sensitive information

1. What is ansible galaxy

It’s a repository we can reuse already available roles instead write it from scratch ex install tomcat and all

1. What are handlers and notify in ansible playbook



1. Is it possible to set fact using ansible playbook?

It is used to set or get variables

22. can we concate line to exsisting file in remote server, example exporting env variable in bashrc? ( also imporatnt when the playbook runs again if the value exsists then you should not insert)

23. Difference between copy and template module?

The template module also copies a file to a remote server, but it allows you to use Jinja2 to render a template to a file dynamically. This enables you to use variables, such as Ansible facts, to customize a particular file for a specific server

You want to copy something from master to nodes then you use copy, if something you need to copy from node to master then we use fetch module

24. In one of the template file need to use remote machine ip, how do we read the machine ip value?

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- hosts: localhost

connection: local

tasks:

- debug: var=ansible\_all\_ipv4\_addresses

- debug: var=ansible\_default\_ipv4.address

Jenkins

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1. How to save only last 5 builds of jenkins job?

2. Have you worked on Jenknsfile? can we use docker container as a node in Jenkinsfile? Who will handle docker container creation and deletion? If i am building a maven project always docker container is fresh instance it will try to download dependency from repository, what measures you will take to reduce build time?

3. Why we need multi branch pipeline?

4. If you forget Jenkins password, how would you login back?

5. Have you worked on commit based job in jenkins? what settings you need to do in jenkins and github to setup commit based job?

6. you want to create 50 freestyle jobs with same configurations, but only change is job name. how would you achieve the same?

7. How can you copy job from your local jenkins instance to other local jenkins instance?

8. How to Downgrade plugins in Jenkins?

9. Have you worked on Jenkinsfile? Can we use different nodes for each stage?

10. Can you list few ways by which we can trigger our build in Jenkins? What is the difference between Build Periodically and Poll SCM?

11. How to set Jenkins build to fail based specific word in console output ?

12. What are active and reactive parameters (Dynamic parameterization) in Jenkins ?

13. How to customize the build number display to something else in Jenkins job page?

14. What are multi branch pipeline?

15. What is shared library in Jenkins ?

16. what is the need of CICD tools?

17. What type of Jenkinsfile you have worked on?

18. In master slave setup if I want run job on specific node is is possible?

19. what is the importance of Jenkins secrets?

20. What are types jobs you have worked on??

21. Can we have job for pr and once merge is done the source branch should be deleted?

22. How do you take Jenkins backup?

23. Can you tell me importance of post block??

24. list of best practices to follow while writing Jenkins pipeline?

25. Is it possible to run each stage on different agaent?

26. Is it possible to change success or error message that we see in console ouput ?

27. Have list of command that has to executed in certain directory in the code, is it possible to do the same?

28. Can we have versioning on Jenkins freestyle job?

Docker

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1. Any 3 best practices of docker?

Keep dockerfile always in empty directory,

From: busybox

Run: touch a

It takes a 56 mb if now you create new directory then it takes only 2kb next time

Use offical image when possible

Use specific tag openjdk:8

Look for minimal flavours like alpine

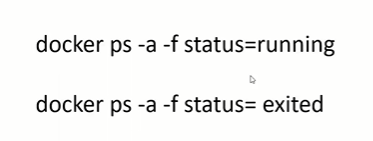
Docker multistage reduce the build ups and reduce the size of images

1. Difference between docker stop and docker kill?

Docker stop gives grace period to kill the container

Docker kill, kills the container directly suppose you want to assign signals you can assign it

1. Command to list conatiners which state is exited?



1. command to clean-up docker host ( deleting stopped conatiners, dangling images and unused networks)?

Docker system prune

1. What version of docker you have used? Specific reason to use that particular version?

**20.10.** **16**

6. Can we have multiple CMD in Dockerfile?

We can have it but only the last CMD will be take it to account

1. Have you worked on docker swarm and docker compose?
2. Have you worked on multi-stage dockerfile and why we need that?

Yes I am worked on it, it helps to reduce image size

A multistage build allows you to use multiple images to build a final product. In a multistage build, you have a single Dockerfile, but can define multiple images inside it to help build the final image

Each image get build it treated to cache and it execute next image once the help of that particular images done

1. Lets say i have container which is attached with a volume, if container crashes what happens to volume?

Docker volume prune, docker volume still exitsts in exit state for that container

1. can you copy a file form local to run container?



1. Lets say I have 1 GB file that has to be sent to docker daemon, as its 1GB it will take muchtime and network too. By which option while building dockerfile we can send the fileIn better manner?

Docker build - -compress .

1. What is the difference between ADD and COPY docker instructions in Dockerfile?

ADD it add url, tar files to containers, if you don’t have this task you can use copy

1. Command to remove to stopped and running Containers?

Docker ps –aq

Docker stop $(docker ps –qa)

1. Inside the container I did many changes like Creating, modifying and deleting file but I Wanted to check which files has been changed And what action has been taken what is the Command we need to use ?

Docker diff container id

1. What does ONBUILD instruction do in Dockerfile?

Docker parent image onbuild as base image of any other docker file, when you are doing multiple project

Onbuild parent image

Onbuild workdir/app

Onbuild copy ./app

Onbuild run python

Ex:

From parent image

Run

copy

1. What is the use of .dockerignore file?

Suppose am building an image, suppose in that directory there is war or jar files left which I don’t want to build then you can create .dockerignore and mention filenames jenkins.war then

You build it, you can see the difference with .war and jar file size will be 54mp now it is 5kb

1. I have dockerfile that accepts arguments, if I supply value as “1” then it should use maven 2.x version for base image and if I supply “2” then it should take maven latest as base image

18. What are docker compose and docker swarm?

19. How to configure docker private registry?

Nexus, with ip and port, tag and push

Types of network in docker? if you dont specify network to deploy on which network the conatiner will be created?

bridge networks, used within a single host, overlay networks, for multi-host communication, and macvlan networks which are used to connect Docker containers directly to host network interfaces

1. Explain a sample dockerfile that you have used in your project?

FROM

Wordir

Copy

run

1. Can we launch linux conatiners windows and viceversa?

You cant create a widows containers on linux machine and linux containers on windows machine

23. Why we need docker compose and docker swarm

24. What's the difference between docker volume and docker mounting

25. What is the importance of .dockerigonre file, can name docker file with any other name?

26. I need to delete all stopped containers and unused images command for that?

Docker container prune

Docker image prune

Unused images: docker rmi $(docker images –aq)

Docker tag parameterize?

Docker build - -build-arg base\_image\_version=21.1.0

27. How do you monitor docker in production

28. Is it good to use docker compose in production

No, only used for dev related activies, docker compose availability is not achieved and reachability is not achieved

Diffrence between entrypoint and cmd in docker file

CMD provides defaults to running container, entrypoint configure container to run parameters as executables

Kubernetes

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1. Can we have multiple conatiners in a pod? Can we have similar conatiners in a pod? Lets say i have 4 conatiners, one of them has failed how would you check which container has failed?

You can have, you cant have similar containers in a pod, kubectl describe pod podname

1. What is liveness and readiness probe? Why we need them?

Kubernetes uses liveness probes to know when to restart container

If a contaier Is unresponsive due to some deadlock thread or defect, it restarts and make application more availabele

Readiness probe: when the container availabel to accepting the traffic

Which pods can used as a backend for service, if only will the ready pods are serve the service, if any pods are failed will be removed by loadbalancer, and route the service to another healthy pods immediately once the pods are available

1. Have you worked on kubernetes monitoring? Which tools you have used?

4. Can we deploy a pod on particular node?

Yes you can, when you apply pod.yml file it create pod, suppose you want create pod on specific node

Kubectl get nodes

Kubectl get all –o wide(to get node names)

Change yml file NODESELECTOR: node name and apply yml kubectl apply –f pod.yml

1. what is init container and side-car container?can you give simple scenario where we use these conatiners?

Init container run and exit before container starts

Moving some file into application container ex: themes and configuration

Side-car container run side by site and provides some kind of service, it can be proxy or gives easier access to database

1. which one is default deployment strategy? how it works?

Bluegreen, canery, rolling update

If you take replica 5 and created pods with yml, again you have done some changes so rolling the update amoong all replicas will start

1. command to check the container logs in pod?

Kubectl logc podname –c container name

1. what are the types of services present in kubernetes?

Cluster Ip: it expose the service inside the cluster

Nodeport: it expose service to public

Loadbalancer: it balances the traffic and assign to particular nodes and traffic is more then it routs to target group

1. What is the link between pod and service?

Pod definition file, pod label should be match with the selector, service is for pod not for deployment

1. List objects you know in kubernetes?Give a brief about each object?

Pod

Services

Replicaset

Secret

Daemon sets

Stateful sets

Volumes

namespaces

1. Command to list pods and deployments

Kebectl get all

1. Components in kubernetes architecture?

Api server

Etcd

Controller

Sheduler

Kubelet

Kubeproxy

Container runtime

1. What are stateful sets in kuberentes?

Stateful sets is a api used to state increasing or decreasing replicas, manages deployment and scalling of pods

14. Command to find which container has failed in pod and command to get logs of container

15. Tools to maintain kubernetes log files

Prometheus

Gafana

Kube watch

jaegar

1. What is Pod?

A pod is **the smallest execution unit in Kubernetes**. A pod encapsulates one or more applications. Pods are ephemeral by nature, if a pod (or the node it executes on) fails, Kubernetes can automatically create a new replica of that pod to continue operations.

1. Creation of cluster for k8s, can we have multi master and multi nodes cluster?

Kubernetes High-Availability is about setting up Kubernetes, along with its supporting components in a way that there is no single point of failure. A single master cluster can easily fail, while **a multi-master cluster uses multiple master nodes**, each of which has access to same worker nodes.

1. On what basis the pod will be deployed on a specific node?o

In a nodeselector field there you have to mention node name and you can deploy pods along with pod name in a lables

1. Can we deploy pod on master node?

Due to security concern kubernetes wont entertain to deploy pod on master node, you can deploy it in test environments to maximize resource usage, control plane had minimum cpu and memory,

1. What are steps that you might take to make one node into maintance?

metadata:  
  name: my-cluster  
  namespace: cluster-my-cluster  
spec:  
  maintenanceBlocks:  
    cidrBlocks:  
    - 172.16.128.1-172.16.128.64

configure the cluster

kubectl –n namespace edit clustername

kubectl get nodes –n clustername

kubectl get nodpools

then it shows some node under maintaineance

1. In the kubeadm setup the control plane components are created as pods, where the defination those pods will be defined?

Kubectl describe pod podname

1. Why config maps are used

Its an api used to store key values, commond line arguments, environment configuration, allows you to decouple environment configurations from your container images it helps to make application easily portable

1. What is the default deployment strategy

Rolling Update Deployment. The rolling deployment is the default deployment strategy in Kubernetes. It replaces pods, one by one, of the previous version of our application with pods of the new version without any cluster downtime.

25. Have you faced any issues while working k8s

26. What is service account, role, role binding and namespace

Kubernetes service accounts are Kubernetes resources, created and managed using the Kubernetes API, meant to be used by in-cluster Kubernetes-created entities, such as Pods, to authenticate to the Kubernetes API server or external services.

In Kubernetes, ClusterRoles and Roles define the actions a user can perform within a cluster or namespace, respectively. You can assign these roles to Kubernetes subjects (users, groups, or service accounts) with role bindings and cluster role bindings

Role binding grants permissions within a namespace, cluster role binding grants permission cluster wide

27. Why we need helm

Helm is a Kubernetes deployment tool for automating creation, packaging, configuration, and deployment of applications and services to Kubernetes clusters . it avoids duplication, helps productivity

28. explain any 4 different types of pod statuses and also the reasons that why pod might go into that state?

Pending The Pod has been accepted by the Kubernetes system, but one or more of the Container images has not been created. This includes time before being scheduled as well as time spent downloading images over the network, which could take a while.

Running The Pod has been bound to a node, and all of the Containers have been created. At least one Container is still running, or is in the process of starting or restarting.

Succeeded All Containers in the Pod have terminated in success, and will not be restarted.

Failed All Containers in the Pod have terminated, and at least one Container has terminated in failure. That is, the Container either exited with non-zero status or was terminated by the system.

Unknown For some reason the state of the Pod could not be obtained, typically due to an error in communicating with the host of the Pod.

29. what are operators and give one example where we can use operator?

Kubernetes operators enable you to easily extend Kubernetes capabilities for specific software and use cases. For example, database operators let a Kubernetes user securely deploy and manage specific databases

30. what is the importance of kubeconfig file? Also lets say when you login to kuberenets by default it will pointed to default namespace, if i want list any objects which are other namespace need concate -n option for all the kubectl commands, is there a way we can set the namaspace to aviod -n option in all the commands?

A Kubeconfig is a YAML file with all the Kubernetes cluster details, certificate, and secret token to authenticate the cluster. You might get this config file directly from the cluster administrator or from a cloud platform if you are using managed Kubernetes cluster

31. given a object how do we find api version and kind with respect to cluster?

Apiversion:1.2 version field

kubectl explain object(pod,service)

32. any work around to bring one pod out of rotation, when multiple replicas has been deployed?

kubectl scale deployment <<name>> --replicas=0 -n service

ghp\_HV0vVCHuOOMMoZ3w0r48w2cmh1iYi53Kt8rr

AWS

1. What are roles and policies in AWS IAM?

Policies is a document have list of permissions, in which you can give access to user, gropus ans so on

1. Lets say I have 50 users , for all 50 users I need to provide same privileges how do it?

Will create a group of 50 users and attachng them the permission for access

1. I want to give programmatic access means They can access AWS services via api’s But should not be access AWS web console

While creating user in IAM, you can find programmatic access and aws console access, there we can enable programmatic access by providing access key

1. As AMI is region specific I want create Machine with AMI which there in other Region is that possible?

Yes, AMI id will change as per region, in AMI you can choose actions, under that you can copy AMI by select region and you can create AMIs

1. Why we need security groups? By default what is outbound rules?

To create inbount and outbount traffic, ex ssh, http, custom tcp

1. What is VPC? Give a brief about VPC?

Virtual private cloud, it come along with subnets, availability zones, route, route tables, along with internet gateway and nat gatway, if you have private instance and public instance, vpc control the access to private instance from outside world and it allows public instance to talk to private instance.

1. Have you worked on Load balancers? If Yes, tell which load balancers you have used?

Application load balancer, network load balancer based on your project, you just manage traffic to manage load if servers failed to run it diverts load to target groups and manage it hassle freely

1. Lets say I have created auto scaling rule when ever Load goes more than 60% create a new instance Currently I have 3 machines, 1st machine load is 62% , 2nd machine 30% and 3rd also 30%. Now will auto scale rule creates new machine ?

It takes the average 122/3 then if it reach 40% it create the new machine

1. Services that you have worked on?

EC2, RDS, VPC, S3,IAM, auto scalling, load balancing

1. I have 3 tier application, configure it with private and public subnet?

1st project Bastion host, ansible project

1. How to replicate or create same machine with same configuration?

Actions-image and templates-create image

Go to images-AMI-choose the image-create instance-create instance with security group

1. Explain auto scalling in aws?

The overall benefit of autoscaling is that it eliminates the need to respond manually in real-time to traffic spikes that merit new resources and instances by automatically changing the active number of servers

Helm

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1. what is the need for helm charts?

Helm is a kubernetes deployment tool, used to upgarda, install and package and configuring the services to kubernets cluster

1. what version helm your using? what difference between helm 2 & helm3?

Helm 3.9.4

Helm 2 had tiller agent to communicate to cluster

Helm 3 don’t have it, because it come along with great security now, 3 way merge patch

Monitoring

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1. If given a chance to setup monitoring solution for project what are tools that you use?

2. what is the importance of monitoring?

3. difference between metrics monitoring and log monitoring, give example for both type of monitoring?

4. how do we configure endpoint in promethus to scrape the data?

5. what is the use of node exporter and alert manager in prometheus?

6. Can we monitor jenkins using prometheus? Also can we send mailer when jenkins is down?

7. what are metric types that prometheus can accept?

Scripting

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1. You need to identify unused fields In values.yaml how would you approach this