**DevOps Question and Answers:**

### 1)Which Testing tool are you comfortable with and what are the benefits of that tool?

I have worked on Selenium to ensure high quality and more frequent releases.

**Some advantages of Selenium are:**

* It is free and open source
* It has a large user base and helping communities
* It has cross Browser compatibility (Firefox, chrome, Internet Explorer, Safari etc.)
* It has great platform compatibility (Windows, Mac OS, Linux etc.)
* It supports multiple programming languages (Java, C#, Ruby, Python, Perl etc.)
* It has fresh and regular repository developments

### ****2) What are the Testing types supported by Selenium?****

**Selenium supports two types of testing:**  
**Regression Testing**: It is the act of retesting a product around an area where a bug was fixed.  
**Functional Testing**: It refers to the testing of software features (functional points) individually.

### 3) ****What is Selenium IDE?****

### My suggestion is to start this answer by defining Selenium IDE. It is an integrated development environment for Selenium scripts. It is implemented as a Firefox extension, and allows you to record, edit, and debug tests. Selenium IDE includes the entire Selenium Core, allowing you to easily and quickly record and play back tests in the actual environment that they will run in. Now include some advantages in your answer. With autocomplete support and the ability to move commands around quickly, Selenium IDE is the ideal environment for creating Selenium tests no matter what style of tests you prefer.

### 4) ****How does a Cookbook differ from a Recipe in Chef?****

### The answer to this is pretty direct. You can simply say, “a Recipe is a collection of Resources, and primarily configures a software package or some piece of infrastructure. A Cookbook groups together Recipes and other information in a way that is more manageable than having just Recipes alone.”

### 5) ****What happens when you don’t specify a Resource’s action in Chef?****

### When you don’t specify a resource’s action, Chef applies the default action.

### 6) ****What is the difference between Active and Passive check in Nagios?****

### For this answer, first point out the basic difference Active and Passive checks. The major difference between Active and Passive checks is that Active checks are initiated and performed by Nagios, while passive checks are performed by external applications.

The main features of Actives checks are as follows:

* Active checks are initiated by the Nagios process.
* Active checks are run on a regularly scheduled basis.

### 7) ****What is Docker image?****

### Docker image is the source of Docker container. In other words, Docker images are used to create containers. Images are created with the build command, and they’ll produce a container when started with run. Images are stored in a Docker registry such as registry.hub.docker.com because they can become quite large, images are designed to be composed of layers of other images, allowing a minimal amount of data to be sent when transferring images over the network.

### 8) ****Can I use json instead of yaml for my compose file in Docker?****

### You can use json instead of yaml for your compose file, to use json file with compose, specify the filename to use for eg: **docker-compose -f docker-compose.json up**

### ****9)**** What platforms does Docker run on?

I will start this answer by saying Docker runs on only Linux and Cloud platforms and then I will mention the below vendors of Linux:

* Ubuntu 12.04, 13.04 et al
* Fedora 19/20+
* RHEL 6.5+
* CentOS 6+
* Gentoo
* ArchLinux
* openSUSE 12.3+
* CRUX 3.0+

Cloud:

* Amazon EC2
* Google Compute Engine
* Microsoft Azure
* Rackspace

Note that Docker does not run on Windows or Mac.

### 10) ****Do I lose my data when the Docker container exits?****

### You can answer this by saying, no I won’t loose my data when Docker container exits. Any data that your application writes to disk gets preserved in its container until you explicitly delete the container. The file system for the container persists even after the container halts.

### 11) Branching strategy in GIT?

* **Master** — this branch contains production code. All development code is merged into master in sometime.
* **Develop**— this branch contains pre-production code. When the features are finished then they are merged into develop.

During the development cycle, a variety of supporting branches are used:

* **Feature** — feature branches are used to develop new features for the upcoming releases. May branch off from develop and must merge into develop.
* **Hotfix** — hotfix branches are necessary to act immediately upon an undesired status of master. May branch off from master and must merge into master and develop.
* **Release** — release branches support preparation of a new production release. They allow many minor bug to be fixed and preparation of meta-data for a release. May branch off from develop and must merge into master and develop.

### 11) Windows slave configuration (Launch Methods)

**WAS**: "Launch slave agents via Java Web Start"  
**NOW: "Launch agent by connecting it to the master"**

Validation:

Downloaded 2.176.1 and performed new simple install (java -jar jenkins.war)  
Added only "[WMI Windows Agents Plugin](https://wiki.jenkins.io/display/JENKINS/Windows+Slaves+Plugin)" (aka windows slaves).

Jenkins | Manage Jenkins | **Configure Global Security**  
Agents TCP port for inbound agents: [o] Random

Jenkins | Manage Jenkins | **Nodes**  
New Node [Node-1],  
[o] Permanent Agent  
[OK]  
Remote root directory: [D:\J2-Node-1]  
Launch Method: [**"Launch agent by connecting it to the master"**]  
(This wording has changed and is what's throwing you off)  
[Save]

You will now be presented with the expected options: Connect agent to Jenkins one of these ways:

•[Launch agent] Launch agent from browser  
•Run from agent command line:

### <https://stackoverflow.com/questions/56960165/unable-to-get-launch-agent-via-java-web-start-option-in-the-launch-method>

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### 12) What is Code coverage in Sonarqube?

### 🡪 In one sentence Sonar is an open source platform that allows you to track and improve the quality of your source code.

### When talking about software quality is the test coverage or code coverage which is

### How much of your source code is tested by Unit tests

### How much of your application code is actually executed during your tests

### Cobertura is an open source code coverage tool that works well with both Maven and Jenkins.

### 13) What is ELB in AWS?

### The Elastic Load Balancer, It will distribute the traffic into the instances equally suppose if any instance terminated or stopped then ELB will stop distributing load into stopped instance, it will only distribute traffic into the running instances.

### Types of Load Balancers:

### Classic Load Balancer

### Application Load Balancer

### Network Load Balancer

### 14) How to create MFA for AWS account?

### Go to the username 🡪 My security credentials 🡪 Multi fact Authentication 🡪 here it will display QR code ( we have to scan this bar code from mobile ) 🡪 Install google authentication app from play store 🡪 scan the bar code 🡪 enter the number which will display in mobile app and activate MFA.

### 15) How to check the limits in AWS?

### 🡪 To check the limits in AWS, go to the EC2 dash board there you will find one option like Limits click on it and check the limits

### If limit is 2 instances if you need more then you have to raise request

### Select the request limit increase and specify the limit and submit

### 16) How to integrate Junit test with Jenkins?

### 🡪 To integrate Junit test with Jenkins, First we need to install Junit plugin in your Jenkins if not installed.

### After installing Junit test plugin we have to go the job configuration page and if we go down we can see one option that Post Build Actions select Post Build Action and choose the Publish to Junit test results report and here we have to specify the xml path and save the job configuration and trigger the build.

### To check the test results we have to trigger Test results which will be there left side

### 17) What is most complex in Ansible Roles?

* The most complicated part of a role is recalling the directory structure

**18) What is Inventory in Ansible?**

The **Ansible inventory** file defines the hosts and groups of hosts upon which commands, modules, and tasks in a playbook operate.

* A file that describes Hosts and Groups in Ansible
* Inventory can also be provided via inventory scripts so you can define all your hosts in a single file as inventory either in the hostname format IP address or fully qualified Domain name
* You have to create a file where you have to define all your list of the servers which comes under hostname groups (webservers)

**19) Different between Static and Dynamic Inventory file in Ansible?**

**Static Inventory:**

* A **static inventory** file is a plain text file that contains a list of managed hosts declared under a host group using either hostnames or IP addresses.
* host group name is enclosed in square brackets i.e [group name]

### Dynamic Inventory:

### Ansible can pull inventory information from dynamic sources, including cloud sources

### You can also create a new dynamic inventory provider by creating a script or program that can output JSON in the correct format

### You can write your own plugin to connect to additional dynamic inventory sources.

### A dynamic inventory is a shell script written in Python, PHP or any other programming language.

### 20) What is Docker layer?

### A Docker image consists of several layers. Each layer corresponds to certain instructions in your Docker file.

### The following instructions create a layer: RUN, COPY, ADD. The other instructions will create intermediate layers and do not influence the size of your image.

### 21) What is Docker host?

### A Docker host is a physical computer system or virtual machine running in Linux. This can be your laptop, server or virtual machine in your data center

### 22) How to edit the commit message in GIT?

### Using amend command we can edit the log message in GITHUB,

### Command is, $git commit –amend 🡪 Once you hit this command text file will display, edit the commit history and save it.

### 23) What is git cherry-pick?

### git cherry-pick can be useful for undoing changes.

### Cherry picking is the act of picking a commit from a branch and applying it to another

### 🡪 git cherry-pick means undo the changes from one branch and applying to the another branch

### 🡪When you cherry-pick, it creates a new commit with a new SHA

### Example: git cherry-pick commi-id

### 24) After installing plugins in Jenkins in which extension it will be changed?

### From .hpi to .jpi

### 25) What is runlevels in CentOS?

### 🡪 Runlevel is the preset state in which a Linux system operates.

### Below mentioned are the different runlevels of a Linux system in which a linux system can be operated. 0- halt or shutdown. 1- single user mode. 2- multi user mode without NFS

### Run levels are identified by numbers

* 0 – Halt or shutdown.
* 1 – Single-user text mode.
* 2 – Not used (user-definable)
* 3 – Full multi-user text mode.
* 4 – Not used (user-definable)
* 5 – Full multi-user graphical mode (with an X-based login screen)
* 6 – Reboot.

**26) What is the difference between Unix and Linux?**

The primary **difference** is that **Linux** and **Unix** are two **different** Operating Systems though they both have some common commands. ... **Linux** primarily uses Graphical User Interface with an optional Command Line Interface. **Linux** OS is portable and can be executed in **different** hard drives.

**27) What is CLI (Command Line Interface) in Linux?**

The **Command Line** Interface (**CLI**), is a non-graphical, text-based interface to the computer system,

Where the user types in a command and the computer then successfully executes it

**28) How to find the version of CentOS in Linux?**

Using the **#cat /etc/centos-release** command I will find the version of CentOS in Linux.

**29) How do you add file from local machine to Docker?**

**30) What is SonarQube build breaker plugin?**

* The **build breaker plugin** is available for **SonarQube**. It's not a Jenkins **plugin**.
* This **plugin** allows the CI system (Jenkins) to forcefully fail a Jenkins **build** if a quality gate condition is not satisfied

**31) Which version your using SonarQube?**

🡪 **SonarQube 7.9.x LTS**

**🡪 SonarQube 8.1**

**32) What are the possible states for running container?**

* created A container that has been created (e.g. with docker create) but not started
* restarting A container that is in the process of being restarted
* running A currently running container
* paused A container whose processes have been paused
* exited A container that ran and completed ("stopped" in other contexts, although a created container is technically also "stopped")
* dead A container that the daemon tried and failed to stop (usually due to a busy device or resource used by the container)

**33) What is hypervisor in docker ?**

**34) What us hypervisor in Virtualization?**

A **hypervisor** is a hardware **virtualization** technique that allows multiple guest operating systems (OS) to run on a single host system at the same time. ... A **hypervisor** is also known as a virtual machine manager (VMM).

**35) What is shell in linux?**

* The **shell** is the command interpreter in an operating system such as Unix or GNU/**Linux**, it is a program that executes other programs.

**36) What is docker services?**

**37) Where do you define variables in Jenkins?**

🡪 How do I setup credentials in Jenkins is first I need to check either Credentials binding plugin installed or not in Jenkins if it is not installed then I have to install credentials binding plugin from the manage plugins

>> Once I installed the plugin in the Jenkins dash board left side I will get one tap like Credentials I will click on it and I will select Jenkins and I will add the variables here.

**38) What is entry point in Docker?**

An ENTRYPOINT helps you to configure a container that you can run as an executable.

**39) What Sub Git ?**

* SubGit is a tool for migrating SVN to GIT.

**40) Before release and after release what and all things we should remember?**

**Before Release:**

* Before release first we need to check the pom.xml file whether my developers mentioned correct snapshot version or not
* Second step I need to check the satellite server I need to login into the server and check the packages whether packages are available or not after that
* I have to check the SCM URL like Git or SVN whether my developers given correct version control repository URL or not.

**After Release:**

* First thing you need to check whether release is correct or not so once release is completed
* We have to check backup artifactory whether packages stored to nexus repository or not if it stored then you have to login into the servers and check whether deployment happened successfully or not

**41) What is multi branch pipeline?**

🡪 First we need to install Multi branch pipeline plugin from plugin section and we have to create the job inside the job we need to specify the repository URL

🡪 We don’t need to specify the particular branch name inside multi branch configuration because this job build will be triggered branch by branch.

**42) How to migrate a GIT repository?**

🡪 Create a new git repository

🡪 Clone the old existed git repository and enter into the git repository folder

🡪 Push the new repository url from old repository

$git push –mirror (New git repository URL)