ESSENTIALS IN CLOUD AND DEVOPS(18CSE316J)

QUESTION BANK

SMALL ANSWERS(4 MARKS)

1) Explain what is docker and docker image?
2) How to set up an ansible environment?
3) Discuss the concept of a dry-run in Ansible?
4) Explain the syntax for defining input variables in Terraform
5) List and describe different data types supported by Terraform
6) Describe the process of using the validate command to ensure the correctness of your Terraform files.
7) Define what a Docker image is and its significance in containerization.
8) Explain the purpose of Helm in Kubernetes and Provide a step-by-step guide on creating Helm charts for deploying applications.
9) What is grep command and echo command
10) What are the needs of an EC2 instance
11) What is git repository
12) Explain the relationship between ansible and CI/CD
13) what is the fundamental objective of the CI (Continuous Integration) phase?
14) Explain the concept of Infrastructure as Code (IaC) and how Terraform modules contribute to the scalability and maintainability of infrastructure deployments. Provide an example of a scenario where Terraform modules would be beneficial.
15) Explain the purpose and benefits of Continuous Integration (CI) and Continuous Deployment (CD) in the software development lifecycle. Discuss how Jenkins supports the implementation of a CI/CD pipeline.
16) Discuss the Docker architecture, highlighting the roles and interactions of its major components.
17) Explain the process of installing Kubernetes on a cluster of Linux machines, outlining the necessary steps and considerations.
18) Compare and contrast Docker and Kubernetes in terms of their primary functionalities, architectural differences, and typical use cases.
19) What is cloud computing?
20) What is echo command?
21) Any linux commands?
22) Nodes in kubernetes
23) Strings in shell scripts

LONG ANSWERS(10 MARKS)

1) Analyze the architecture of Kubernetes, detailing the roles and interactions of its core components in orchestrating containerized applications. Provide insights into how Kubernetes handles scaling, networking, and service discovery.

2) Explain the concept of a three-tier web application architecture. How does Docker facilitate the deployment of each tier, and what benefits does it offer?
3) Discuss how Jenkins plugins and integrations can be utilized to enhance the pipeline's functionality, such as integrating with version control systems, artifact repositories, and testing frameworks. Evaluate the benefits of implementing CI/CD practices for accelerating software delivery, improving code quality, and minimizing deployment risks.
4) How to create an instance and what are its impacts in the environment

5) What are the various cloud computing deployment models
6) What are the steps involved installation of Linux
7) Explain how Docker and Kubernetes can be utilized to deploy and manage a three-tier web application effectively. Describe the architecture of the application and discuss how each tier (frontend, backend, and database) can be containerized using Docker.
8) What are the usage of grep command and cron tab
9) Explain the life cycle of terraform
10) Explain the configuration of http log files
11) Explain the docker image architecture
12) Explain helm chart in detail
13) What are the roles of CI/CD concept
14) Write in brief about selenium and Gradle
15) Illustrate the benefits of using Terraform for IaC compared to traditional manual provisioning methods, emphasizing scalability, consistency, and repeatability.
16) Explain VPN in detail?
17) Explain ansible in detail?
18) Explain Terraform?
19) Kubernetes Architecture?