1. What is a key characteristic of microservices architecture?

* ○ Tight coupling between services
* ○ Monolithic codebase
* ○ Independent deployability of services
* ○ Limited scalability

2. Which of the following is a potential advantage of microservices?

* ○ Reduced network communication between services
* ○ Decreased technology stack flexibility
* ○ Improved fault isolation
* ○ Lengthy deployment times for small changes

3. What is the purpose of service discovery tools in microservices architecture?

* ○ Maintaining tight coupling between services
* ○ Simplifying communication between services
* ○ Increasing the size of microservices
* ○ Limiting the scalability of services

4. In microservices architecture, what is the benefit of smaller services in terms of deployment?

* ○ Smaller services are harder to deploy
* ○ Smaller services increase the risk associated with deployment
* ○ Smaller services are easier to deploy
* ○ Smaller services always require manual scaling

5. What is the primary reason for choosing microservices over a monolithic architecture?

* ○ Microservices provide reduced scalability options
* ○ Microservices lead to tighter coupling between components
* ○ Microservices support independent deployability
* ○ Monolithic applications are easier to manage and maintain

6. What is the role of a Docker image?

* ○ Running containers
* ○ Defining the instructions for building containers
* ○ Storing containers in a registry
* ○ Managing containers' resource usage

7. What is a Dockerfile used for?

* ○ Running containers
* ○ Creating Docker images
* ○ Managing containers' resource usage
* ○ Interacting with Docker Hub

8. In Docker, what is the purpose of exposing a port with the EXPOSE instruction?

* ○ It makes the container more secure by hiding ports
* ○ It allows communication between containers
* ○ It maps a container port to the host
* ○ It doesn't serve any specific purpose

9. How do you run a Docker container in detached mode?

* ○ Use the -it flag when starting the container
* ○ Use the -d flag when starting the container
* ○ Use the -p flag when starting the container
* ○ Use the -e flag when starting the container

10. What does a NodePort service type do in Kubernetes?

* ○ Exposes a service within the cluster
* ○ Maps container ports to host ports
* ○ Provides load balancing for services
* ○ Exposes a service to the external network

11. What is the smallest deployable unit in Kubernetes?

* ○ Cluster
* ○ Node
* ○ Service
* ○ Pod

12. What is the purpose of a Kubernetes Deployment?

* ○ Managing the cluster's nodes
* ○ Defining the cluster's services
* ○ Providing declarative updates to applications
* ○ Exposing applications to the external network

13. What is the role of a Kubernetes Service?

* ○ Providing load balancing for pods
* ○ Managing Kubernetes nodes
* ○ Creating new pods
* ○ Defining resource quotas for pods

14. What is the purpose of the minikube start command?

* ○ Creating a Docker image
* ○ Starting a Kubernetes cluster using Minikube
* ○ Running a container in detached mode
* ○ Deploying a service within Kubernetes

15. What is the main purpose of NodePort in Kubernetes?

* ○ Exposing a service within the cluster
* ○ Providing load balancing for services
* ○ Exposing a service to the external network
* ○ Running containers in the cluster