Quiz 1: Kubernets – Part 2

1) What is a Pod in Kubernetes?

A) A Kubernetes cluster

B) A single container

**C) The smallest deployable unit**

D) A virtual machine

2) Which type of Kubernetes resource is responsible for maintaining a specified number of identical Pods?

A) Deployment

**B) ReplicaSet**

C) Service

D) StatefulSet

3) How can you expose a Service to the external world in Kubernetes?

A) By creating an Ingress resource

B) Automatically, all Services are accessible externally

C) Using the kubectl expose command

**D) Through a LoadBalancer Service**

4) What is the primary purpose of an Ingress controller in Kubernetes?

A) Managing Pods

B) Controlling network traffic within a Pod

C) Scaling Pods horizontally

**D) Managing external access to Services**

5) What does PV stand for in Kubernetes?

A) Persistent Volume

B) Pod Volume

C) Persistent Virtualization

**D) Persistent Volume**

6) In Kubernetes, what is the purpose of a Persistent Volume Claim (PVC)?

A) To define the storage capacity of a Pod

B) To allocate resources for a Service

**C) To request storage resources**

D) To define the number of replicas

7) Which Kubernetes component is responsible for ensuring that the specified number of Pods are running and healthy?

A) DaemonSet

B) ReplicaSet

**C) Kubernetes Controller**

D) StatefulSet

8) What is the primary purpose of a DaemonSet in Kubernetes?

A) Running Pods with ordered naming

B) Scaling Pods horizontally

C) Managing external access to Services

**D) Running a copy of a Pod on every node**

9) In Kubernetes, what is the primary purpose of a StatefulSet?

A) To replicate a Pod across nodes

B) To scale Pods horizontally

**C) To manage stateful applications with stable network identities**

D) To expose a Service externally

10) What Kubernetes resource is used to create a dynamic volume that can be bound to a Persistent Volume Claim (PVC)?

A) ConfigMap

B) Service

**C) StorageClass**

D) Ingress

11) Which Kubernetes resource is used to expose a deployment as a network service within the cluster?

A) ReplicaSet

B) StatefulSet

**C) Service**

D) PodDisruptionBudget

12) What is the purpose of an Ingress resource in Kubernetes?

A) To manage external access to a Pod

B) To define the desired state of a Pod

C) To create a Service

**D) To route external HTTP and HTTPS traffic to Services**

13) What is the difference between StatefulSet and ReplicaSet in Kubernetes?

A) StatefulSet manages stateless applications, while ReplicaSet manages stateful applications)

B) StatefulSet ensures that Pods are created and deleted in a random order, while ReplicaSet enforces an ordered creation and deletion)

**C) StatefulSet is designed for stateful applications with stable network identities, while ReplicaSet is for stateless applications)**

D) StatefulSet cannot scale Pods horizontally, whereas ReplicaSet can)

14) How can you expose a Kubernetes Deployment to external traffic using the NodePort method?

A) By creating a LoadBalancer Service

B) By using the Ingress resource

**C) By specifying a nodePort value in the Service definition**

D) It's not possible to expose a Deployment using NodePort

15) What is the primary role of a Kubernetes Service?

A) To define the number of Pods to run

B) To manage external access to a Deployment

C) To define the desired state of an application

**D) To maintain a stable network endpoint for Pods**

16) Which Kubernetes component is responsible for ensuring that a specified number of replicas of a Pod are running at all times?

A) StatefulSet

**B) ReplicaSet**

C) DaemonSet

D) Service

17) What is the purpose of a Persistent Volume (PV) in Kubernetes?

A) To define a Pod's storage requirements

B) To request storage resources

C) To create a new Pod

**D) To provide a stable storage resource for Pods**

18) Which Kubernetes resource is used to create a dynamic storage provisioner for a specific storage class?

A) ConfigMap

B) Service

**C) StorageClass**

D) StatefulSet

19) Which Kubernetes component is responsible for routing external HTTP and HTTPS traffic to Services within the cluster?

A) ReplicaSet

B) StatefulSet

C) Service

**D) Ingress Controller**

20) How does Kubernetes ensure that a StatefulSet's Pods are created and deleted in an ordered and predictable fashion?

A) By using labels and selectors

B) By manually specifying the order in the StatefulSet configuration

C) By using a Service to coordinate Pod creation

**D) By assigning each Pod a stable network identity (hostname)**