

The Kubernetes deployment plan for the Docker-Ethereum application involves different components, each with specific design considerations:

Ethereum Server :

Deployment: Stateless.

Replicas: 1.

Service Type: ClusterIP.

Ganache:

Deployment: Stateless.

Replicas: 1, sufficient for developmental and testing needs.

Service Type: ClusterIP.

React Frontend :

Deployment: Stateless , facilitates straightforward scaling and management.

Replicas: 1 ,with the option to scale based on specific requirements.

Service Type: LoadBalancer -exposed to external traffic for user access.

Horizontal Pod Autoscaler (HPA): Enabled , it automatic adjustments of replicas based on CPU utilization.

Permissions Users:

Role and RoleBinding : Assigned for reading pods with designated permissions.

ClusterRole and ClusterRoleBinding : Grants global pod-reading access to a specific user - gagan.

Secrets:

ConfigMap (node-app-config): Stores Ethereum server configuration, specifically setting NODE_PORT to "8080".