Operational Plan

Overview of the Echo Boat Tracker Application:

The Echo Boat Tracker Application is a web-based platform is a sample web application developed for a previous code challenge. The application is intended to manage the tracking of touring boats owned by a fictional tour management company. The application is built using modern web development technologies such as React.js for the frontend webapp, Node.js for the backend REST API, and PostgreSQL for the database. The application is deployed on an OpenShift cluster for container orchestration.

Monitoring Approach:

To monitor the health and performance of the Echo Boat Tracker application in the OpenShift cluster, we will use OpenShift-specific tools and features, as well as additional logging, monitoring, and alerting tools. These tools will help us identify and resolve issues quickly and ensure that our application is running smoothly.

Core Metrics/Signals:

a. Availability: This metric measures the percentage of time that the application is available for use. It can be collected using the OpenShift Container Platform's built-in Kubernetes dashboard, which provides an overview of the cluster and application status.

b. Response Time: This metric measures the time it takes for the application to respond to user requests. It can be collected using tools like OpenShift Service Mesh, which provides detailed insights into the performance of the application's microservices.

c. Error Rate: This metric measures the percentage of user requests that result in errors. It can be collected using tools like OpenShift Service Mesh or OpenShift Logging, which can monitor server-side errors and frontend errors.

d. CPU Usage: This metric measures the percentage of CPU resources used by the application. It can be collected using the OpenShift Container Platform's built-in Kubernetes dashboard, which provides an overview of the cluster and application status.

e. Memory Usage: This metric measures the amount of memory used by the application. It can be collected using the OpenShift Container Platform's built-in Kubernetes dashboard or tools like OpenShift Service Mesh.

f. Network Traffic: This metric measures the amount of network traffic generated by the application. It can be collected using tools like OpenShift Service Mesh, which can provide detailed insights into the network traffic generated by the application.

Tool/Technology/Approach:

a. OpenShift Container Platform's built-in Kubernetes dashboard for Availability and CPU Usage

b. OpenShift Service Mesh for Response Time and Error Rate

c. OpenShift Logging for Error Rate

d. OpenShift Container Platform's built-in Kubernetes dashboard or OpenShift Service Mesh for Memory Usage

e. OpenShift Service Mesh for Network Traffic

Action Plan:

We will set up monitoring and alerting rules using the OpenShift-specific tools and additional logging, monitoring, and alerting tools listed above to ensure that we are notified when issues arise. We will also regularly review the collected metrics to identify trends and potential issues before they become critical. Finally, we will develop a comprehensive incident response plan to ensure that we can quickly respond to any issues that arise and minimize downtime for our users.