

Source Code Overview

This project comprises four primary directories, each serving a distinct purpose within the overall architecture. Below is a detailed breakdown of each folder and its contents.

1. Adaptive-Authentication-Authorization-in-Kubernetes

This folder contains the webhook service, including various functions and configurations.

Subfolders and Files:

- **Kubernetes:** Contains the Kubernetes configuration files.
- **services:**
 - `sendDataProfile.js`: Creates JSON objects with user credential payloads.
 - `validateProfile.js`: Checks the integrity of user credentials from OAuth2.0.
- **utils:**
 - Configuration files for MySQL connection.
 - OAuth2.0 configuration.
- **webhook:**
 - Main algorithms for the webhook.
 - `route.js`: Manages API connections to the Kubernetes Cluster.

2. Kubernetes-Cluster

This folder represents the algorithms within the Kubernetes Cluster.

Subfolders and Files:

- **addUser:**
 - Algorithm for dynamic user sign-up (still in development).
- **generateKey:**
 - `genKeyRoute.js`: Generates and matches secret text algorithms.
 - YAML configuration file for deploying to the Kubernetes Cluster.
- **generateToken:**
 - `roleToken.js`: Generates role JSON.
 - YAML configuration file for deploying to the Kubernetes Cluster.
- **grantRole:**
 - `grantRole.js`: Retrieves available pods based on user roles.
 - YAML configuration file for deploying to the Kubernetes Cluster.
- **RBAC:**
 - YAML configuration files for defining policies within the Kubernetes Cluster.

3. TestApp/TestApp2

These folders contain sample web applications that are deployed in separate pods within the Kubernetes Cluster.

Subfolders and Files:

- Each folder includes all necessary files for the respective web applications, allowing them to run in designated pods.

4. Database

This folder contains SQL files for each database used in the project.

Subfolders and Files:

- **app-a**: Database for application A running on pod-A of the Kubernetes Cluster.
- **app-b**: Database for application B running on pod-B of the Kubernetes Cluster.
- **kubernetes_cluster**: Database for the webhook, running on AWS.