Config Management

# Introduction

As to move away from storing configuration settings in files (e.g appSettings.test.json , appSettings.stage.json) , we need to store these settings at a centralized location, in a repository.

Most of the microservices that we have, require the same configuration settings, so the idea is to put these settings together in a shared config file. And to store the app specific settings , we can have different files by the name of the service.

When there is a change in the configuration settings, we can make those changes at a centralized repo, and we do not need to deploy the entire app or service for such changes.

There are templates available for the shared config files and app specific config files. We can use these templates with some little modifications.

# Project References

VictimNotification \ ScramNet.Ally.AssignVictimClient Branch : I107\_128843

<https://alcoholmonitoring.visualstudio.com/VictimNotification/_git/ScramNet.Ally.AssignVictimClient?path=%2F&version=GBI107_128843&_a=history>

VictimNotification \ ScramNet.Ally.RemoveDeviceConfiguration

<https://alcoholmonitoring.visualstudio.com/VictimNotification/_git/ScramNet.Ally.RemoveDeviceConfiguration?_a=history>

VictimNotification \ ScramNet.Ally.MobileApiGateway

<https://alcoholmonitoring.visualstudio.com/VictimNotification/_git/ScramNet.Ally.MobileApiGateway?version=GBdevelop>

## Project VictimNotificaion \ ScramNet.Ally.AssignVictimClient

Remove all the appSettings.json files

We don’t need these files anymore because all the configuration settings are centralized in one repository

In Program.cs, instead of reading the configuration from configuration files, we need to read it from environment variables.

var envVariables = Environment.GetEnvironmentVariables(); //Get all the env variables

ServiceBusSettings serviceBusSettings = new ServiceBusSettings

{

         ConnectionString = envVariables["SERVICEBUS\_CONNECTIONSTRING"].ToString(),

               SubscriptionName = envVariables["SERVICEBUS\_SUBSCRIPTION"].ToString(),

               TopicName = envVariables["SERVICEBUS\_TOPIC"].ToString()

        };

DatabaseSettings databaseSettings = new DatabaseSettings

{

             ConnectionString = envVariables["MONGO\_DATABASE\_CONNECTIONSTRING"].ToString(),

             DatabaseName = envVariables["VICTIM\_DATABASENAME"].ToString(),

             CollectionName = envVariables["COLLECTION\_NAME"].ToString()

       };

For local development, debugging we can store these environment variables in lauchSettings.json file. We never check in this file.

{

  "profiles": {

    "ScramNet.Ally.AssignVictimClient": {

      "commandName": "Project",

      "environmentVariables": {

        "DOTNET\_ENVIRONMENT": "Development",

        "SERVICEBUS\_SUBSCRIPTION": "ClientAssign",

        "SERVICEBUS\_CONNECTIONSTRING": "Endpoint=sb://victim-sb-azw-c556e.servicebus.windows.net/;SharedAccessKeyName=AllySendListen;SharedAccessKey=53tnyiIAcmKr1MU9XQgEm06WwbkFk3VW0CL5W1UfaDk=",

        "SERVICEBUS\_TOPIC": "Client",

        "VICTIM\_DATABASENAME": "Victim",

        "COLLECTION\_NAME": "VictimClients",

        "MONGO\_DATABASE\_CONNECTIONSTRING": "mongodb://allyrw:HP0u4pnJy3lQBI12@ally-test-shard-00-00-rtm4h.azure.mongodb.net:27017,ally-test-shard-00-01-rtm4h.azure.mongodb.net:27017,ally-test-shard-00-02-rtm4h.azure.mongodb.net:27017/test?authSource=admin&replicaSet=Ally-Test-shard-0&ssl=true"

      }

    },

    "Docker": {

      "commandName": "Docker"

    }

  }

}

For commit details, please refer to this link : <https://alcoholmonitoring.visualstudio.com/VictimNotification/_git/ScramNet.Ally.AssignVictimClient/commit/399b4d2f80b9d3b97eace323c32402bd7ae38e63?refName=refs%2Fheads%2FI107_128843>

# Project DevSecOps \ Infrastructure.Victim.K8sConfig

Add a .yml file for your service

Infrastructure.Victim.K8sConfig \ configmaps\ scramnet.ally.assignvictimclient.yml

apiVersion: v1

kind: ConfigMap

metadata:

  name: scramnetallyassignvictimclient

data:

  servicebustopic: Client

  servicebussubscription: ClientAssign

  collectionname: VictimClients

As you can see in this file, the name is scramnetallyassignvictimclient. This name is used to identify from which file the configuration needs to be taken. Also the name is in lower case, without any special characters or numbers.

In data, we have the configuration which is unique to this project. Or we can say configurations that are specifically used for this project.

Please refer this link to see the scramnet.ally.assignvictimclient.yml :

<https://alcoholmonitoring.visualstudio.com/DevSecOps/_git/Infrastructure.Victim.K8sConfig?path=%2Fconfigmaps%2Fscramnet.ally.assignvictimclient.yml>

There is a shared.yml file where we store all the common configurations (configurations that are common across multiple microservices)

We will add the configuration for ScramNet.Ally.AssignVictimClient in this file which we think can be used by other services also. For this project we have a configuration for VictimDatabaseName, this is something which can be used commonly for other services.

Infrastructure.Victim.K8sConfig \ configmaps \ shared.yml

apiVersion: v1

kind: ConfigMap

metadata:

  name: shared

data:

  DeviceApi: "https://allydeviceapi.scramtest.com/api/v1/"

  VictimNotificationApi: "https://gpsvictimpushapi.scramtest.com/api/v1/"

  GpsGatewayApi: "https://gpsgatewayapi.scramtest.com/api/v1/"

  GpsCloudEventApi: "https://gpscloudeventapi.scramtest.com/api/v1/"

  InsightWebApiUrl: "https://gpsapi.scramtest.com/api/"

  Auth0\_Connection: "Username-Password-Authentication"

  Auth0\_Domain: "ally-test.auth0.com"

  Auth0ApiIdentifier: "https://ally-test/"

  DeviceDatabaseName: "MobileDevice"

  VictimDatabaseName: "Victim"

  ServiceBusDeviceConfigTopic: "MobileDeviceConfig"

  ServiceBusDeviceEventTopic: "MobileDeviceEvent"

  ServiceBusLocationEventTopic: "Location"

  ServiceBusPanicEventTopic: "Panic"

We can see other configurations in this file are URL’s for API’s, Auth0 settings, these settings are commonly used across all services.

We still have not stored the SERVICEBUS\_CONNECTIONSTRING and MONGO\_DATABASE\_CONNECTIONSTRING

These two things are directly pulled from Azure Keyvaults.

Please refer this link to see the shared.yml :

<https://alcoholmonitoring.visualstudio.com/DevSecOps/_git/Infrastructure.Victim.K8sConfig?path=%2Fconfigmaps%2Fshared.yml>

# Project DevSecOps \ Infrastructure.Victim.Kubernetes

Infrastructure.Victim.Kubernetes / VictimNotification/templates/ScramNet.Ally.AssignVictimClient.yml

In most of the cases, this .yml file is same for the services, we change the app (project) name, and add the app specific env variables.

# App Specific Env Vars

          - name: SERVICEBUS\_TOPIC

            valueFrom:

              configMapKeyRef:

                name: scramnetallyassignvictimclient

                key: servicebustopic

          - name: SERVICEBUS\_SUBSCRIPTION

            valueFrom:

              configMapKeyRef:

                name: scramnetallyassignvictimclient

                key: servicebussubscription

          - name: COLLECTION\_NAME

            valueFrom:

              configMapKeyRef:

                name: scramnetallyassignvictimclient

                key: collectionname

Here, configMapRef name is scramnetallyassignvictimclient, which means that it will try to find and map a config file by the name scramnetallyassignvictimclient

This file we already have created in the Infrastructure.Victim.K8sConfig \ configmaps\ scramnet.ally.assignvictimclient.yml

So, it will read the configuration settings for SERVICEBUS\_TOPIC, SERVICEBUS\_SUBSCRIPTION, COLLECTION\_NAME from that file

Please refer to this link to see this file :

<https://alcoholmonitoring.visualstudio.com/DevSecOps/_git/Infrastructure.Victim.Kubernetes?path=%2FVictimNotification%2Ftemplates%2FScramNet.Ally.AssignVictimClient.yml&version=GBAllyApiGateway>

Infrastructure.Victim.Kubernetes / VictimNotification / values-shared.yaml

This the file where we read the shared configurations from the shared.yml file which we have created in Infrastructure.Victim.K8sConfig \ configmaps \ shared.yml

- name: AUTH0\_DOMAIN

  valueFrom:

    configMapKeyRef:

      key: Auth0\_Domain

      name: shared

Here we see that the name for configMapKeyRef is shared,which means that it will try to find and map a config file by the name shared.yml

In our case, we have added VictimDatabaseName in the shared.yml so we need to add the configMapKeyRef for that in this file.

- name: VICTIM\_DATABASENAME

  valueFrom:

    configMapKeyRef:

      key: VictimDatabaseName

      name: shared

Please note that the spacing and - , should be correct.

Other interesting thing , as mentioned in this document above, that SERVICEBUS\_CONNECTIONSTRING and MONGO\_DATABASE\_CONNECTIONSTRING are read from directly from Azure Keyvaults.

How would we add those settings in this file?

- name: MONGO\_DATABASE\_CONNECTIONSTRING

  valueFrom:

    secretKeyRef:

      key: connectionStrings--NoSql--ReadWrite

      name: shared

Here we can see that it is not reading these configurations from configMapKeyRef, instead we have used secretKeyRef, which means that it will pull these settings from Azure KeyvaultsPlease refer to this link to see this file :

<https://alcoholmonitoring.visualstudio.com/DevSecOps/_git/Infrastructure.Victim.Kubernetes?path=%2FVictimNotification%2Fvalues-shared.yaml&version=GBAllyApiGateway>