

# Lab 1: Understanding the core deployment

In this lab, you will learn how the 5G Core network is deployed in a Kubernetes environment. This will involve examining Kubernetes manifests, exploring how network functions are configured and deployed, and understanding communication and configuration across network functions.

# Review the AMF ConfigMap

- Open the `~/open5gs-k8s/open5gs/common/amf/amf-configmap.yaml` file. This file contains the main configuration for the AMF.
- Look for settings related to Public Land Mobile Network ( `PLMN` ) and Single Network Slice Selection Assistance Information ( `SNSSAI` ). Note these settings as they specify which networks and slices the AMF supports.

**Question:** Which `PLMN` and `SNSSAI` values are set in this file? What do you think will happen if we connect a UE with `SNSSAI=3-000003` ?

# Analyze the AMF Deployment

- Open the `deployment.yaml` file in the `amf` directory. This file is responsible for deploying the AMF as a pod within the Kubernetes cluster.
- Notice the exposed ports, such as `38412` for `SCTP` communication, which is critical for 5G signaling.
- Observe the Multus configuration for secondary interfaces, which allows the AMF to interact with other 5G components through its `N2` interface.

## Exercise:

- Identify and document which ports are exposed and their purposes. A
- Locate the Multus configuration and identify the IP address of the `N2` interface.
- Verify that the IP matches the gNodeB configuration.

## Examine the AMF Service

- Open the `service.yaml` file for the AMF. This file exposes port `80` to other pods, using the `amf-namf` service allowing the AMF to communicate with other 5G core components through the service-based interface.

**Question:** Which NF depends on this service being available?

**Hint:** Check the `initContainers` in the `deployment.yaml` files, which control the order of function startup by making some network functions wait for others.

# Next Steps

## **Congratulations!**

You now have a better understanding of the core network configuration.

Once done, proceed to [Lab2](#).