# Homework M3: Security and Policies

Main goal is to build further on what was demonstrated during the practice

For the successful completion of the tasks, you will need a simple (two or three node) cluster as the one used during the practice with the appropriate network plugin installed (one that supports **Network Policies** like **Antrea**, **Calico**, **Weave Net**, etc.)

## Tasks \*

You are expected to complete the following set of tasks:

1. Create and register two Kubernetes uses – **Ivan** (**ivan**) and **Mariana** (**mariana**) who are part of the **Gurus** (**gurus**) group
2. Create a **namespace** named **projectx**
3. Create a **LimitRange** for the namespace to set **defaults**, **minimum** and **maximum** both for **CPU** and **memory** (use values that you consider suitable)
4. Create a **ResourceQuota** for the namespace to set **requests** and **limits** both for **CPU** and **memory** (use values that you consider suitable). In addition, add limits for **pods**, **services**, **deployments**, and **replicasets** (again, use values that you find appropriate)
5. Create a custom role (**devguru**) which will allow the one that has it to do anything with any of the following resources **pods**, **services**, **deployments**, and **replicasets**. Grant the role to **ivan** and **mariana** (or to the group they belong to) for the namespace created earlier
6. Using one of the two users, deploy the **producer-consumer** application (use the attached files – you may need to modify them a bit). Deploy one additional pod that will act as a (curl) **client**
7. Create one or more **NetworkPolicy** resources in order to
   1. Allow communication to the **producer** only from the **consumer**
   2. Allow communication to the **consumer** only from the **client**

*As usual, you are not obliged to complete all the tasks but try to tackle as many as possible*

## Proof

Prepare a document that show what you accomplished and how you did it. It can include (not limited to):

1. The commands you used to achieve the above tasks
2. A few pictures showing intermediary steps or results
3. Any configuration files and/or manifests