**Virtualization**

**Challenges**

1. **What are the advantages of using a declarative tool to create a virtual environment?**

Since a declarative tool allows to describe the desired state of the system rather than detailing specific steps, in the context of virtual machines, an advantage is that it allows to describe the desired configuration of the machine (such as the software that must be installed, network configurations, etc.), reproducibility (ensuring that others can replicate the exact same environment), automation (efficient creation and management of virtual environments).

1. **Are your scripts handling idempotence?**

My scripts handle indempotence so that before creating or modifying something, it is verified whether it exists or not, the same before installing a dependency or program. Also making use of sudo and -y, to ensure that certain tasks are performed with the appropriate privileges and the script runs without problems. This allows you to run the same script multiple times without unwanted side effects.

1. **Can you automate the process of provisioning and running each microservice? For example, after the vagrant up command finishes the whole application is running.**

With the use of idempotence and the no hup command (allows processes to continue running even after closing the terminal), the provisioning and execution process is automated.