

# Environment Setup

---

## Python 3.11

You can obtain configure multiple Python versions using `pyenv`, but you can also just install Python 3.11 in your preferred way.

!!! Here below instructions using to install Python 3.11 using `pyenv` !!!

- Linux/Unix (and so MacOS) users can follow these instructions to install `pyenv`:  
<https://github.com/pyenv/pyenv?tab=readme-ov-file#linuxunix>
- Windows users can follow these instructions to install `pyenv`: <https://pyenv-win.github.io/pyenv-win/#installation>

Then, first install and activate Python 3.11:

```
pyenv install 3.11.6
pyenv local 3.11.6
```

```
% python --version
Python 3.11.6
```

## Virtualenv

It's suggested to use Python virtualenv to not mess up your Python environment and keep everything isolated.

reate a virtualenv in the `assignment_3` directory:

```
cd assignment_3
python -m venv .venv

# The following must be executed every time you want to activate your
# Python environment!

# Linux & MacOS
source .venv/bin/activate

# Windows in cmd.exe
.venv\Scripts\activate.bat
# Windows in PowerShell
.venv\Scripts\Activate.ps1
```

## LocalStack

LocalStack is a cloud service emulator that runs in a single container on your laptop. With LocalStack, you can run your AWS applications or Lambdas entirely on your local machine without connecting to a remote cloud provider.

LocalStack supports a growing number of AWS services, like AWS Lambda, S3, DynamoDB, Kinesis, SQS, SNS, and more.

## Install Docker

LocalStack uses Docker to emulate Amazon AWS services, so you need a working Docker installation.

Docker Engine is natively available on Linux, or via Docker Desktop on Linux, MacOS and Windows.

Please, follow official documentation to get Docker Engine or Docker Desktop accordingly to your operative system:

- Docker Engine (Linux-only): <https://docs.docker.com/engine/install/>
- Docker Desktop (Linux, MacOS, Windows): <https://docs.docker.com/desktop/>

## Utilities

This tutorial (and the assignment) requires three more utilities to simplify its execution:

- `jq` (see here instructions: <https://jqlang.org/download/>)
- `zip` (Windows users can substitute with `tar`)
- `curl` (it should be already installed in any Linux distribution, Windows 10 and 11, and MacOS)

## Install and start LocalStack

```
pip install -r requirements.txt
LOCALSTACK_ACTIVATE_PRO=0 LOCALSTACK_DEBUG=1 localstack start
```