Step 1 :

* Install WSL 2 (kernel version 5.10.60.1) <https://docs.microsoft.com/fr-fr/windows/wsl/install> with “wsl --install” in a Powershell window run opened with administrator rights.
* This will install WSL 2 and Ubuntu 20.04 which is what was used in the library.
* If needed, in Powershell administrator, use command wsl –set-default-version 2 to set to WSL 2
* To check ubuntu version, open a Ubuntu shell Une image contenant texte

  Description générée automatiquementand enter Lsb\_release -a

Une image contenant texte

Description générée automatiquement

Step 2 : Install python 3.9.7 in ubuntu with sudo apt install python3

Une image contenant texte

Description générée automatiquement

Step 3 : Install Nomad 4.1.0

* Download NOMAD 4 with <https://www.gerad.ca/fr/software/nomad/>
* Save the downloaded file in the desired location (for example desktop) and note its address
* Follow the instructions given in <https://nomad-4-user-guide.readthedocs.io/en/latest/Installation.html#installation> in a Ubuntu shell.

We give the additional instruction to add the global variable $NOMAD\_HOME :

* With a text editor like vim (if needed install vim with sudo apt install vim) type “vim ~/.bashrc”
* Add the line NOMAD\_HOME=link/to/file/Nomad in a #Variables section :

Une image contenant texte

Description générée automatiquement

After recharging the shell you’ll be able to access the Nomad file with “cd $NOMAD\_HOME”

Resuming Nomad installation :

* Enter the “cmake -S . -B build/release”
* You might need to install cmake and g++ with the commands “sudo apt install cmake” and “sudo apt install g++”
* If the following error occurs, use “ sudo cmake -S . -B build/release”

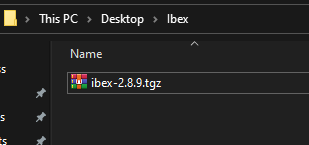
Une image contenant texte

Description générée automatiquement

* For the “cmake –build build/release” you might need to install python-is-python3 (if /bin/sh: 1: python: not found is displayed as error) and cython. To do so type the following commands :
  + Sudo apt install python-is-python3
  + Sudo apt update
  + Sudo apt install python3-pip
  + Pip install Cython
* You might then run “cmake –build build/release” and “cmake –install build/release”, if “Operation not permitted” is displayed, type “sudo cmake –install build/release” instead.
* Nomad should now be correctly installed.

Step 4 : Install Ibex 2.8.9

* Create a Ibex directory in the desired location (for example desktop), download the Ibex archive and put it in the file. It should look like this :



* In a ubuntu shell, head to the ibex directory you created and run the command given in <http://www.ibex-lib.org/doc/install.html> be carefull, they might not be up to date (ibex is currently in 2.8.9 not 2.8.8 and you might need to execute some commands with sudo (Superior User DO))
* Before running ./waf configure –lp-lib=soplex (that you might have to run in sudo) you’ll have to install bison flex pkg-config gnuplot cppunit, for that run :
  + Sudo apt install bison
  + Sudo apt install flex
  + Sudo apt install pkg-config
  + Sudo apt install gnuplot
  + Sudo apt install libcppunit-dev

Step 5 : install PyNomad 0.0.0

* To install PyNomad, we will first need to install anaconda for PyNomad must be installed in a conda environnement.
* Download the anaconda bash for linux on your machine with <https://www.anaconda.com/products/individual>
* Go to the place where the file was downloaded and run “bash name\_of\_anaconda\_file.sh”
* Verify the installation with “conda list”
* Create now your environment with “conda create –name name\_of\_env” with the name you want.
* Open it with “conda activate name\_of\_env”
* Go to $NOMAD\_HOME
* Run “cmake -DBUILD\_INTERFACE\_PYTHON=ON -S . -B build/release”
* Run “cmake --build build/release --config Release”
* (you might have to install Cython inside the environnement)
* Test the installation by opening python and running the command “import PyNomad”

Step 6 : install additional packages

* Finally, to run some models, you’ll need additional packages : torch 1.11.0 pandas 1.4.1 pyGPs 1.3.5 openpyxl 3.0.9 Box2D 2.3.3.

To do so, run the following commands in your Nomad (or whatever name you gave it) environment :

* + Sudo apt install python3-pandas (for CovidFrance)
* To install torch (for Mario) the process differs if you have or want to use a NVIDA GPU <https://varhowto.com/install-pytorch-ubuntu-20-04/#Step_2_%E2%80%94_Install_NVIDIA_Linux_driver> . If you don’t, simply run “conda install pytorch torchvision cpuonly -c pytorch”. However, torch was installed with GPU support for the creation of the library, to do the same follow these steps :
  + Install CUDA-WSL (version 2.0) <https://developer.nvidia.com/cuda-downloads?target_os=Linux&target_arch=x86_64> for your machine by following the commands given.
  + Run “sudo apt install nvidia-cuda-toolkit”
  + You can check cuda installation with “nvcc -V” that should display :

Une image contenant texte

Description générée automatiquement

* + Install Pytorch with “conda install pytorch torchvision cudatoolkit=10.1 -c pytorch” <https://download.pytorch.org/whl/torch_stable.html>”
* NB : The installation did not seemed to work for Neural Blackbox. It was tested by another person on an already working machine. Therefore, Neural was not tested and might not work properly.
* To install pyGPs run “pip import pyGPs”
* To install openpyxl run “pip install openpyxl”
* To install Box2D run :
  + Conda install swig (for Push)
  + Pip install box2d
  + Pip3 install box2d box2d-kengz