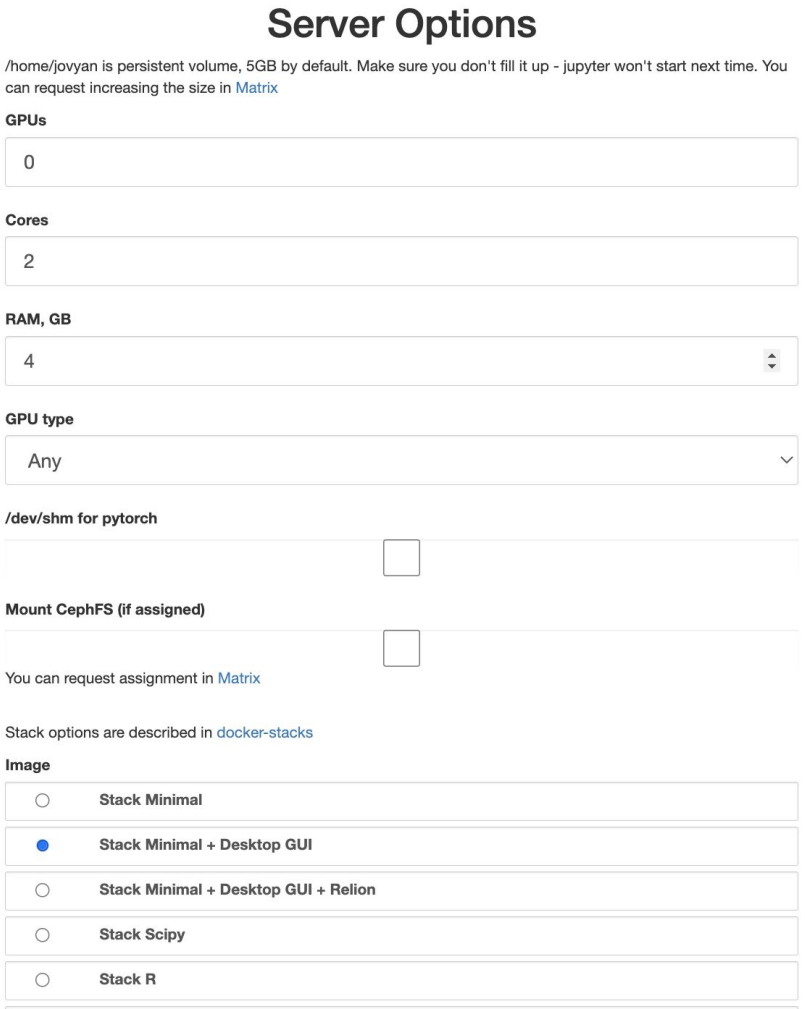
Setting up your “computer”

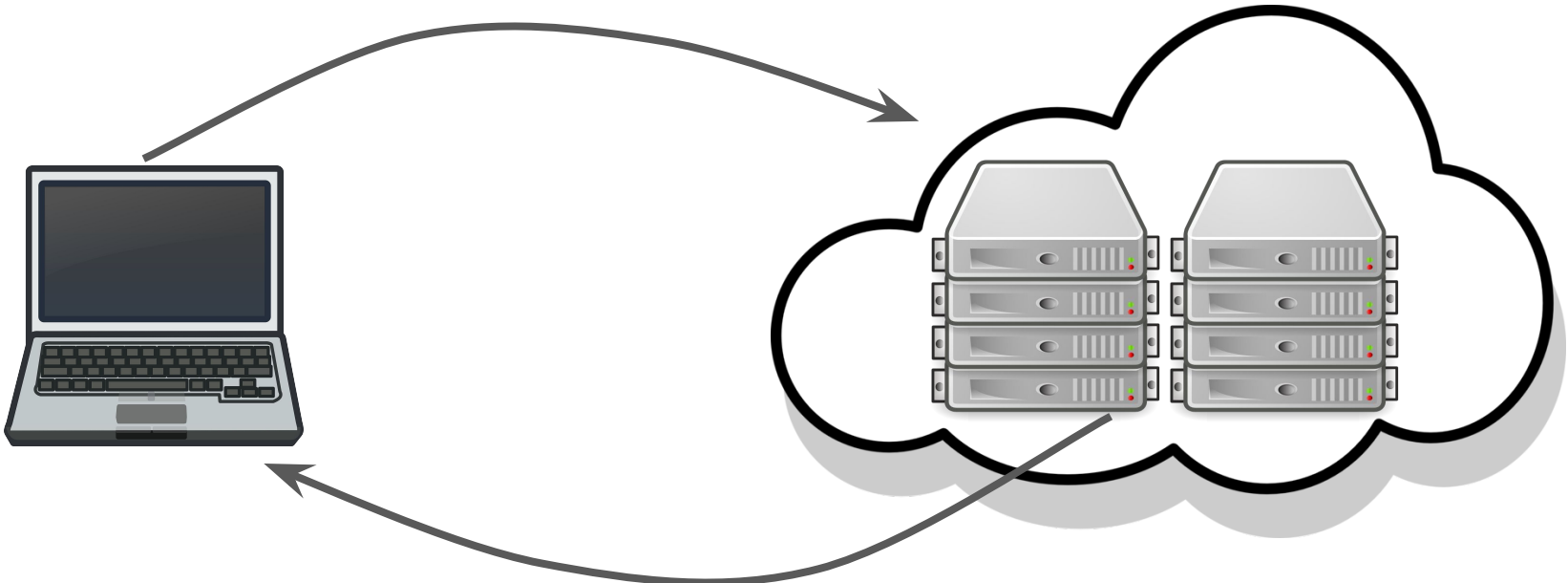
Requesting resources

- Navigate to https://jupyterhub-west.nrp-nautilus.io/
  - Please use try to use Chrome if you have it installed
- Sign in using <need to deal with this>
- Set “Cores” to 2
- Set “RAM,GB” to 4
- Select “Stack Minimal + Desktop GUI”
- Click start!



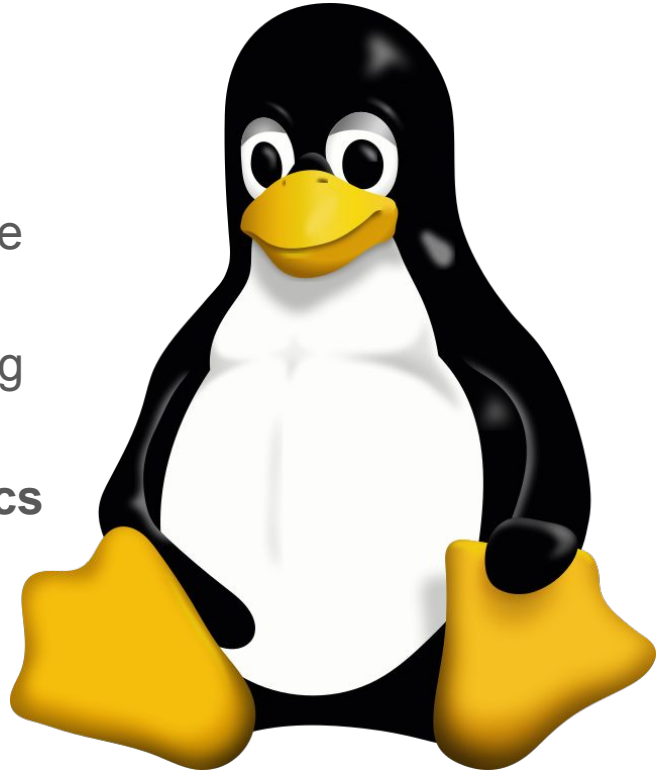
You just set up a virtual machine!

- Everything you see and run is being run on a server somewhere else
- This is called a virtual machine or “VM”
- Saved data will exist on the server, not your computer



Your virtual machines are running Linux

- Linux is the standard operating system for bioinformatics
- There are many different flavors of Linux, you have Ubuntu version 20.04
- Linux is based on Unix which is also the underlying framework for MacOS
- **Windows is not Unix based. Most bioinformatics tools will not run on windows**
    - There are workarounds we can discuss later



The graphical user interface (GUI) lets you interact with computers

- Every click or tap on the GUI triggers code in the computer, which is then relayed to your screen
- The GUI is convenient, but requires a screen. Servers don’t have screens
- The terminal lets us interact with the computer
- The language for the terminal is “Bash”

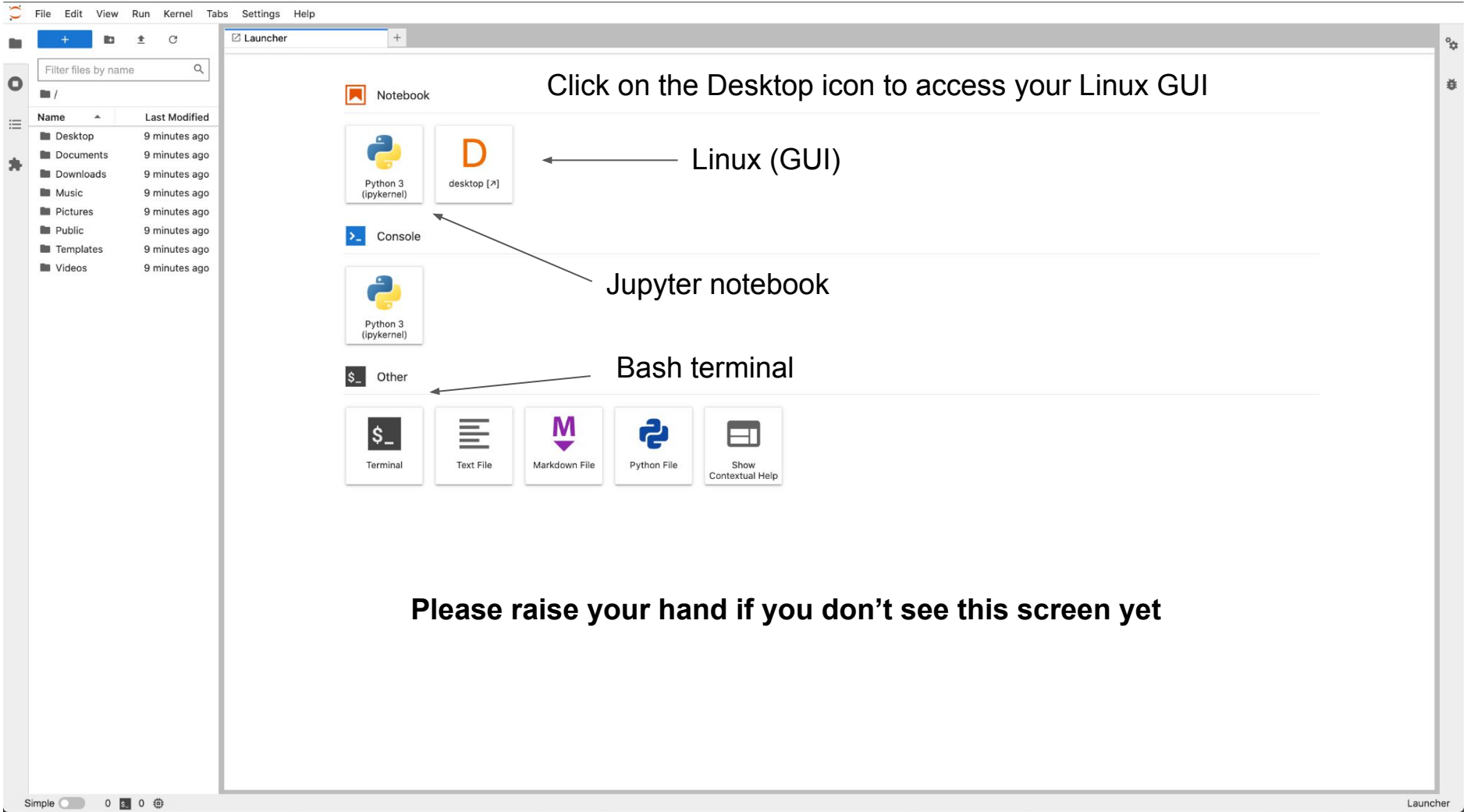
Python is a full-fledged programming language

- Python allows you to write custom programs for the computer to run
- Integrated development environments (IDEs) make writing code simpler
- We will be writing code in Python 3 using Jupyter notebooks as our IDE


```
[3]: import sys

[2]: print("Hi! This is Python version 3")

     Hi! This is Python version 3
```


File Edit View Run Kernel Tabs Settings Help
Launcher
Filter files by name
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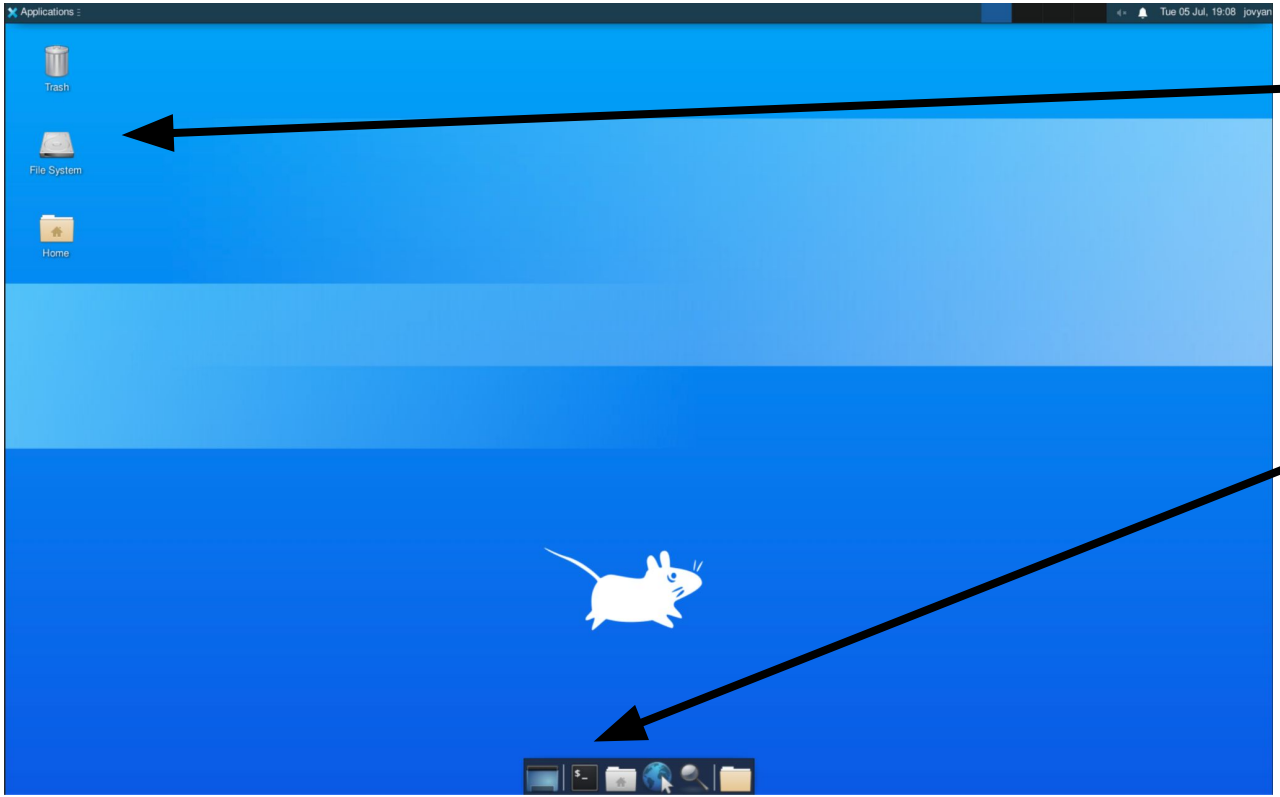
Last Modified
Desktop 9 minutes ago
Documents 9 minutes ago
Downloads 9 minutes ago
Music 9 minutes ago
Pictures 9 minutes ago
Public 9 minutes ago
Templates 9 minutes ago
Videos 9 minutes ago
Notebook
Click on the Desktop icon to access your Linux GUI
Python 3 (ipykernel)
desktop [↗]
Linux (GUI)
Console
Jupyter notebook
Python 3 (ipykernel)
Other
Bash terminal
Terminal
Text File
Markdown File
Python File
Show Contextual Help
Please raise your hand if you don’t see this screen yet
Simple
0
0
Launcher

Your shiny new GUI:



Your virtual machine is a blank slate

- Only the bare essentials are installed
- You will have to install everything you need
- Heads up: Copy and paste may or may not work from your computer to the VM