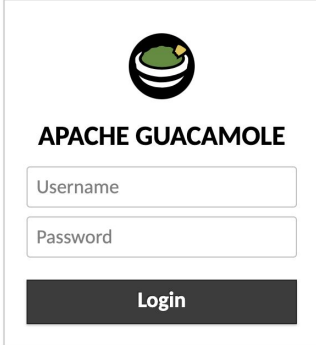


Setting up your “computer”

# Logging into your “computer”

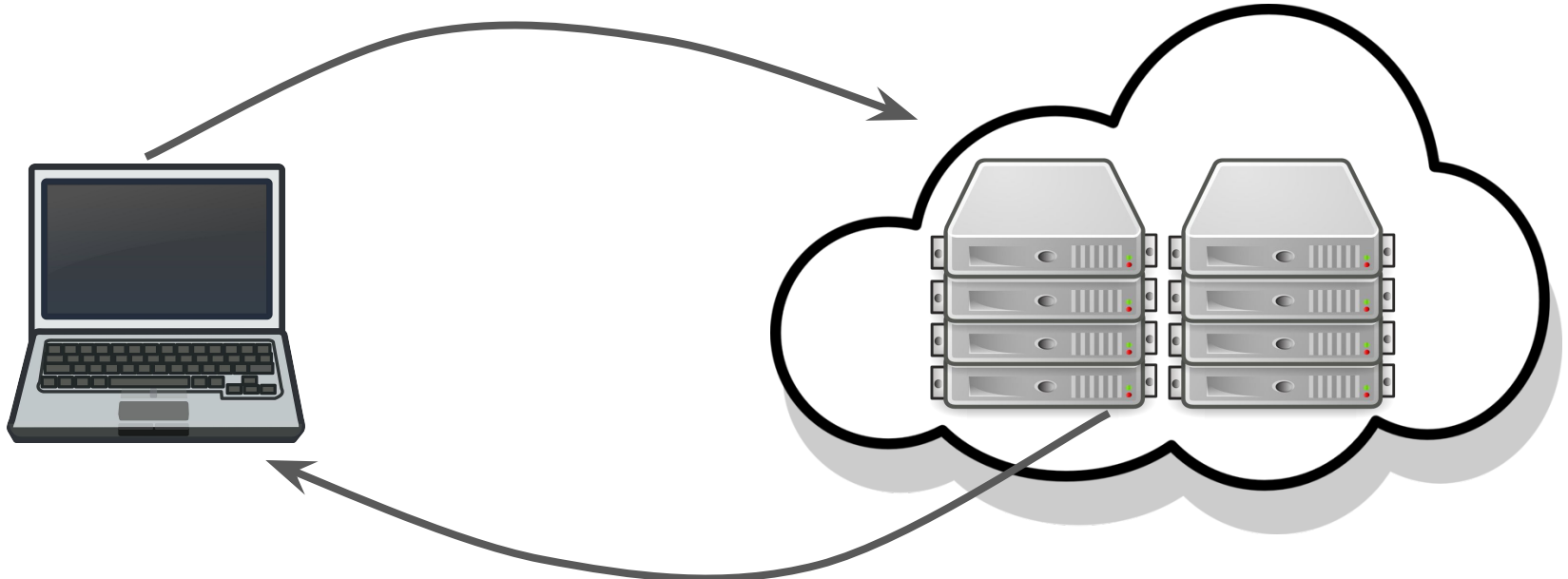
- Navigate to: <https://bscc-gi.lt.ucsc.edu>
  - Please use try to use Chrome if you have it installed
- Sign in using the credentials I emailed you
- **Raise your hand when this is finished**



The image shows a login form for Apache Guacamole. At the top is the Apache Guacamole logo, which is a black circle containing a green chili pepper. Below the logo is the text "APACHE GUACAMOLE" in bold. There are two input fields: "Username" and "Password". Below these fields is a dark grey button with the text "Login" in white.

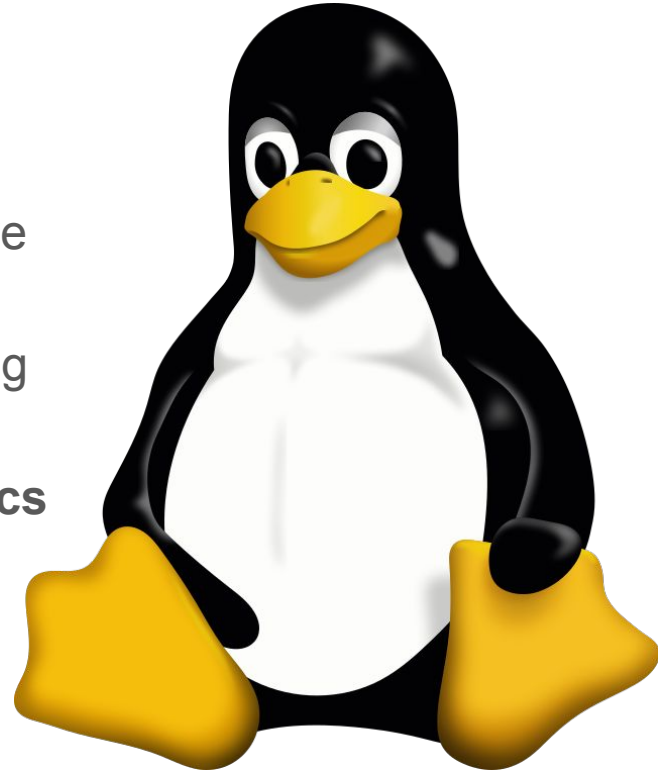
# You just set up a virtual machine!

- 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



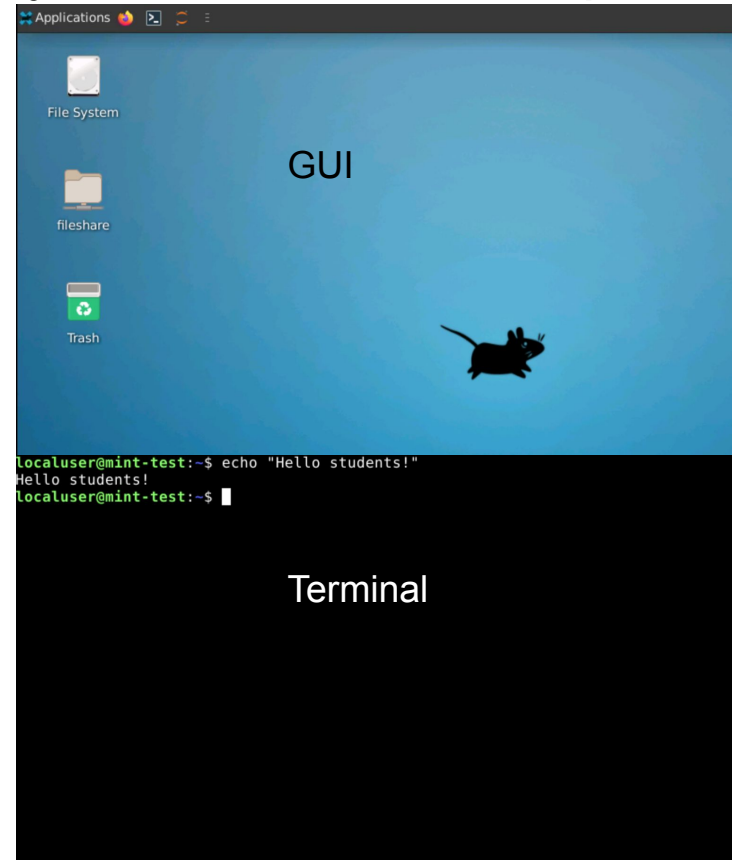
# Your virtual machines are running Linux

- 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

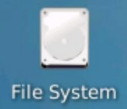
- Python allows you to write custom programs for the computer to run
- Integrated development environments (**IDEs**) make writing code simpler
- We will be writing code in Python 3 using Jupyter notebooks as our IDE



```
[3]: import sys
```

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

```
Hi! This is Python version 3
```



Jupyter notebook

Bash terminal



File explorer



**Please raise your hand if you don't see this screen yet**

# 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