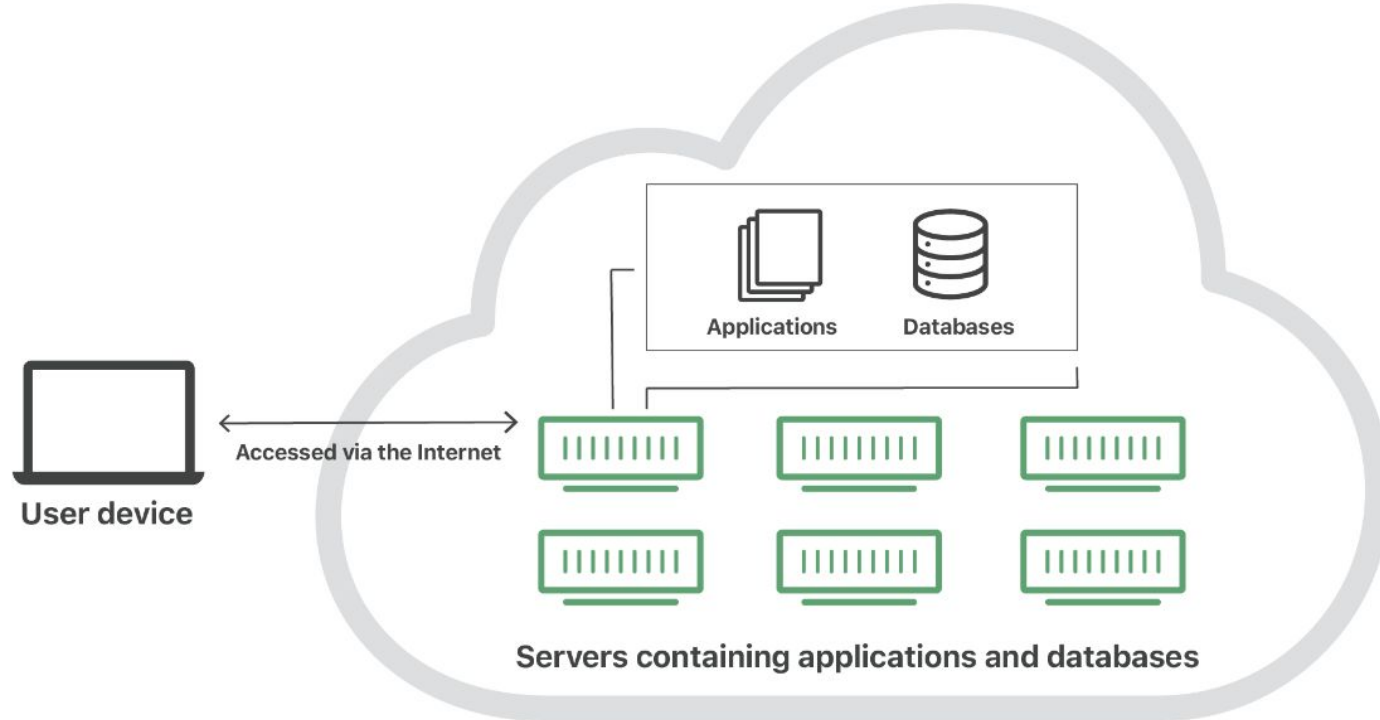


The Cloud, AWS & Guacamole!













The cloud is everywhere in our lives

Social Media



Cloud Storage



Cloud Computing



Google Cloud Platform



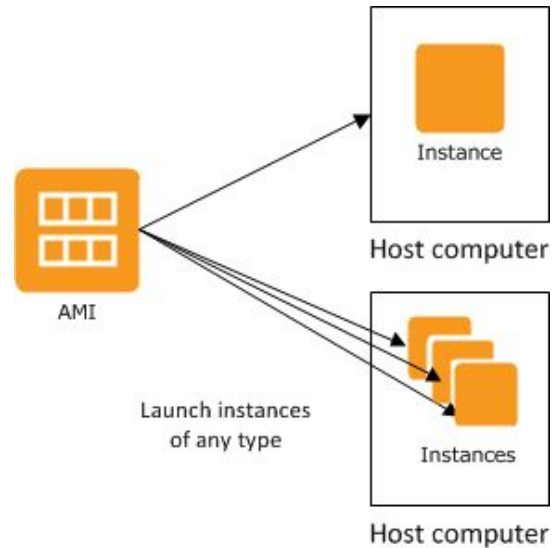


Data centers



How does it work?

AMI: Amazon Machine Image



Base computer with all data and software for the workshop

Terminology

- Creating an instance – buying a brand new computer with software already installed
- Starting an instance – turning that computer on
- Stopping an instance – turning that computer off
- Terminating an instance – setting that computer on fire and throwing it out of the window

Connecting to your Instance



Remote desktop
(Guacamole)



Secure Shell
(ssh)



R Studio
Server



Jupyter
Notebook

Connecting to your Instance

<https://evomics.org/2024-workshop-on-genomics/>

EVOLUTION AND GENOMICS

Intensive and immersive training opportunities

WORKSHOPS

LEARNING

PEOPLE

APPLY

INFORMATION

Get ready for May 2023!

Many important details can be read on our [FAQ](#) page and our [Housing and Transportation](#) page

[Instance addresses](#) (check every day for your new one!)

Check [here](#) to view Faculty / Organiser / Instructor arrival and departure dates. Check out our Faculty for 2023 [here](#) and our Instructors for 2023 [here](#)

As is tradition, we will be having a [T-shirt competition](#)! Best T-shirt design will feature on the Workshop on Genomics 2023 T-shirts – get designing!

Workshop on Genomics 2023 [BINGO](#)!

Faculty lunches sign-up sheet

Our [Code of Conduct](#) contact points are Josie Paris & Joan Ferrer Obiol

Connecting to your instance

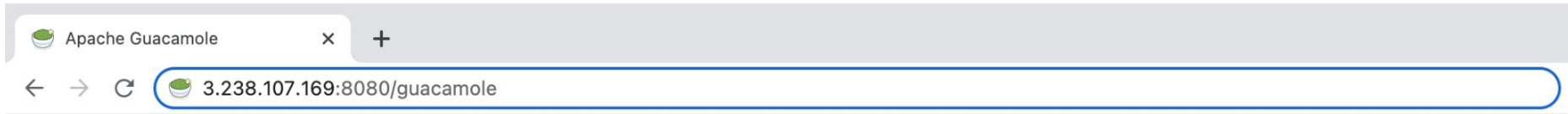
	A	B	C	D	E	F	G
1	Instance number	First Name	Last Name	Instance address	Guacamole connection	ssh connection	RStudio server connection
2	1	Joan	Ferrer Obiol	3.238.107.169	3.238.107.169:8080/guacamole	ssh genomics@3.238.107.169	3.238.107.169:8787

Find your name and check your instance address

Check how to connect to your instance using
guacamole, ssh and the RStudio server

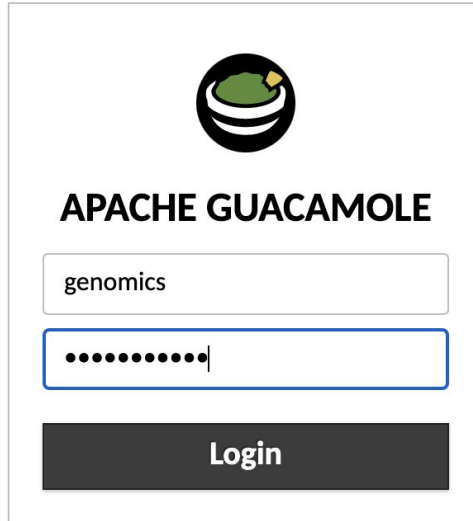
Connecting to guacamole

1. Open your preferred internet browser (i.e. chrome, firefox)
2. Paste your instance address followed by :8080/guacamole




Connecting to guacamole

3. Enter the username "genomics" and password



The image shows the Apache Guacamole login interface. At the top is the Apache Guacamole logo, which consists of a black circle containing a green bowl with a yellow spoon. Below the logo, the text "APACHE GUACAMOLE" is displayed in a bold, black, sans-serif font. Underneath the text are two input fields. The first field is a text box containing the username "genomics". The second field is a password box, indicated by a blue border and a series of black dots, with a cursor at the end. Below these fields is a dark gray button with the word "Login" in white text.



APACHE GUACAMOLE

genomics

.....|

Login

Connecting to guacamole desktop

4. Select Desktop

ALL CONNECTIONS



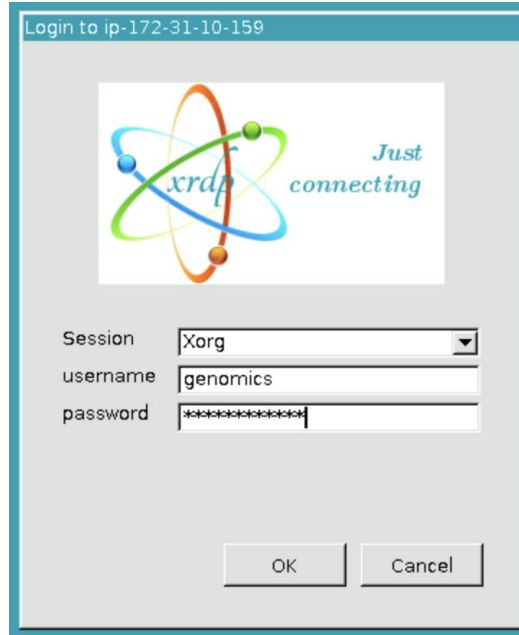
Desktop



Terminal

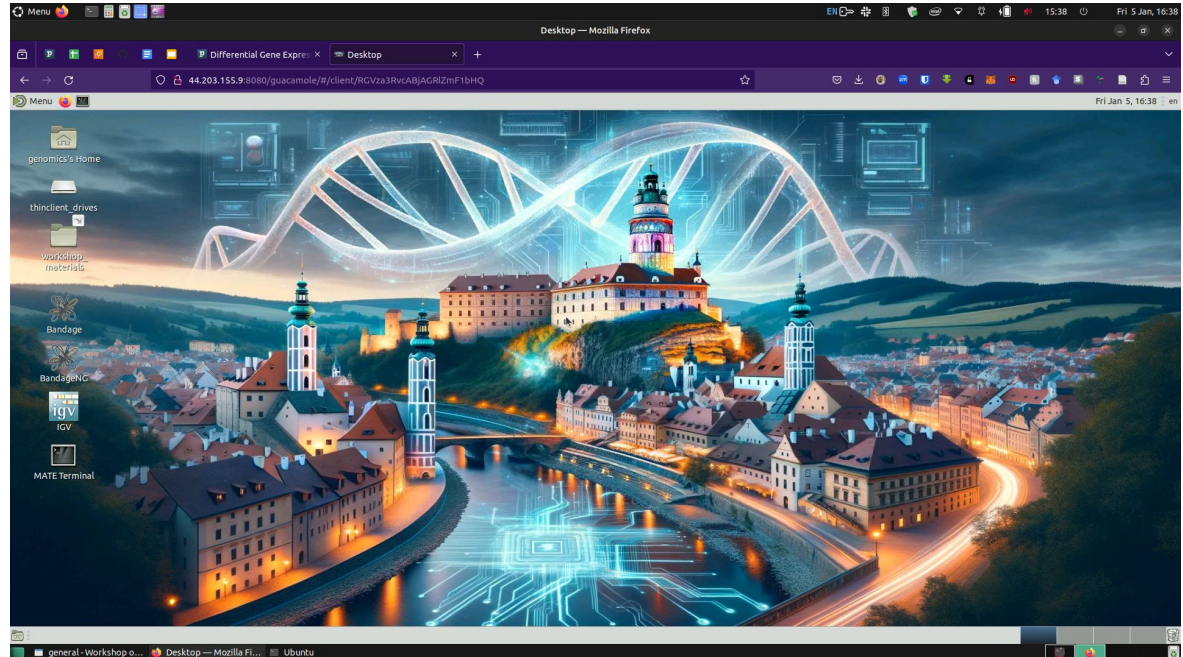
Connecting to guacamole desktop

5. Enter the username "genomics" and password again



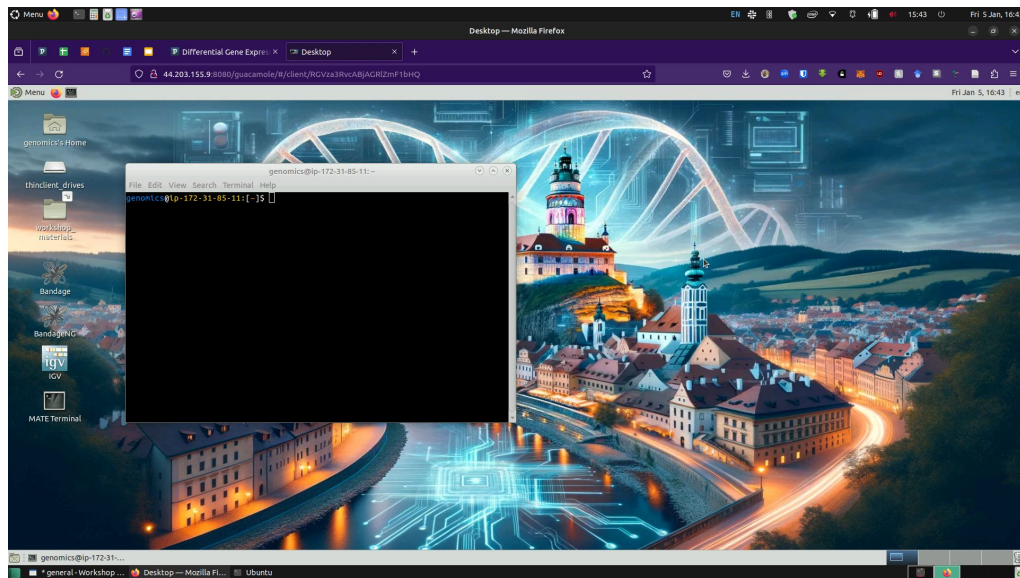
Connecting to guacamole desktop

6. Open a terminal window using the terminal icon



Connecting to guacamole desktop

You are now ready to learn some UNIX!



It's about as powerful as a laptop

Connecting to guacamole terminal

When connecting to guacamole, select Terminal

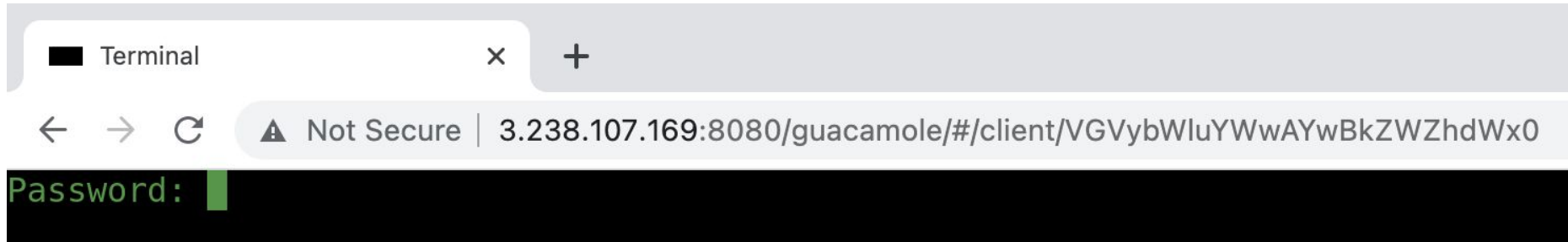
ALL CONNECTIONS

 Desktop

 Terminal

Connecting to guacamole terminal

Enter the password



Connecting to guacamole terminal

And you are ready to use the terminal

```
#####
##      Workshop on Genomics 2023      ##
##      🌴 🦉 Spring Edition 🦉 🌴      ##
##      Cesky Krumlov                  ##
##      @evomics #evomics2023          ##
#####

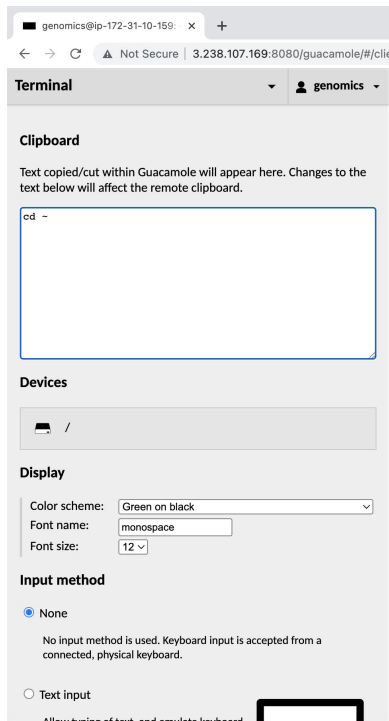
Welcome to Ubuntu 22.04.2 LTS (5.19.0-1024-aws).

System information as of Sun May 14 15:35:05 CEST 2023

System load: 0.8310546875      Processes:                222
Usage of /:  58.1% of 484.63GB  Users logged in:         1
Memory usage: 29%              IPv4 address for docker0: 172.17.0.1
Swap usage:  0%                IPv4 address for ens5:    172.31.10.159
Last login: Sun May 14 15:33:30 2023 from 194.228.207.170
genomics@ip-172-31-10-159: [~]$
```


Copying and Pasting

Try to avoid copying and pasting wherever possible



But if you need it:

1. Press Ctrl+Alt+Shift (Mac: Ctrl+Opt+Shift)
2. Paste the text in the pop-up box
3. Press Ctrl+Alt+Shift (Mac: Ctrl+Opt+Shift) again
4. Paste into the instance using right click

Connecting through SSH

1. Open your preferred terminal on your laptop
2. Type `ssh genomics@[instance address]`

```
[apples-MacBook-Pro.local@apple[~]$ ssh genomics@3.238.107.169  
genomics@3.238.107.169's password: 
```

3. Enter the password

Connecting through SSH

And you are ready to use the terminal

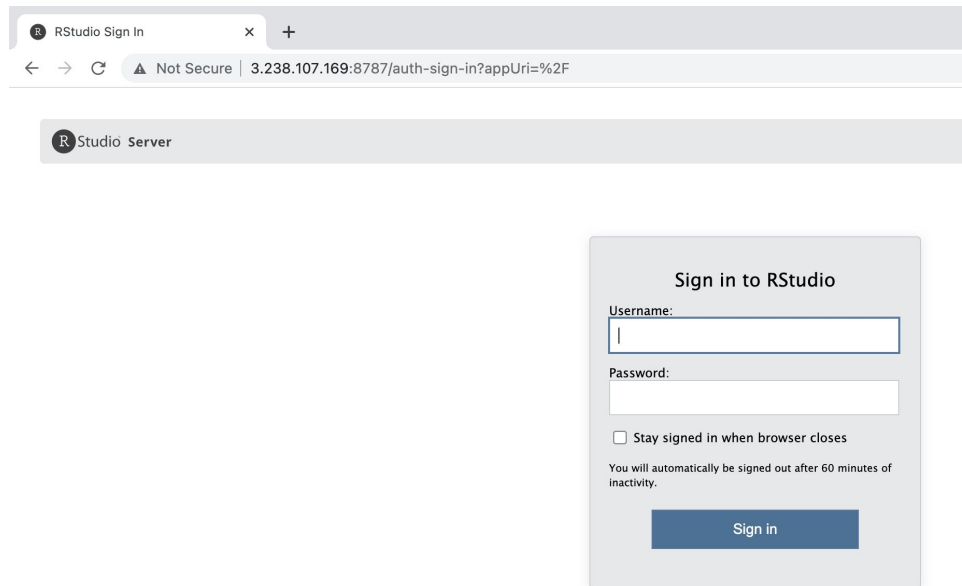
```
#####  
##          Workshop on Genomics 2023          ##  
##      🌴🌴🌴 Spring Edition 🌴🌴🌴          ##  
##          Cesky Krumlov          ##  
##          @evomics #evomics2023          ##  
#####  
  
Welcome to Ubuntu 22.04.2 LTS (5.19.0-1024-aws).  
  
System information as of Sun May 14 15:33:29 CEST 2023  
  
System load: 0.85107421875      Processes:                220  
Usage of /: 58.1% of 484.63GB   Users logged in:         0  
Memory usage: 29%              IPv4 address for docker0: 172.17.0.1  
Swap usage: 0%                 IPv4 address for ens5:    172.31.10.159  
Last login: Sun May 14 11:08:55 2023 from 194.228.207.170  
genomics@ip-172-31-10-159: [~]$
```

Connecting to the RStudio server

1. Open your preferred internet browser (i.e. chrome, firefox)
2. Paste your instance address followed by :8787

Connecting to the RStudio server

3. Enter the username "genomics" and password



RStudio Sign in

Not Secure | 3.238.107.169:8787/auth-sign-in?appUri=%2F

Studio Server

Sign in to RStudio

Username:
|

Password:

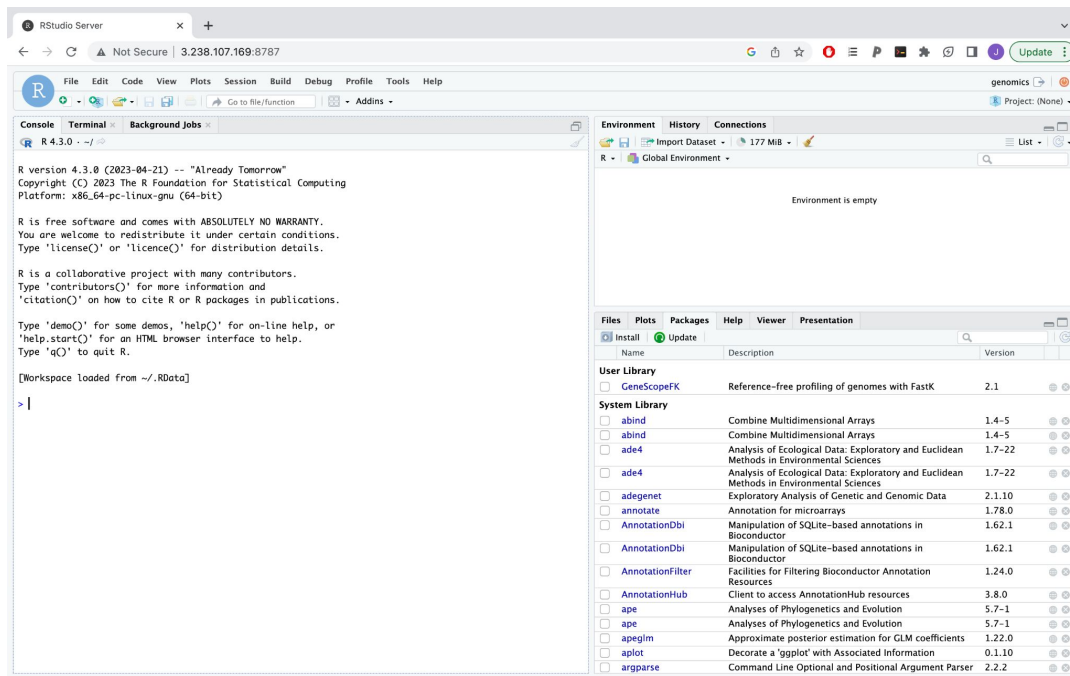
☐ Stay signed in when browser closes

You will automatically be signed out after 60 minutes of inactivity.

Sign in

Connecting to the RStudio server

4. You are now connected to R Studio in your instance



Before starting the UNIX session

The instance address will change every day after we stop and restart the instances.

Each morning, you will need to return to the “Instance address spreadsheet” on the webpage, retrieve your new address and login again using the type of connection you need

	A	B	C	D	E	F	G
1	Instance number	First Name	Last Name	Instance address	Guacamole connection	ssh connection	RStudio server connection
2	1	Joan	Ferrer Obiol	3.238.107.169	3.238.107.169:8080/guacamole	ssh genomics@3.238.107.169	3.238.107.169:8787

Before starting the UNIX session

Connect to your instance and open terminal



SSH to your instance



Terminal



Desktop



Terminal

Before starting the UNIX session

Make sure that you can type the following characters:

- tilde (~)
- backslash (\)
- pipe (|)
- carat (^)

If you can't type these characters, get our attention!

Before starting the UNIX session!



tilde

/ˈtɪldə, ˈtɪldi/



Before starting the UNIX session!

backslash
"baksłaſ/"



Before starting the UNIX session!

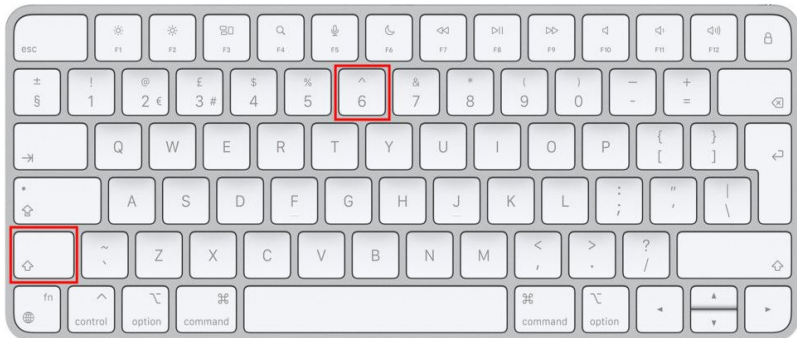
vertical bar
pipe

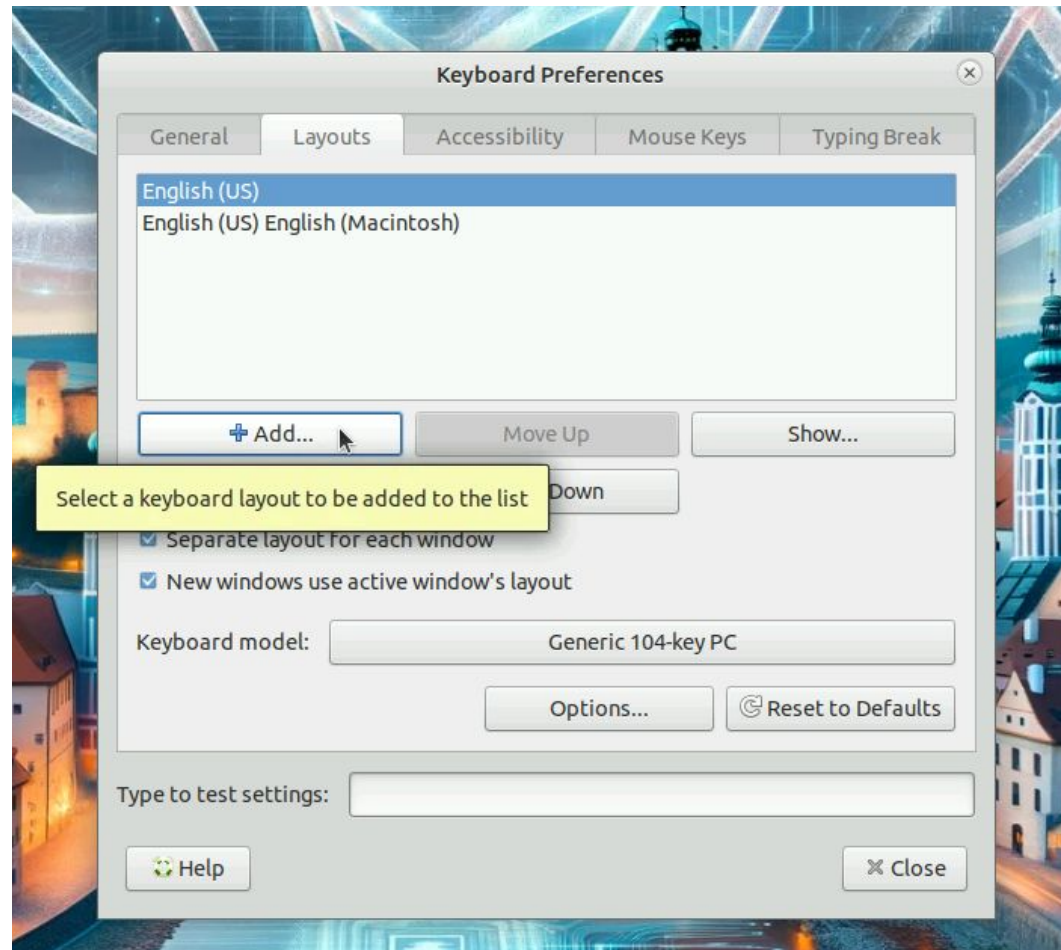
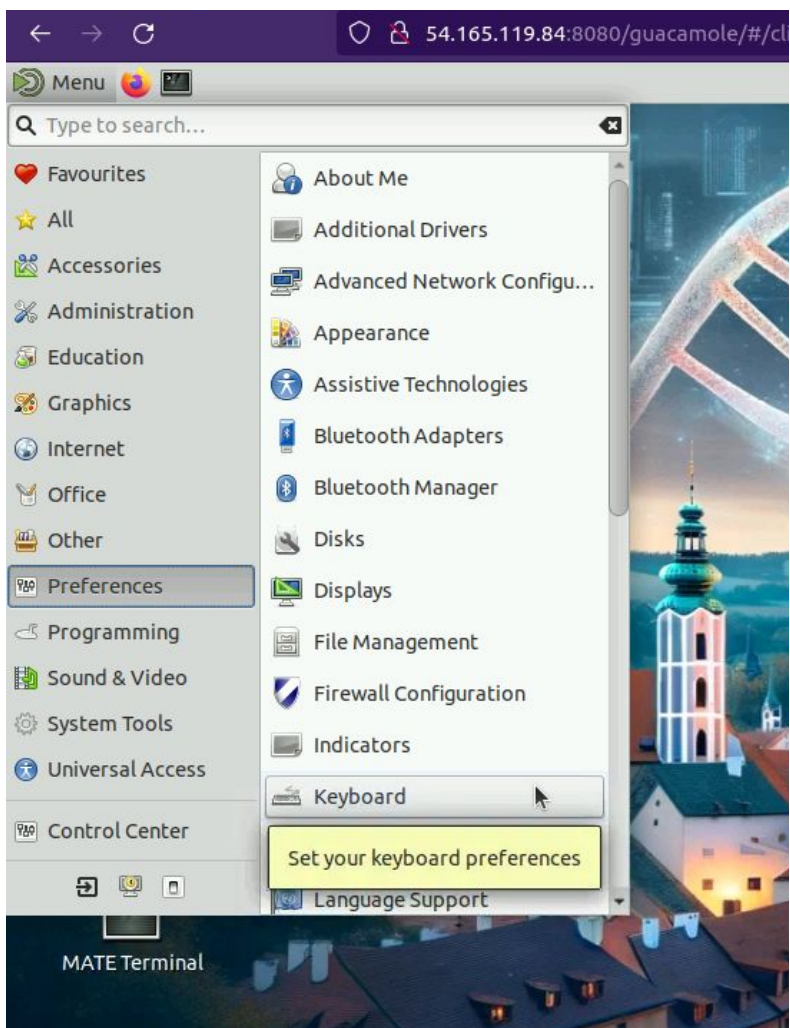


Before starting the UNIX session!



Caret
/kɛ.ɹət/





By language

▼

Czech


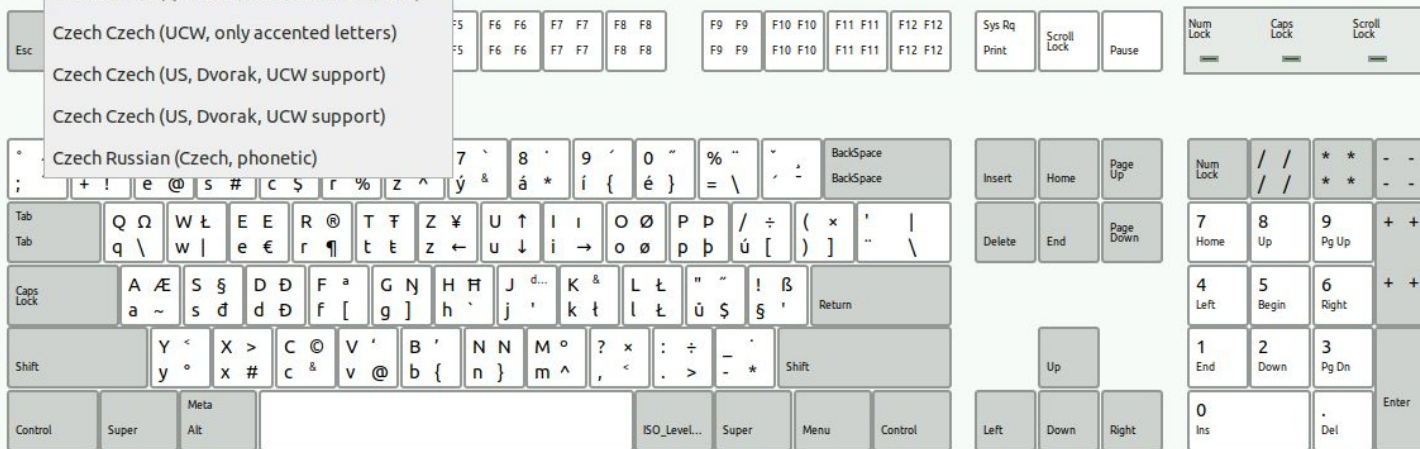
Czech Czech (QWERTY)

Czech Czech (UCW, only accented letters)

Czech Czech (US, Dvorak, UCW support)

Czech Czech (US, Dvorak, UCW support)

Czech Russian (Czech, phonetic)



+ Add

Installation and Software Managers



CONDA

