



# COMPUTEROME 2.0 USERS WORKSHOP

FACULTY OF HEALTH AND MEDICAL SCIENCES,  
UNIVERSITY OF COPENHAGEN, FEBRUARY, 2021



# WELCOME TO THE C2 USERS WORKSHOP - ANDERS

# WHO ARE WE

## CENTER FOR HEALTH DATA SCIENCE:

- Anders Krogh, Professor, Head of Center
- Thilde Terkelsen, Data Scientist



ANDERS KROGH



THILDE TERKELSEN



MAGALI MICHAUT

## DANSTEM:

- Magali Michaut, Research Consultant

## GLOBE INSTITUTE:

- Bent Petersen, Associate Professor
- Shyam Gopalakrishnan, Associate Professor



BENT PETERSEN



SHYAM GOPALAKRISHNAN



ALLAN HAVE

## KU IT:

- Allan Have Sørensen, Head of Section

# PART1

# INTRODUCTION

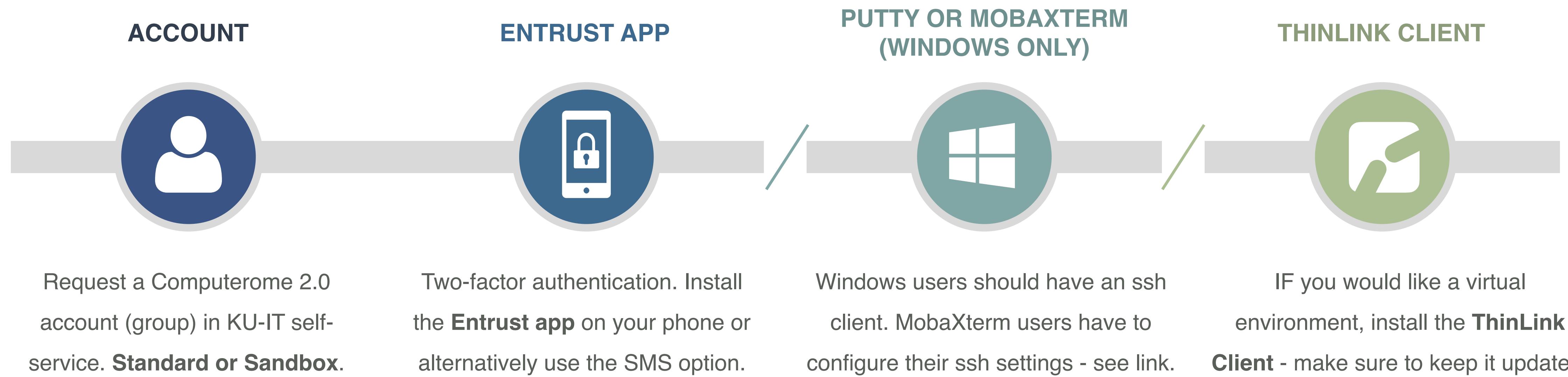
# INTRODUCTION TO C2 - BENT

# PART 2

# THE BASICS

# BEFORE LOG IN TO COMPUTEROME 2.0

**GETTING STARTED:** <https://www.computerome.dk/display/C2W/Getting+Started+-+new+users#GettingStarted-newusers-SSHlogintoComputerome2.0>



# LOG IN TO COMPUTEROME 2.0



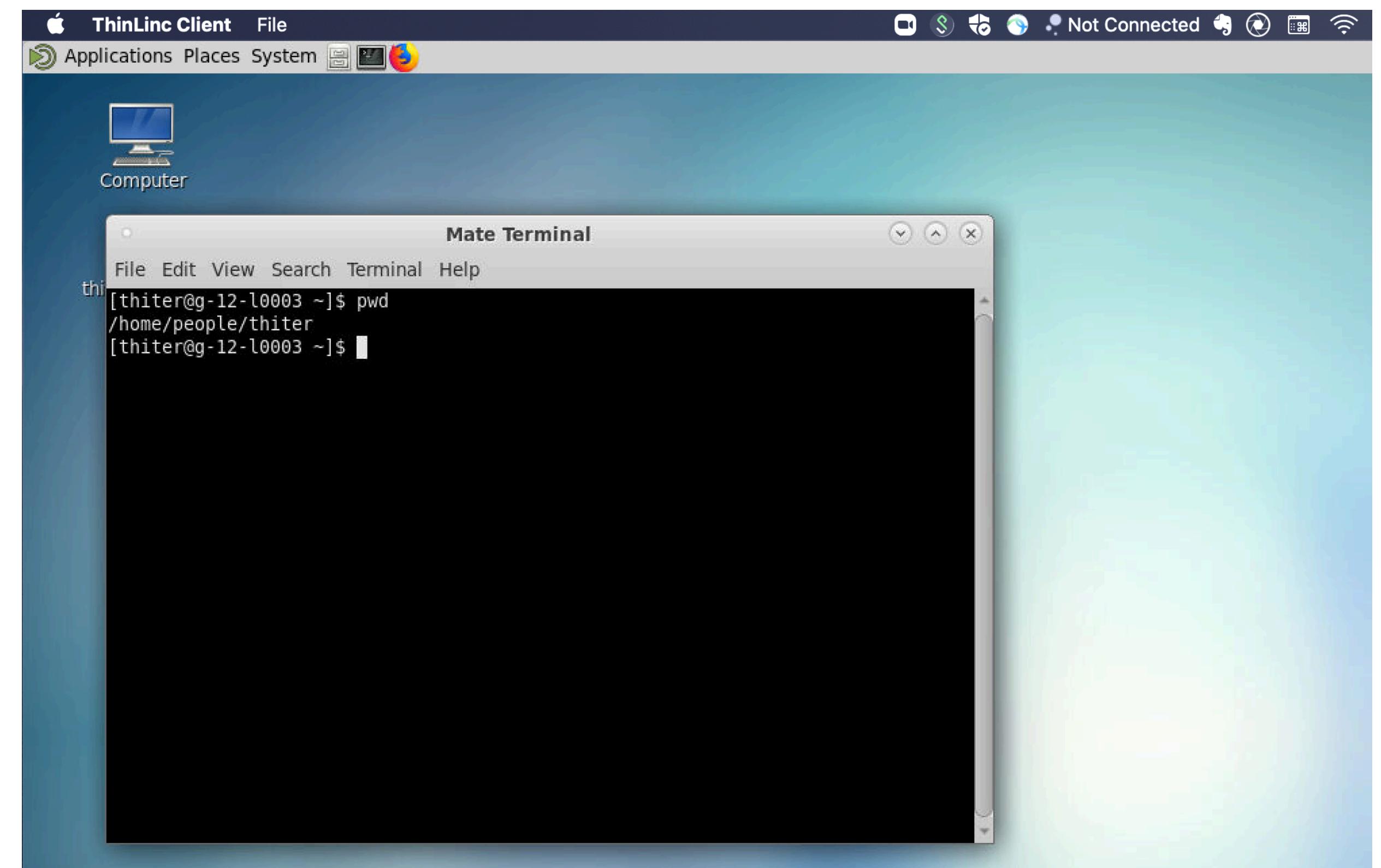
## LOG IN WITH THINLINK

- Download and install the **ThinLink Client**
- Open and enter your **Username + Password**
- It make take a couple of minutes to connect
- Enter the token from the Entrust App (or Confirm)
- Open a terminal or click your way around



## LOG IN WITH SSH

- Open a terminal
- ssh [username@ssh.computerome.dk](ssh://username@ssh.computerome.dk)
- Enter your password
- Enter the token from the Entrust App (or Confirm)

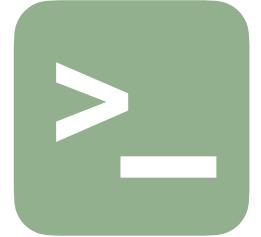


# LOG IN TO COMPUTEROME 2.0



## LOG IN WITH THINLINK

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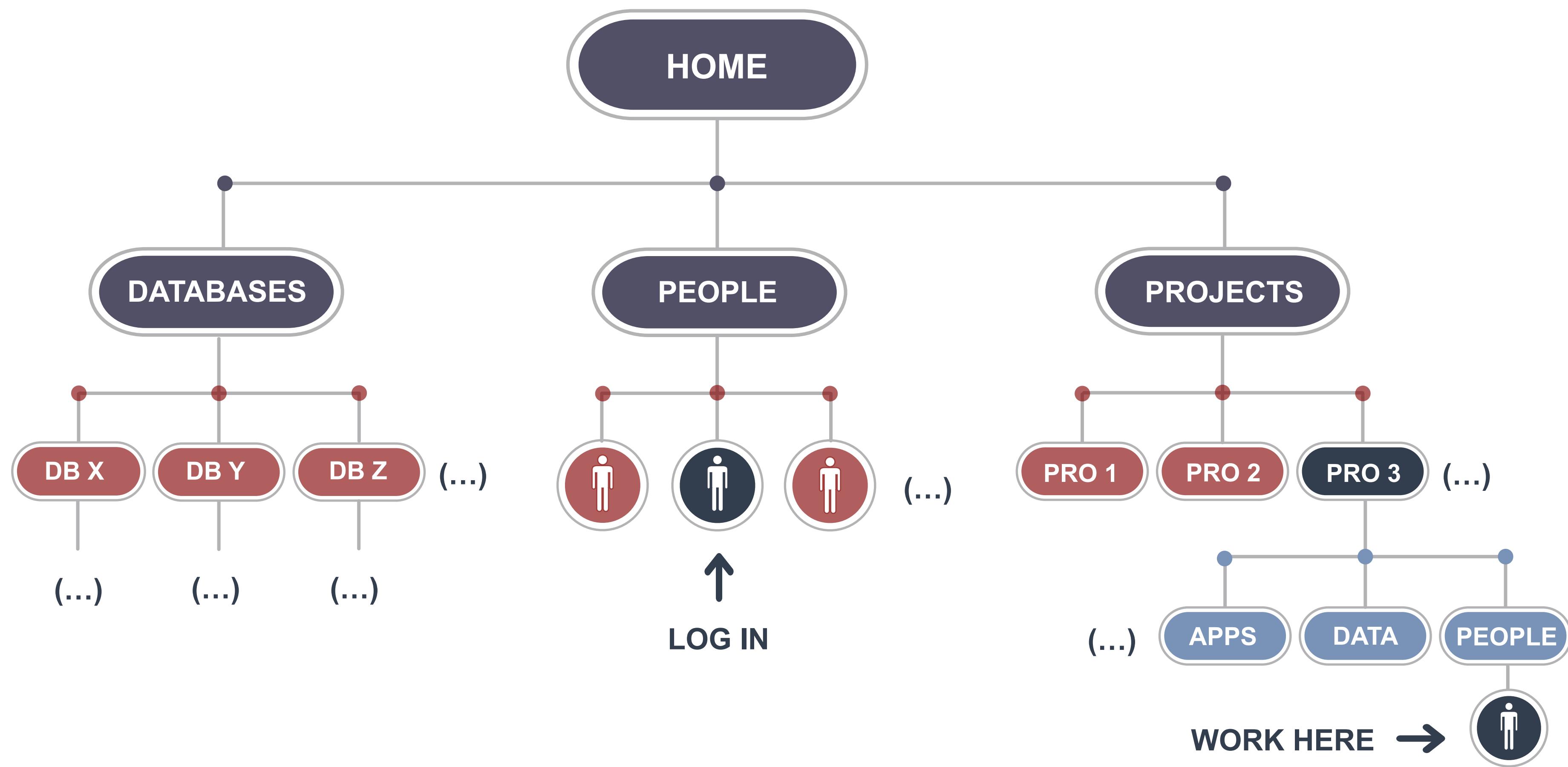


## LOG IN WITH SSH

- Open a terminal
- ssh username@ssh.computerome.dk
- Enter your password
- Enter the token from the Entrust App (or Confirm)

```
Last login: Mon Jan  4 15:31:24 on ttys000
[kgx936@SUN1007442 ~ % ssh thiter@ssh.computerome.dk
#####
#                                     #
#               Welcome to Computerome 2.0          #
#                                     #
#               NOTICE !!!                         #
#               This system requires 2-factor authentication   #
#                                     #
#               To login, type your password and press Enter.    #
#               This sends either an SMS passcode to your mobile   #
#               or a push-notification to Entrust IdentityGuard app.   #
#               If the push-notification times out, a new prompt line   #
#               asks for the 8 digit security code shown in the app.   #
#                                     #
#               BY LOGGING INTO THIS SYSTEM YOU ACCEPT           #
#               COMPUTEROME'S TERMS AND CONDITIONS OF USE.        #
#                                     #
#               Send support requests to computerome@dtu.dk      #
#                                     #
#####
[Password:
Last login: Mon Jan  4 13:47:55 2021 from 2.111.76.128
[[thiter@g-12-10002 ~]$ pwd
/home/people/thiter
[thiter@g-12-10002 ~]$ ]
```

# C2 SANDBOX STRUCTURE

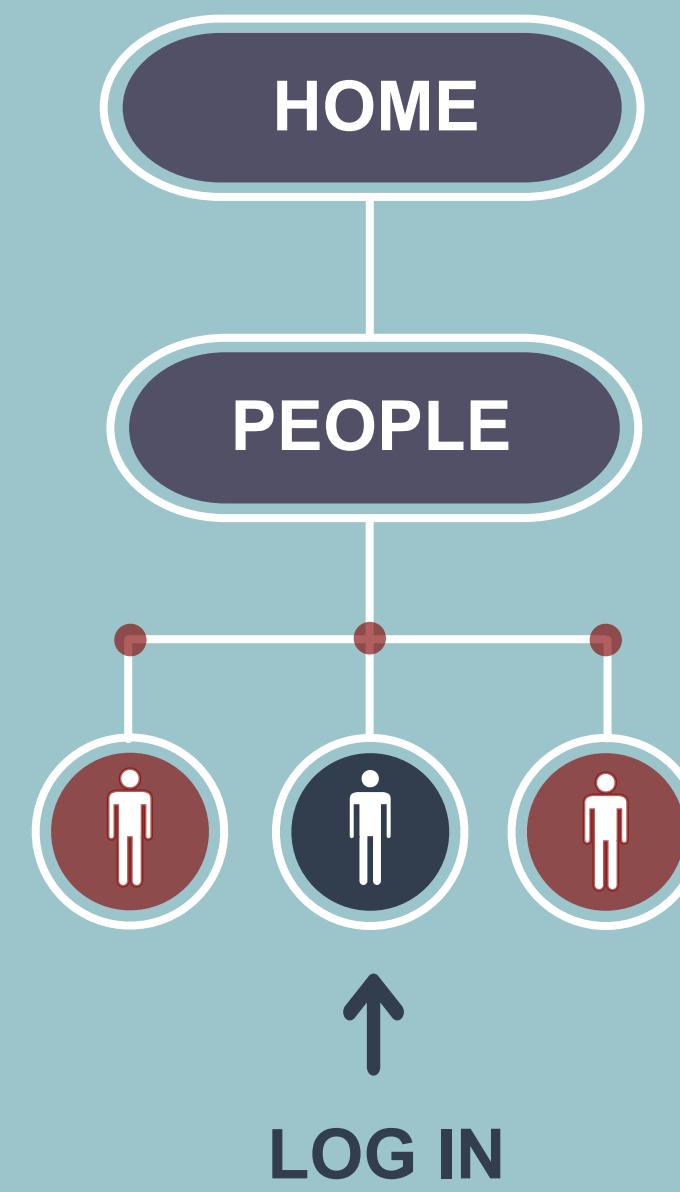


# C2 SANDBOX STRUCTURE

1

/home/people/username

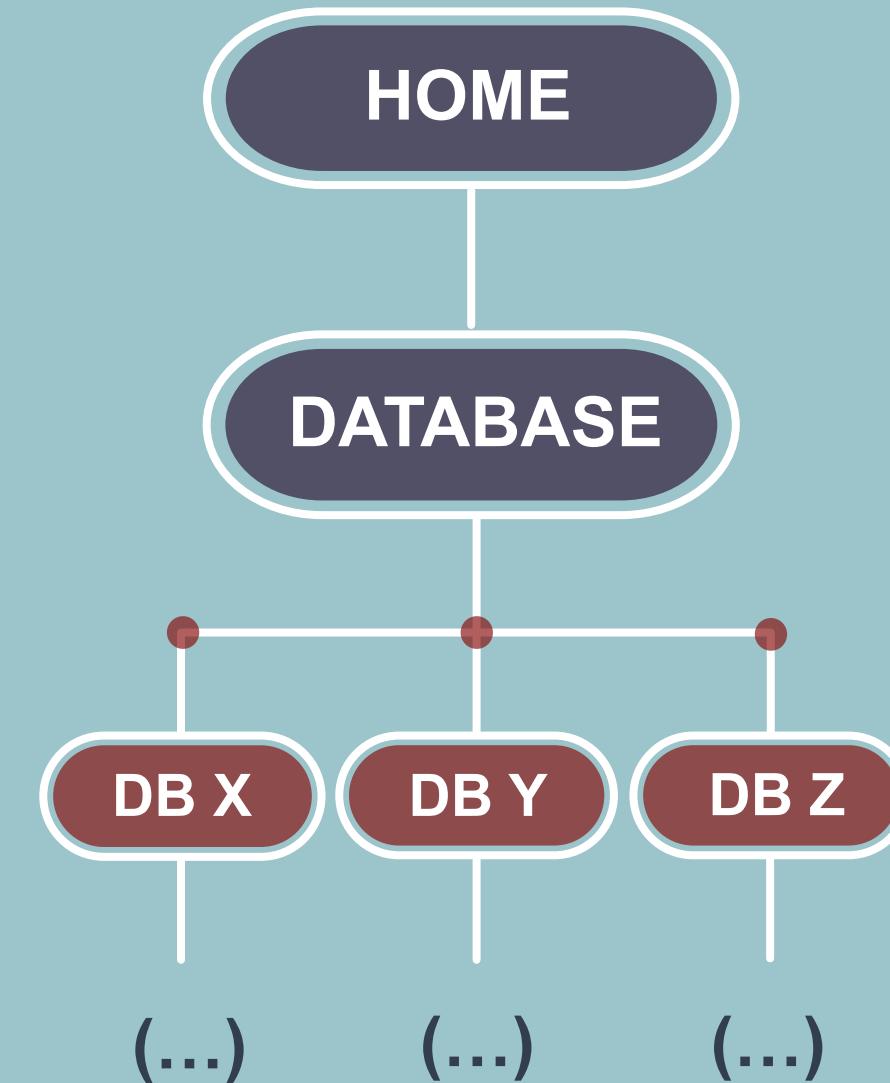
- Your private directory.
- This space is meant for configuration files.
- Do NOT store data here (max 10G)
- Do NOT run jobs from here.



2

/home/databases

- Shared database resource
- Databases include:
  - Human genomes
  - Blast
  - TCGA / GTEx
  - dbSNP
  - ClinVar / COSMIC
  - ...

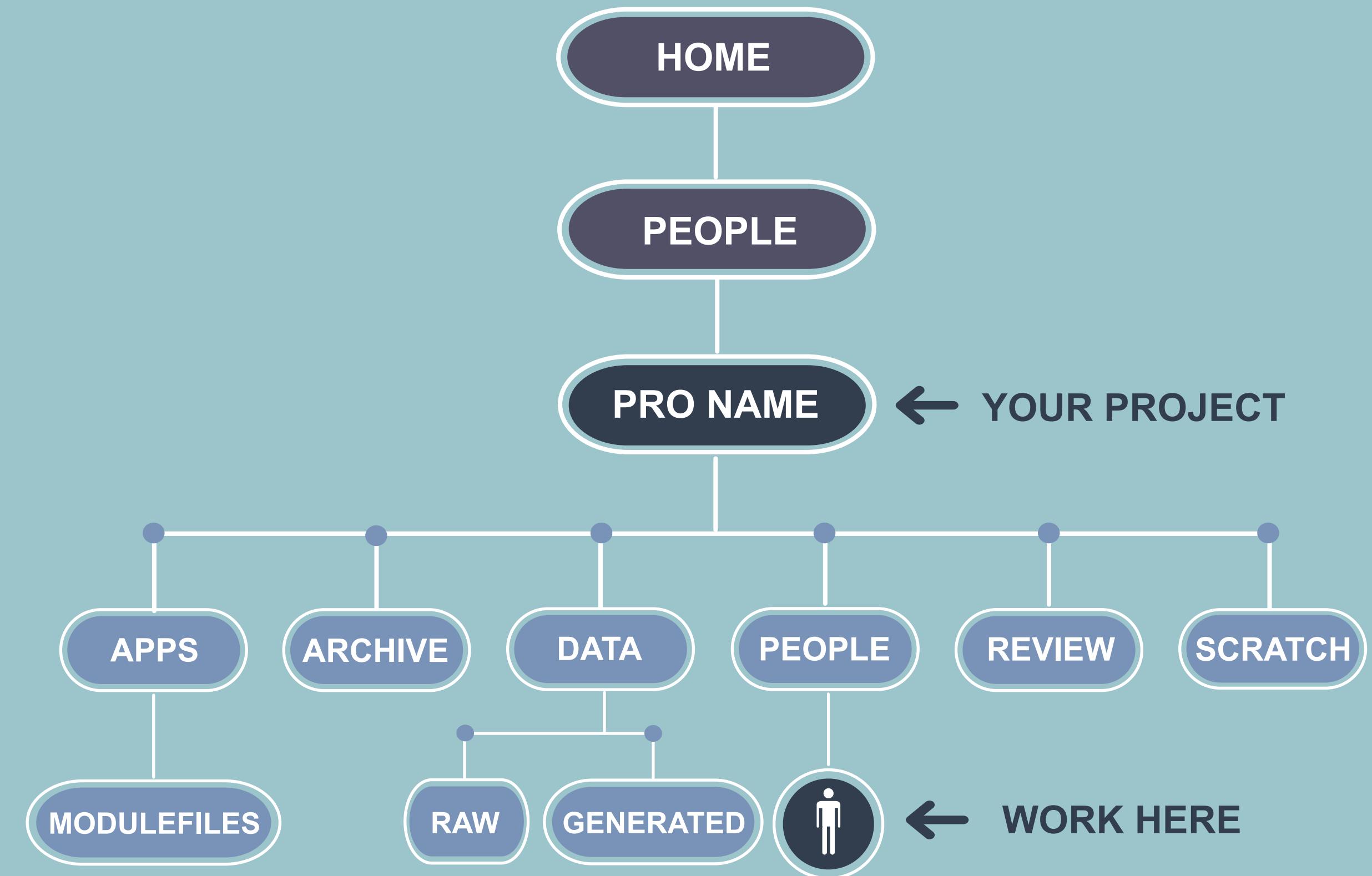


# C2 SANDBOX STRUCTURE

3

/home/projects/project

- Your project directory.
- ./apps : project specific applications & modulefiles
- ./archive: dataproject specific data
- ./scratch: temporary & re-creatable data N.B will not be backed up!
- ./review used for peer-review.



# YOUR PROJECT AND GROUP

## PROJECT

<project> usually refers to the projects funding.



## USERNAME

<username>  
Your unique user ID. Can be connected to multiple projects and groups.

## PROJECT NAME

<project\_name> is the name given by the C2 team. Almost exclusively the same as <project>.

## GROUP NAME

<group\_name>  
ID assigned by DTU.  
Refers to the UNIX group, e.g. the projects/users access to resources.  
Often the same as <project\_name>.

Type in <id> to get this information

```
#####
#           Welcome to Computerome 2.0
#
#           NOTICE !!!
#           This system requires 2-factor authentication
#
#           To login, type your password and press Enter.
#           This sends either an SMS passcode to your mobile
#           or a push-notification to Entrust IdentityGuard app.
#           If the push-notification times out, a new prompt line
#           asks for the 8 digit security code shown in the app.
#
#           BY LOGGING INTO THIS SYSTEM YOU ACCEPT
#           COMPUTEROME'S TERMS AND CONDITIONS OF USE.
#
#           Send support requests to computerome@dtu.dk
#
#####
Password:
Last login: Wed Jan  6 13:04:54 2021 from 2.111.76.128
[[thiter@g-12-10002 ~]$]
[[thiter@g-12-10002 ~]$ id
uid=113800351(thiter) gid=113800351(thiter) groups=113800351(thiter),113800352(ku_00033)
[thiter@g-12-10002 ~]$ ]
```

# GOOD TO KNOW

COMPUTEROME 2.0 WIKI - FIND EVERYTHING HERE

<https://www.computerome.dk/>

VIDEO TUTORIALS - HELPFUL TO WINDOWS USERS

<https://www.computerome.dk/display/C2W/Video+Tutorials>

BRUSH UP ON YOUR UNIX SKILLS

[https://www.computerome.dk/display/C2W/Getting+Started+-+new+users?  
preview=42205237/42205239/Hackinars\\_in\\_Computerome-wiki.pdf](https://www.computerome.dk/display/C2W/Getting+Started+-+new+users?preview=42205237/42205239/Hackinars_in_Computerome-wiki.pdf)

CHECK YOUR USAGE ON C2

module load tools usage\_script/2.0  
usage -u username

GETTING HELP

Write to [computerome@dtu.dk](mailto:computerome@dtu.dk)

- Subject description
- System, e.g. Computerome main, sandbox, or <named> cloud system
- Login issues, ThinLinc vs SSH login, username & error message(s)
- Command line(s) used
- Describe the problem including error messages

PART3  
WORKING ON COMPUTEROME 2.0

# WORKING ON COMPUTEROME 2.0 - MAGALI

PART4

A BRIEF TECHINICAL INTERMEZZO

# A BREIF TECHINCAL INTERMEZZO - ALLAN

PART5

C2 MODULES & QUEING SYSTEM

# MODULES, QUEING SYSTEM & SCRIPTS - SHYAM

# PART6

# OPTIMIZATION OF TIME & COST

# OPTIMIZATION OF TIME AND COST ON C2 - SHYAM