Introduction to Parallel Processing

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In the following slides I will describe how to prepare the course computing environment:

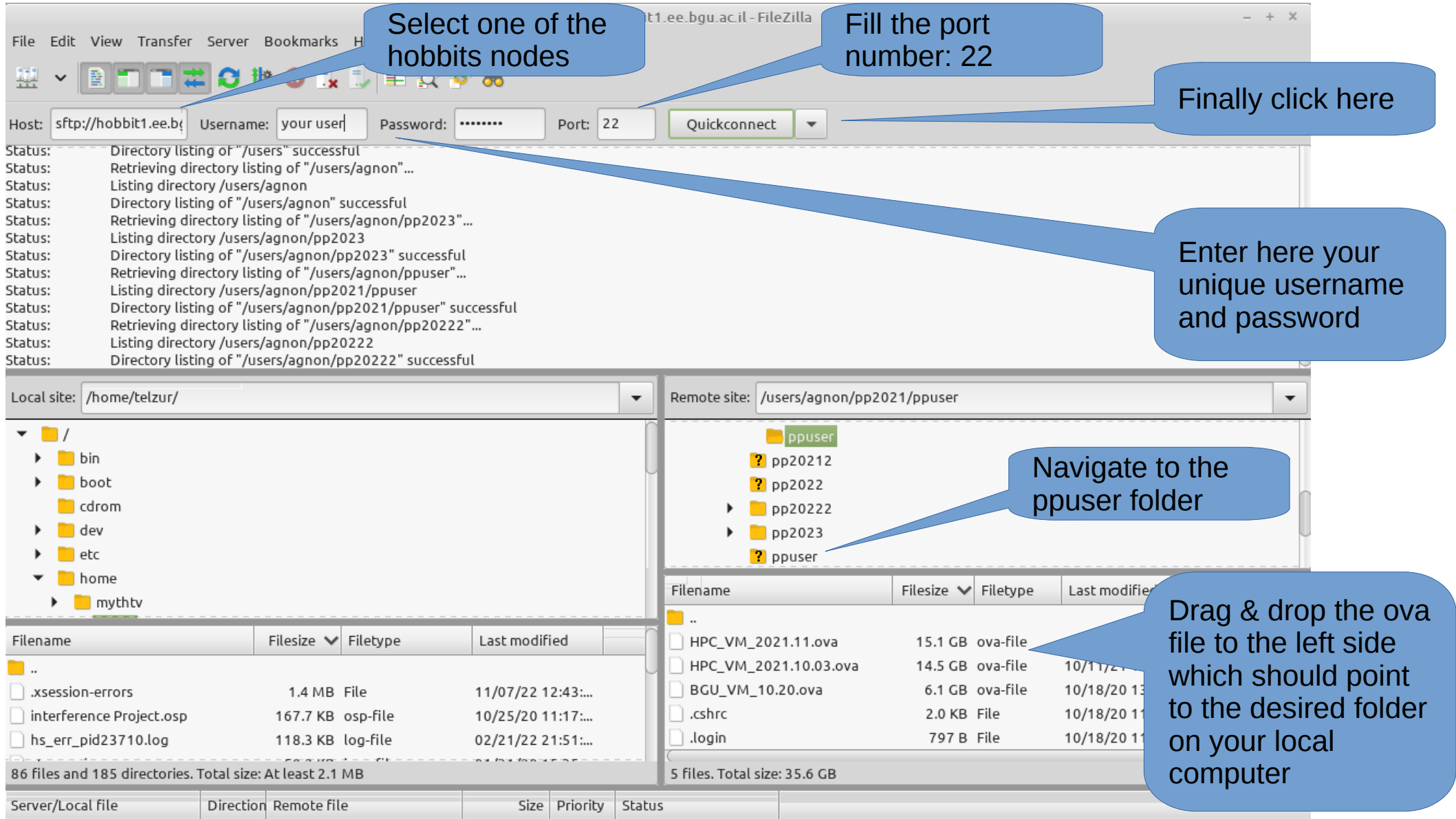
~~10/10/2021~~
~~30/10/2021~~
~~10/4/2022~~
7/11/2022

VPN Connection to BGU

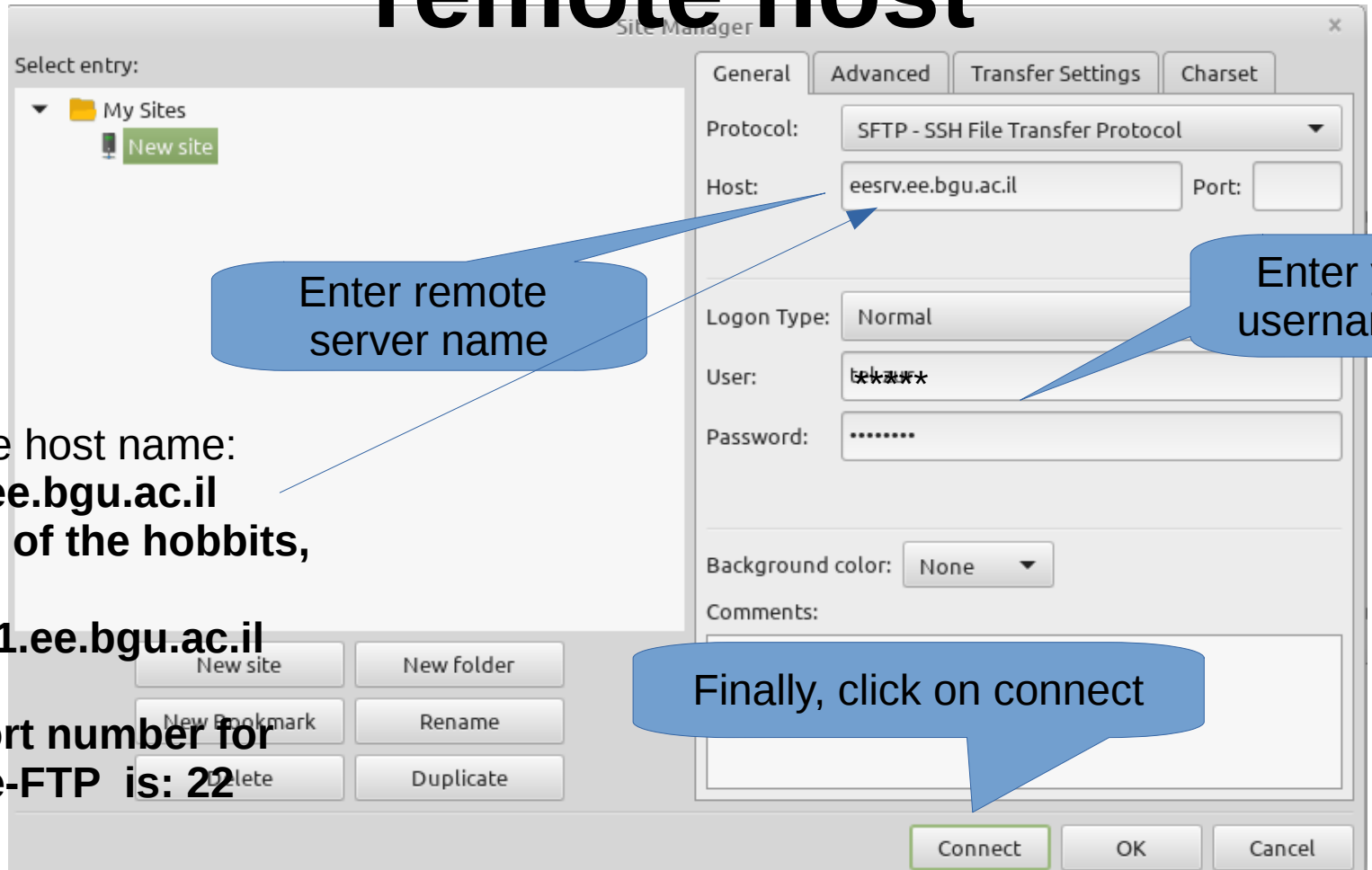
- In your home computer ("host") open a VPN session to BGU
- Verify that you have BGU IP (ipconfig → 132.72.x.x)
- Only then proceed to the next steps.

Using Filezilla

- For Windows and Linux users
- Goto https://filezilla-project.org/ and Download Filezilla.


Select one of the hobbits nodes
Fill the port number: 22
Finally click here
Enter here your unique username and password
Navigate to the ppuser folder
Drag & drop the ova file to the left side which should point to the desired folder on your local computer
File Edit View Transfer Server Bookmarks
Host: sftp://hobbit1.ee.bg
Username: your user
Password: ••••••••
Port: 22
Quickconnect
Status: Directory listing of "/users" successful
Status: Retrieving directory listing of "/users/agnon"...
Status: Listing directory /users/agnon
Status: Directory listing of "/users/agnon" successful
Status: Retrieving directory listing of "/users/agnon/pp2023"...
Status: Listing directory /users/agnon/pp2023
Status: Directory listing of "/users/agnon/pp2023" successful
Status: Retrieving directory listing of "/users/agnon/ppuser"...
Status: Listing directory /users/agnon/pp2021/ppuser
Status: Directory listing of "/users/agnon/pp2021/ppuser" successful
Status: Retrieving directory listing of "/users/agnon/pp20222"...
Status: Listing directory /users/agnon/pp20222
Status: Directory listing of "/users/agnon/pp20222" successful
Local site: /home/telzur/
/
bin
boot
cdrom
dev
etc
home
mythtv
Filename Filesize Filetype Last modified
..
.xsession-errors 1.4 MB File 11/07/22 12:43:...
interference Project.osp 167.7 KB osp-file 10/25/20 11:17:...
hs_err_pid23710.log 118.3 KB log-file 02/21/22 21:51:...
86 files and 185 directories. Total size: At least 2.1 MB
Remote site: /users/agnon/pp2021/ppuser
ppuser
pp20212
pp2022
pp20222
pp2023
ppuser
Filename Filesize Filetype Last modifie
..
HPC_VM_2021.11.ova 15.1 GB ova-file
HPC_VM_2021.10.03.ova 14.5 GB ova-file
BGU_VM_10.20.ova 6.1 GB ova-file
.cshrc 2.0 KB File
.login 797 B File
5 files. Total size: 35.6 GB
Server/Local file Direction Remote file Size Priority Status

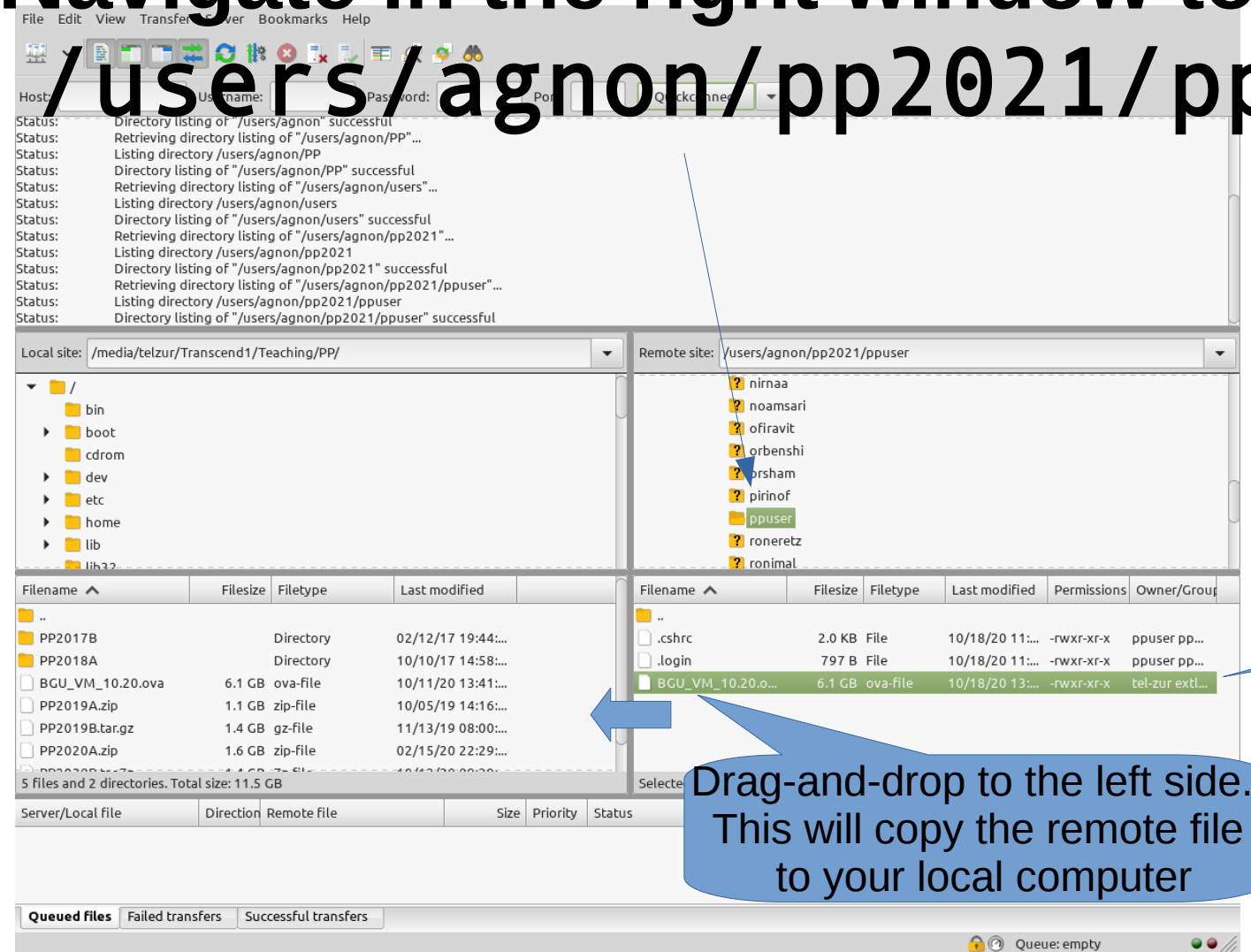
Start FileZilla and define a new remote host



Remote host name:
eesrv.ee.bgu.ac.il
Or one of the hobbits, e.g.:
hobbit1.ee.bgu.ac.il

The port number for Secure-FTP is: 22

Navigate in the right window to folder: /users/agnon/pp2021/ppuser



This is the file we want

Drag-and-drop to the left side. This will copy the remote file to your local computer

Another option to access the image

A new windows (10) share:
\\eeman.ee.ad.bgu.ac.il\PP

Use your University account

Download the VM ova file

- BGU_VM_10.20.ova
- File size: 6.1GB

  Or
- ~~HPC_VM_2021.10.0~~
- ~~File size: 14.4GB !~~
- HPC_VM_2021.11.ova
- File size: 15.1GB !

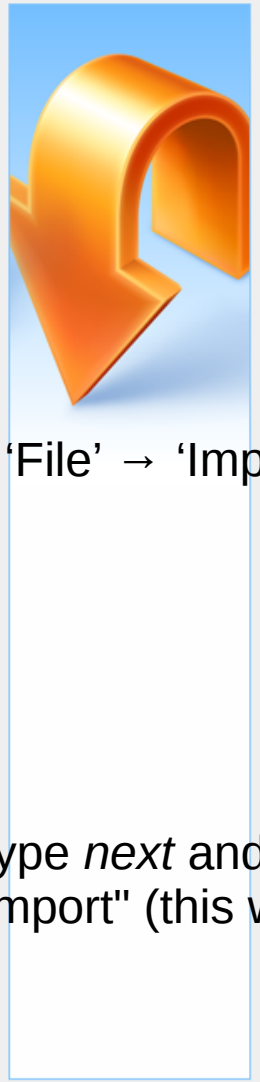
OVA = Open Virtualization Alliance (Appliance)

ההורדה תיקח זמן, להמתין בסבלנות

Download virtualbox(*)

- https://www.virtualbox.org/wiki/Downloads
- Install the program
- Start the program

(*) OVAs can also be used with VMWARE but it is not supported by me



Appliance to import

Please choose the source to import appliance from. This can be a local file system to import OVF archive or one of known cloud service providers to import cloud VM from.

Source: Local File System

Please choose a file to import the virtual appliance from. VirtualBox currently supports importing appliances saved in the Open Virtualization Format (OVF). To continue, select the file to import below.

File: write here the path to the downloaded ova file

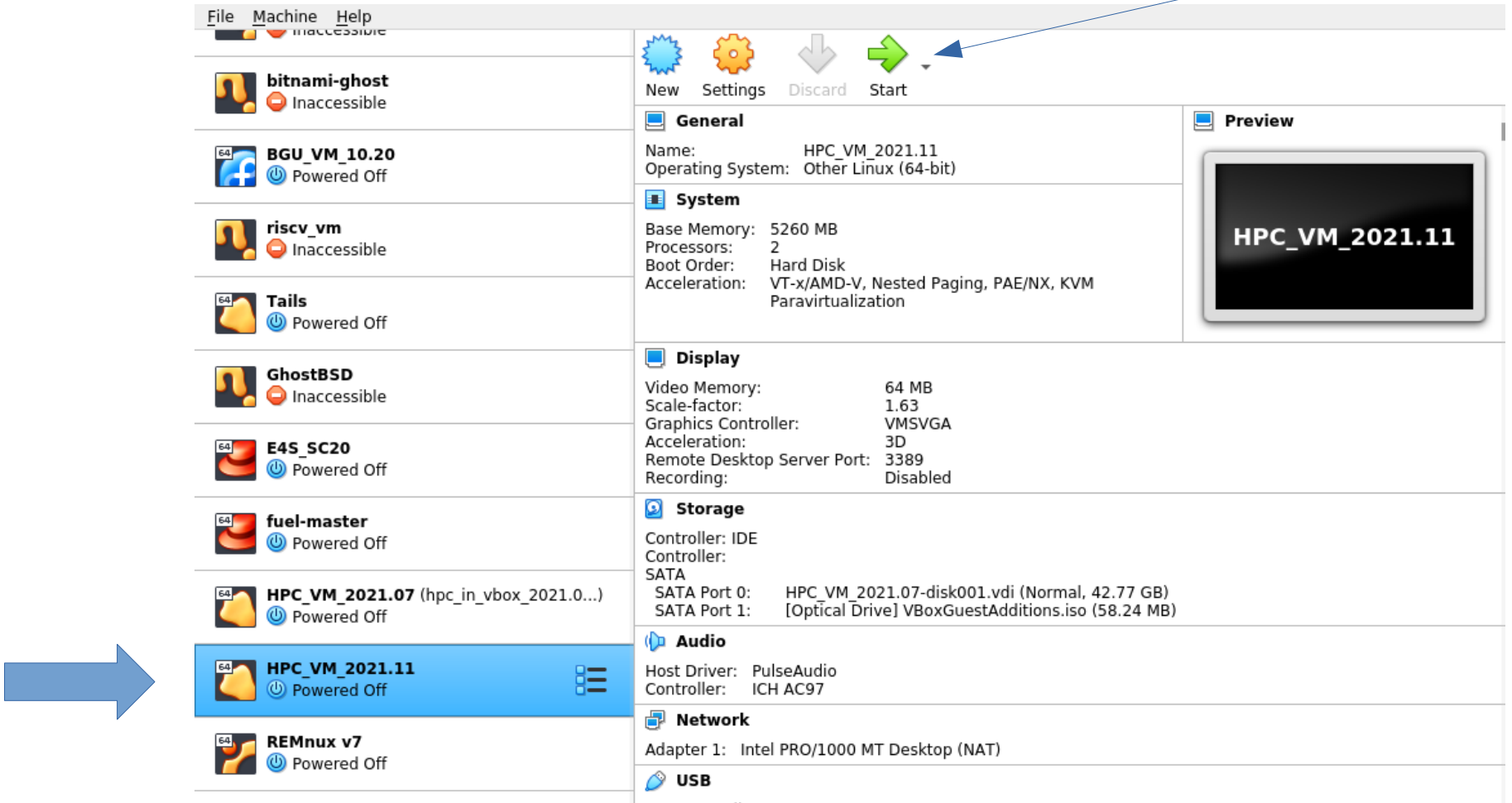
Expert Mode | < Back | Next > | Cancel

Type ‘File’ → ‘Import’

Click here to navigate to the downloaded file

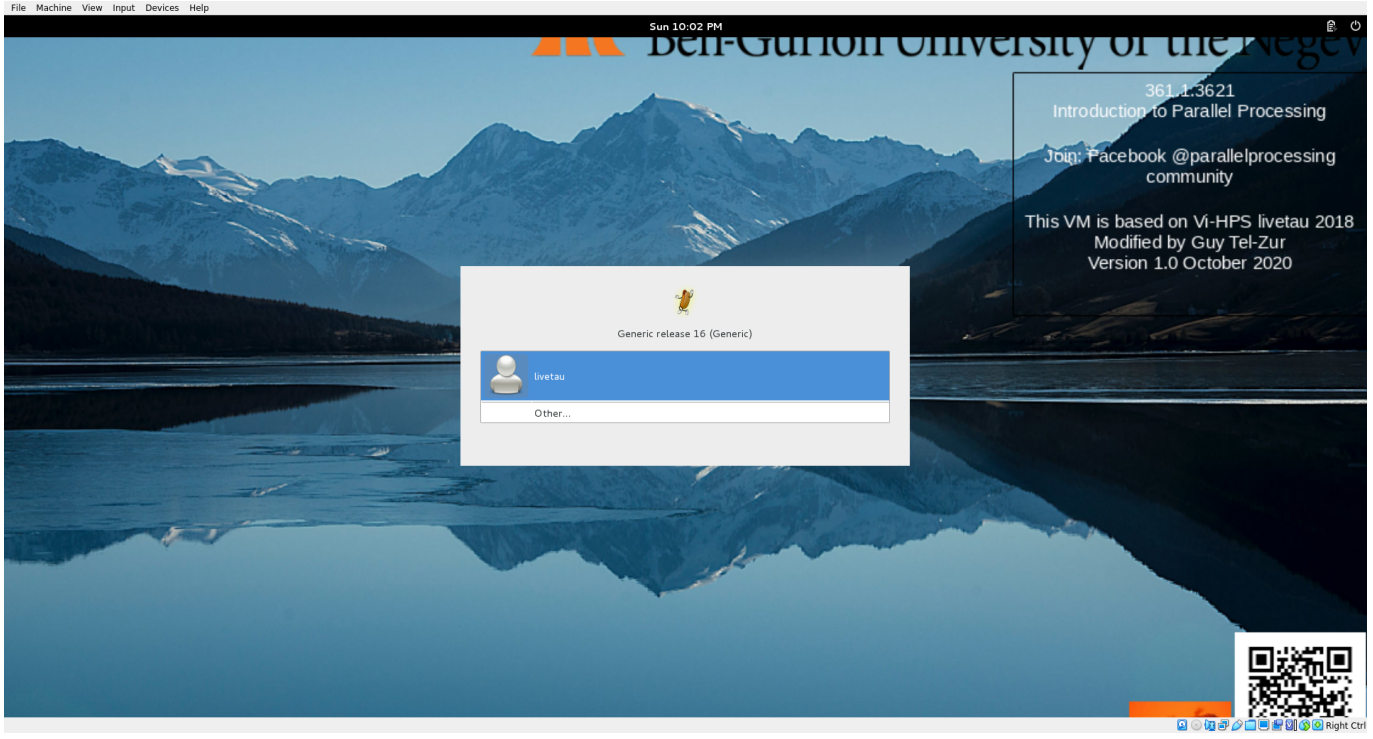
Then type *next* and accept the defaults,
then "import" (this will take a few minutes)

Select the virtual machine and click on start



Login to the **BGU_VM**: select user “livetau” and when asked enter the password: **`pp_in_vbox`**

(see also next slide)



Generic release 16 (Generic)
livetau
Password:
Cancel
Log In
pp_in_vbox
Then, click here to login

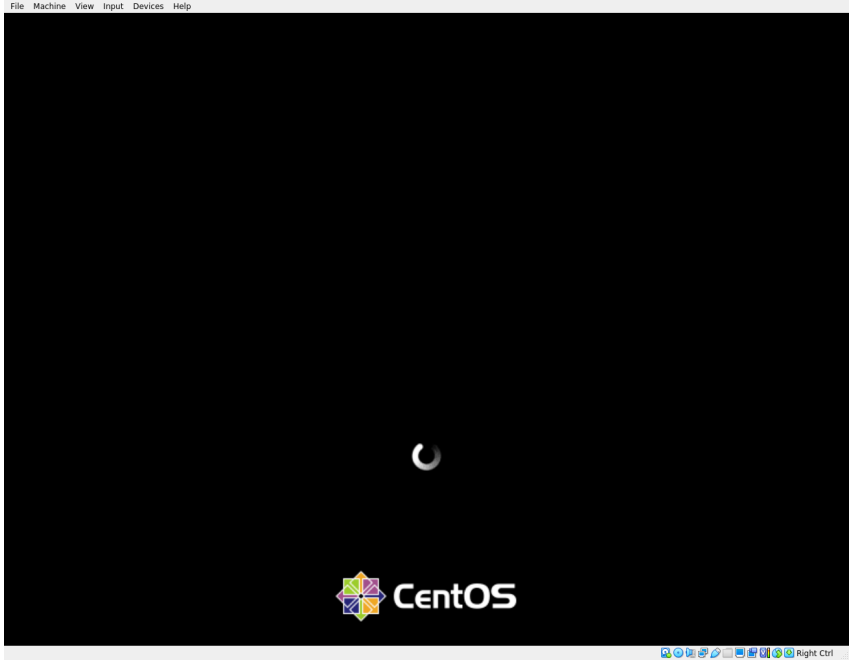
After a few seconds your VM will be ready. Welcome!

HPC_VM can be installed in a similar manner

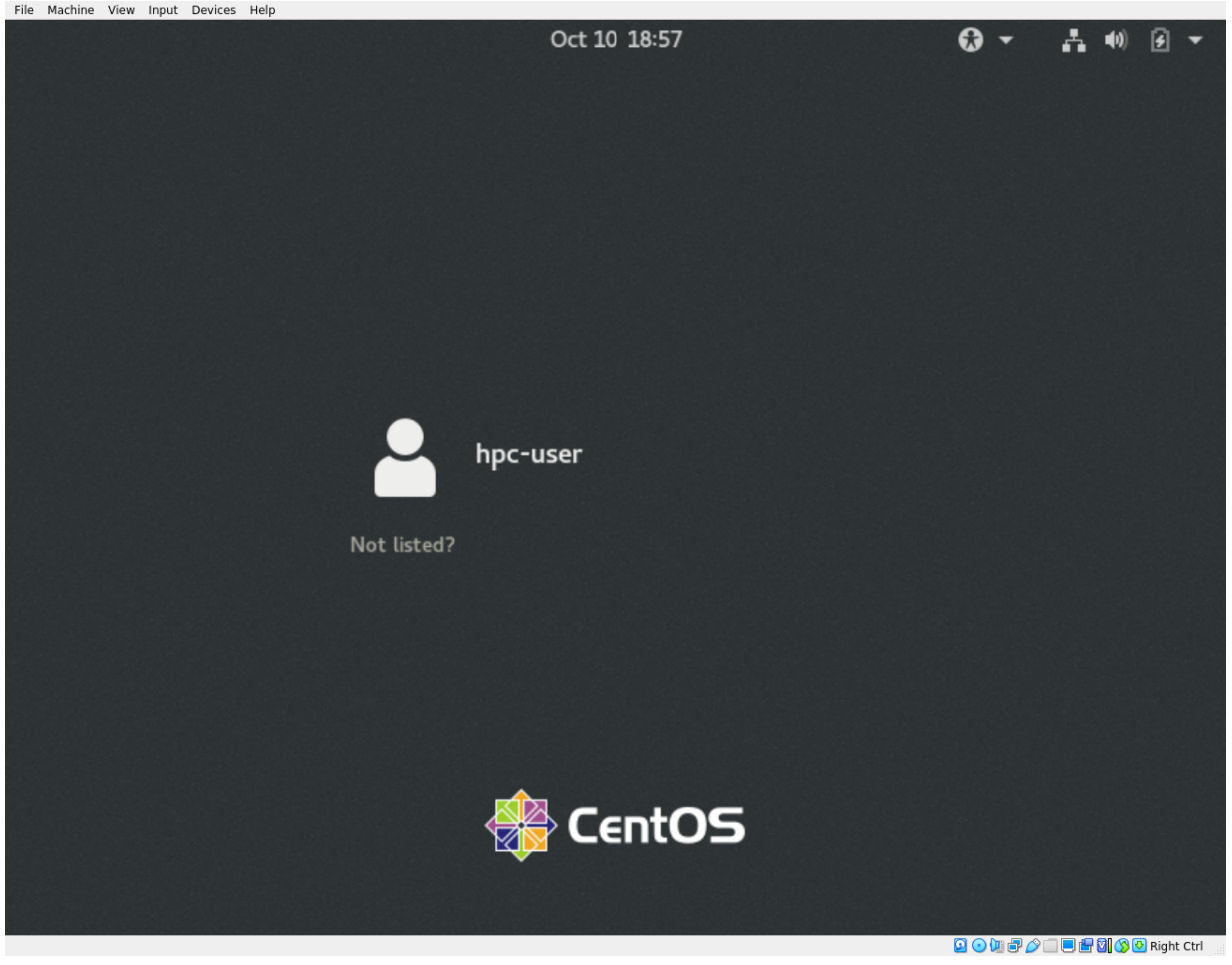
Import HPC_VM.2021.10 into Virtualbox

Try to use the default options and don’t make any settings changes

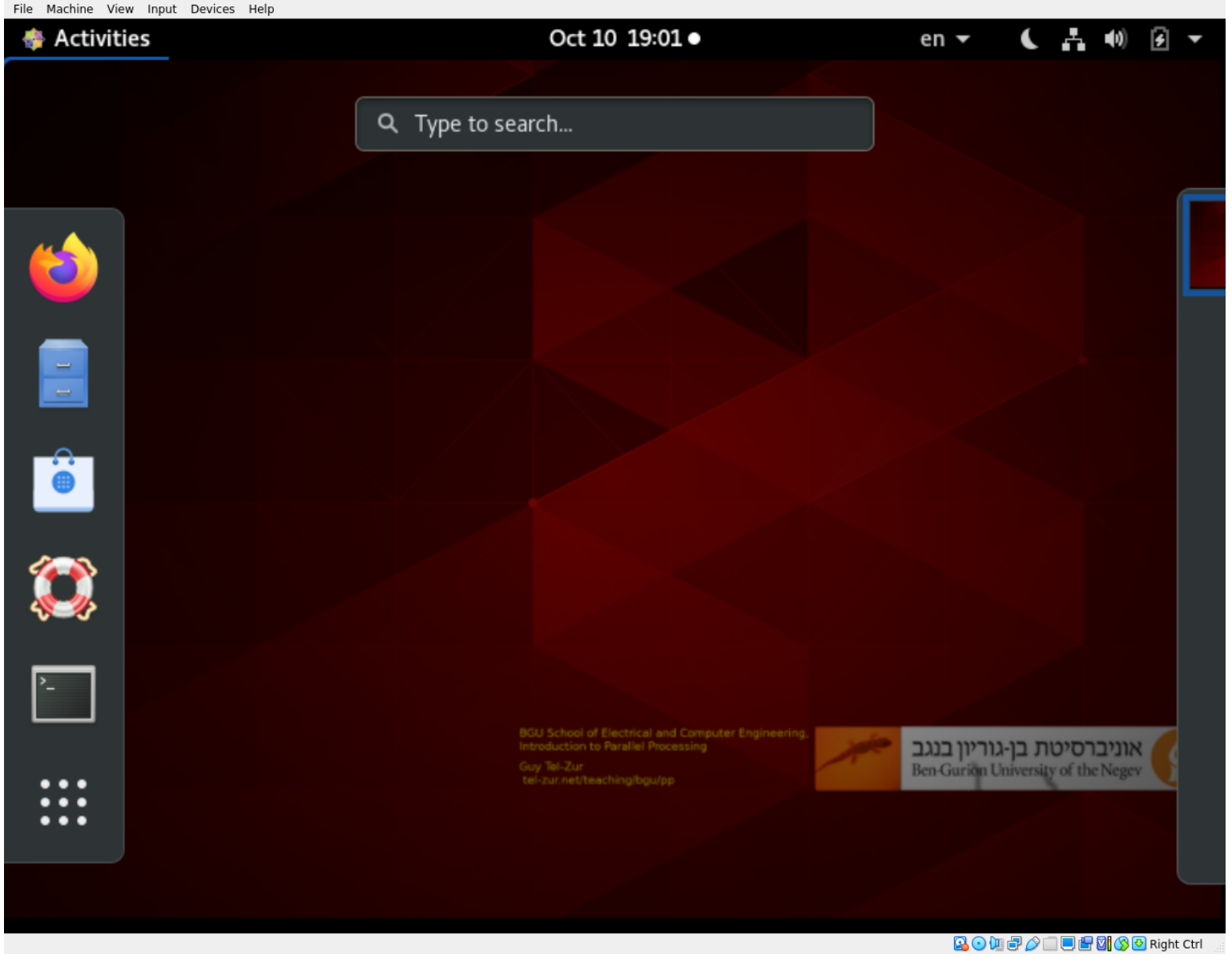
The VM while booting



Login to the HPC_VM



The default user: **`hpc-user`**
Password: **`hpc_in_vbox`**


File Machine View Input Devices Help
Activities
Oct 10 19:01
en
Type to search...
BGU School of Electrical and Computer Engineering,
Introduction to Parallel Processing
Guy Tel-Zur
tel-zur.net/teaching/bgu/pp
אוניברסיטת בן-גוריון בנגב
Ben-Gurion University of the Negev
Right Ctrl

Open terminal and type(*): source ~/start_env.sh

```
+=============================================================+
+ To start the parallel processing environment type from any terminal: +
+ source ~/start_env.sh                                      +
+=============================================================+
[hpc-user@hpc ~]$ source ~/start_env.sh
Initializing spack, this will take a few seconds...
Done initialization, we are ready to go
[hpc-user@hpc ~]$
```

Congratulations, you are ready to go!

(*) Repeat this step for each new terminal that you open.