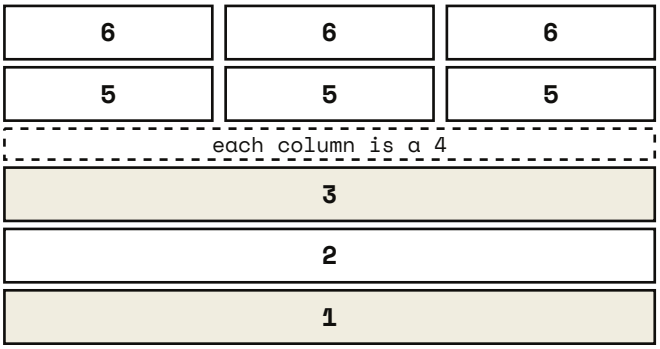
ANNEX A · VIRTUALISATION

Name: _____ **Date:** _____

TASK 1 WHO IS WHO?

14 min · alone

A. Write the number of each box next to its name.



____ hypervisor
____ guest operating system
____ hardware of the host
____ virtual machine
____ application
____ host operating system (Linux on the server)

B. Who is it? **H** host · **G** guest · **HV** hypervisor.

_____ 1 · It starts when you press the power button.
_____ 2 · It runs inside a window.
_____ 3 · It gives each VM its share of CPU and RAM.
_____ 4 · Delete one file on the host and it is gone.
_____ 5 · It owns the real SSD.
_____ 6 · It believes it has a disk of 25 GB of its own.
_____ 7 · It creates and starts the virtual machines.

C. Which reason? **test** · **isolate** · **recover** · **share**.

1 You want to try Windows 11 without changing your Ubuntu. _____
2 A company runs 20 small servers on one big machine. _____
3 You open a suspicious file inside a VM, not on your PC. _____
4 An update breaks the system; you go back to yesterday's saved state. _____

DONE WHEN six numbers, seven letters and four words are written.

TASK 2 IS THE HOST READY?

20 min · alone

The host is the **class server**. Open a terminal on your PC (**Ctrl + Alt + T**) and log in: `ssh <user>@<server>`, password from your slip (answer `yes` if it asks about the key). Type each command and write the answer. Type `exit` at the end.

	Command	Answer
1	`LC_ALL=C lscpu | grep -i virtualization`	
2	`grep -E -c "vmx|svm" /proc/cpuinfo`	
3	`lsmod | grep kvm`	
4	`ls -l /dev/kvm`	first letter of the line:
5	`virt-host-validate qemu`	first three lines: PASS / FAIL?
6	`groups`	is `kvm` in the list?
7	`virsh -c qemu:///session list --all`	
8	`nproc` · `free -h` · `df -h ~/.local/share/libvirt/images`	CPUs: RAM total: Disk free:

Intel or AMD? _____ Name of its virtualisation technology: _____ Kernel module of step 3: _____

Verdict: the host is ☐ ready ☐ not ready, because of step _____

DONE WHEN eight answers and a verdict. “Ready” needs steps 3, 4, 5 and 7.

TASK 3 THE BUDGET

15 min · pairs

The three virtual machines you will build in this unit:

VM	Guest	vCPU	RAM	Disk
`deb-lab`	Debian 13 with desktop	2	4 GB	25 GB
`ubu-srv`	Ubuntu Server 26.04 LTS	2	2 GB	20 GB
`win11`	Windows 11	2	4 GB	64 GB
Total				

Rule of the course on a single PC: keep **4 GB of RAM for the host**.

1 On one PC, RAM needed to run all three at once, host included: _____. A PC with 8 GB: which VMs can run together? _____

2 The class server is shared. Students in the class: _____ × 10 GB = _____ GB. The server has (Task 2): _____. Enough? _____

3 Disk needed for your three: _____. Free on the server: _____. Enough? _____

4 The three VMs want 6 vCPUs. The server has _____ CPUs. Which resource says no first: CPU, RAM or disk? _____

DONE WHEN the Total row is filled and the four questions are answered with the server’s numbers from Task 2.

TASK 4 SORT THEM AND WRITE IT UP

15 min · alone

A. Type **1** (on the hardware) or type **2** (an application on a normal system)?

___ VMware ESXi	___ VirtualBox	___ Microsoft Hyper-V
___ VMware Workstation	___ Proxmox VE	___ Xen

B. Write `host-check-surname.md` with the report template: **three** steps chosen from Task 2 (what I did, the command, the output as text, what it means) and this last line, completed: “The host is / is not ready to run KVM virtual machines because…” Upload it to the Classroom assignment Host check and keep the file for tomorrow.

DONE WHEN six numbers are written and the file is on Classroom.

TASK 5 EXIT TICKET

8 min · alone, no notes

1. What is the host?

- ☐ a) The system installed inside a virtual machine
- ☐ b) The real machine that runs the virtual machines
- ☐ c) The window where the VM is shown
- ☐ d) The file that holds the virtual disk

2. What does a hypervisor do?

- ☐ a) It makes the CPU faster
- ☐ b) It connects two PCs through the network
- ☐ c) It copies files between systems
- ☐ d) It creates VMs and shares the real hardware among them

3. Where does a type 1 hypervisor run?

- ☐ a) Directly on the hardware
- ☐ b) As an application on Windows or Linux
- ☐ c) Inside the guest
- ☐ d) In the web browser

4. The command grep -E -c ”vmx|svm” /proc/cpuinfo prints 0. What does it mean?

- ☐ a) No virtual machine is running
- ☐ b) KVM is installed and working
- ☐ c) The CPU offers no hardware virtualisation
- ☐ d) The PC has no RAM left

5. On the host, the disk of a virtual machine is…

- ☐ a) a file
- ☐ b) a second SSD
- ☐ c) a part of the RAM
- ☐ d) a USB stick