ANNEX A · RESTIC AND THE RESTORE DRILL

NAME _____ DATE _____ PARTNER _____

Yesterday you had a fresh mirror with no past and an old archive. Today one program gives **Tramuntana Apps** both. You work in `deb-lab`. The password of today's repository is `tramuntana`: restic asks for it at every command and shows nothing while you type.

TASKS 1–4 · 25 MIN

TASK 1 Connect the backup disk

```
findmnt /mnt/backup
```

If it prints nothing, the disk is not mounted (you restarted the VM). Mount it by its label:

```
sudo mount LABEL=backup /mnt/backup
findmnt /mnt/backup
```

```
sudo apt install restic
restic version
```

Version: _____

DONE WHEN `findmnt` shows a partition under SOURCE.

TASK 2 Create the repository

```
restic -r /mnt/backup/restic init
ls /mnt/backup/restic
```

Copy the last sentence of the warning it prints:

_____

_____

Now tell this terminal where the repository is, so you do not type `-r ...` every time (if you open a new terminal, run it again):

```
export RESTIC_REPOSITORY=/mnt/backup/restic
```

DONE WHEN `ls` shows six names; one of them is `snapshots`.

TASK 3 First snapshot

```
restic backup ~/tramuntana-share
restic snapshots
du -sh /mnt/backup/restic
```

Files new: _____ Processed: _____ Snapshot ID: _____

Size of the repository: _____

DONE WHEN `restic snapshots` lists one line.

TASK 4 A working day, second snapshot

```
cd ~/tramuntana-share
echo 'v3' > design/logos/icon.svg
echo 'Hotel Ponent' > admin/client-2.txt
rm dev/tapes-app/README.md
cd ~
restic backup ~/tramuntana-share
restic snapshots
```

Files new: _____ changed: _____ unmodified: _____

Compare the two snapshots (use **your** two IDs):

```
restic diff FIRST-ID SECOND-ID
du -sh /mnt/backup/restic
```

Copy the three lines that start with `+`, `M` and `-` (the end of each is enough):

_____

_____

_____

Two snapshots of 23 MiB each. Size of the repository now: _____ How is that possible?

_____

DONE WHEN two snapshots, three differences, and the repository hardly grew.

TASKS 5–6 · 15 MIN

TASK 5 Restore one folder

```
rm -r ~/tramuntana-share/admin
ls ~/tramuntana-share
restic restore latest --target / \
  --include ~/tramuntana-share/admin
ls ~/tramuntana-share/admin
```

Is `client-2.txt` back? _____ Why? (When was it created, when was the last snapshot?)

_____

DONE WHEN `admin` is back with four entries.

TASK 6 Prove the backup

Restore **everything** into an empty folder and compare. restic keeps the full path: `$HOME` is your home folder.

```
restic restore latest --target ~/rtest
ls ~/rtest
diff -rq ~/rtest$HOME/tramuntana-share \
  ~/tramuntana-share
restic check
```

What does `diff` print? _____ Last line of `restic check`:

_____

DONE WHEN `diff` is silent and `check` found no errors.

TASK 7 · 22 MIN · IN PAIRS

TASK 7 **The restore drill**

Step 1 — both. A fresh snapshot. After this, nobody touches `/mnt/backup`.

```
restic backup ~/tramuntana-share
```

Step 2 — swap seats, 2 minutes. In your partner's `~/tramuntana-share` do **two** damages, quietly. Ideas: delete a folder · delete one file deep inside · change one word in a file with `nano` · rename a file · add a file that should not be there. Write here what you did (keep it hidden):

_____

_____

Step 3 — your own seat. Start time: _____ Find the damage:

```
rm -r ~/rtest
restic restore latest --target ~/rtest
diff -rq ~/rtest$HOME/tramuntana-share \
  ~/tramuntana-share
```

What `diff` tells you (what was done to you?):

_____

_____

_____

Step 4 — repair. Make the live folder identical to the restored one (yesterday's tool; look first with `--dry-run` if you like):

```
rsync -av --delete \
  ~/rtest$HOME/tramuntana-share/ \
  ~/tramuntana-share/
```

Step 5 — prove. Run the `diff -rq` of step 3 again. **End time:** _____

Minutes to recover: _____ Damages found: ____ of 2. Signature of your partner: _____

DONE WHEN `diff` prints nothing and your partner agrees with your list.

AFTER THE DRILL

RPO (how much work can be lost) depends on: _____
RTO (how long we are stopped) depends on: _____

On Windows, the tool that keeps old versions of your files on another drive is called: _____

EXIT TICKET

1. In restic, a snapshot is…

- ☐ **A** a copy of the whole disk, with the operating system
- ☐ **B** the state of the backed-up folders at one moment
- ☐ **C** a list of the files that were deleted
- ☐ **D** the password of the repository

2. You lose the password of a restic repository. What now?

- ☐ **A** The administrator resets it
- ☐ **B** restic sends it by e-mail
- ☐ **C** Nobody can read the backups any more
- ☐ **D** The backups open without a password after 30 days

3. What does `restic restore latest --target ~/rtest` do?

- ☐ **A** Writes the files of the newest snapshot into `~/rtest`
- ☐ **B** Makes a new snapshot of `~/rtest`
- ☐ **C** Deletes the newest snapshot
- ☐ **D** Compares two snapshots

4. Why do you restore into an empty folder and run `diff -rq`?

- ☐ **A** To make the backup smaller
- ☐ **B** To delete old snapshots
- ☐ **C** To encrypt the files again
- ☐ **D** To prove the backup really holds your data

5. Backups run every night at 23:00. The disk dies on Thursday at 17:00 and the restore takes 2 hours. Result?

- ☐ **A** Nothing is lost; working again at 17:00
- ☐ **B** Thursday's work is lost; working again at 19:00
- ☐ **C** The whole week is lost; working again on Friday
- ☐ **D** Two hours of work are lost; working again at 23:00