

Exercise 06 — Dynamic Inventory

Ansible for Proxmox VE · Module 06

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~8 min · in ~/ansible-proxmox · needs exercise 05: web01 and the API token

Objective: stop maintaining a list of guests. Ask the cluster instead.

i Where to look

Everything here was on the slides; the handout has every option of the plugin. **Inventory plugin · Dynamic inventory** · ansible-inventory · offline: ansible-doc -t inventory community.proxmox.proxmox

inventory/lab.proxmox.yml is already in the project, configured except for task 3.

1 — Hand the plugin the token

Module 05 wrote the secret to ~/pve-token.json, once, at creation:

```
export PVE_TOKEN_SECRET=$(jq -r .ansible ~/pve-token.json)
```

Done when: echo \${#PVE_TOKEN_SECRET} prints 36.

An environment variable is fine for a workshop shell. In a pipeline the secret belongs in Ansible Vault or your CI secret store.

2 — Ask the cluster

```
ansible-inventory -i inventory/lab.proxmox.yml --graph
ansible-inventory -i inventory/lab.proxmox.yml --host web01
```

Done when: the graph has proxmox_nodes with your three nodes and proxmox_all_qemu with web01, and the host output shows the guest's own configuration — proxmox_ciuser: student, proxmox_ipconfig0 with the address you set in module 05. Nobody typed any of that into an inventory file.

i Note

A 401 here means the token does not match the cluster — most often the secret was never exported, or module 05 ran against a different cluster. The file name matters too: it **must** end in `.proxmox.yml`, otherwise the plugin ignores it silently and you get an empty inventory with no error at all.

3 — Let a tag decide the group

In the GUI, open web01 and add the tag web (*Options* → *Tags*). Then uncomment the last block of `inventory/lab.proxmox.yml` and run the graph again.

Done when: the groups `tagweb` and `webservers` exist and contain web01.

The person creating the VM decided which group it belongs to, in the GUI, and your playbooks follow.

4 — Both inventories at once

```
ansible-inventory -i inventory/hosts.yml -i inventory/lab.proxmox.yml --graph
```

Done when: your static groups (`pve`, `pve_primary`, `pve_secondary`) and the generated ones appear in the same tree. The nodes stay static — they have to exist before anything can be dynamic.

If you finish early

- Create a second VM in the GUI, re-run the graph, and watch it appear without you touching a file.
- Stop web01 and watch it move from `proxmox_all_running` to `proxmox_all_stopped`.
- Put `inventory = inventory/hosts.yml,inventory/lab.proxmox.yml` in `ansible.cfg` so both sources are used by default.
- Restrict the token to `PVEAuditor` and check that listing still works while creating a VM no longer does.

Solutions

Solutions are discussed live with the trainer.