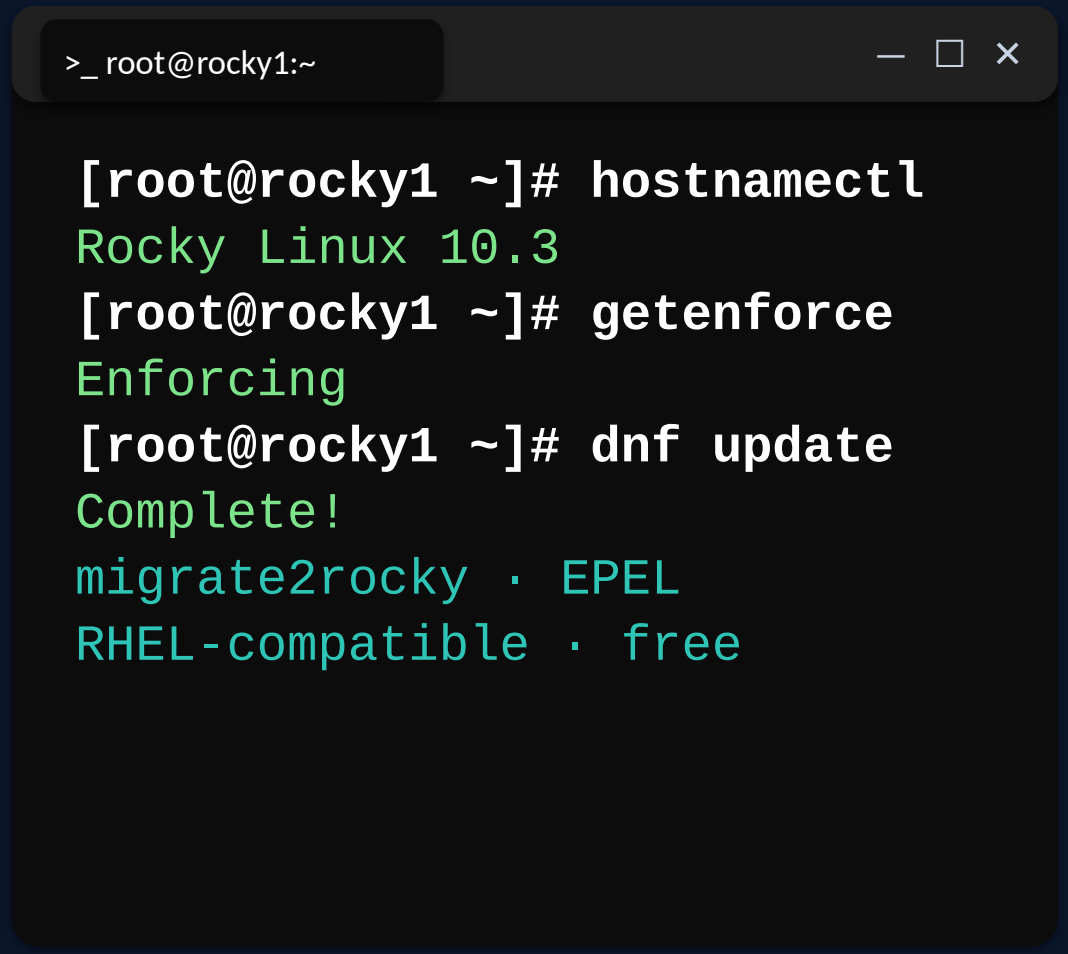


LESSON 11 OF 12

Rocky Linux 9 & 10

Install · Migrate · Differences

Running Rocky at Scale: Mirrors, Foreman, Ansible & Monitoring

Full Course · Rocky Linux 10.3 & 9.9 (Nov 2026)

What You Will Learn in Lesson 11

- Why a local mirror, and building one with reposync
- Update stages: dev → test → production
- Foreman and Katello: the free Satellite upstream
- Ansible for configuration and patching
- Monitoring: Cockpit, PCP, Prometheus and Grafana
- Central logging and backups
- An operations checklist for a Rocky fleet

Why a Local Mirror?

Benefit	Details
Speed	Updates come from your LAN, not the internet
Bandwidth	Download once, install on hundreds of servers
Control	Servers see only the updates you approved
Reproducible	Snapshots: every server gets the same versions
Offline / air-gapped	Copy the mirror to networks without internet
Cost	Free: a Rocky VM, disk space and a web server

Build a Mirror with reposync

```
[student@rocky2 ~]$ sudo dnf install -y dnf-plugins-core httpd
[student@rocky2 ~]$ sudo mkdir -p /srv/repo/rocky/10
[student@rocky2 ~]$ sudo dnf reposync --repoid=baseos --repoid=appstream --repoid=extras \
      --releasever=10 --download-metadata --newest-only \
      --download-path=/srv/repo/rocky/10
[student@rocky2 ~]$ du -sh /srv/repo/rocky/10/*
[student@rocky2 ~]$ sudo ln -s /srv/repo /var/www/html/repo
[student@rocky2 ~]$ sudo semanage fcontext -a -t httpd_sys_content_t '/srv/repo(/.*)?'
[student@rocky2 ~]$ sudo restorecon -Rv /srv/repo ; sudo systemctl enable --now httpd
[student@rocky2 ~]$ sudo firewall-cmd --permanent --add-service=http ; sudo firewall-cmd --reload
```

Point Clients to Your Mirror

```
# /etc/yum.repos.d/local-rocky.repo  (on every client)
[local-baseos]
name=Local Rocky $releasever BaseOS
baseurl=http://rocky2.lab.local/repo/rocky/$releasever/baseos/
gpgcheck=1
gpgkey=file:///etc/pki/rpm-gpg/RPM-GPG-KEY-Rocky-10
[local-appstream]
name=Local Rocky $releasever AppStream
baseurl=http://rocky2.lab.local/repo/rocky/$releasever/appstream/
gpgcheck=1
gpgkey=file:///etc/pki/rpm-gpg/RPM-GPG-KEY-Rocky-10
[student@rocky1 ~]$ sudo dnf config-manager --set-disabled baseos appstream
[student@rocky1 ~]$ sudo dnf clean all ; dnf repolist
```

Update Stages: dev → test → production

Stage	What happens
Sync	Nightly reposync into /srv/repo/rocky/10/latest
Snapshot	Weekly: copy latest → snapshots/2026-11-20 (hard links save space)
dev	Dev servers point at the newest snapshot
test	After a week without problems, test servers move to it
production	After testing, production moves to the same snapshot
Rollback	Point back to the previous snapshot; dnf history undo

Foreman and Katello

Feature	What it gives you
What	Free, open source lifecycle management; upstream of Red Hat Satellite
Content (Katello)	Sync Rocky repos, content views, lifecycle environments
Provisioning	PXE and Kickstart; templates for new Rocky servers
Inventory and errata	Which hosts need which RLSA advisories
Remote execution	Run commands and Ansible roles on many hosts
When to use	Dozens to thousands of servers; one web console

Ansible for a Rocky Fleet

```
# inventory: [web] rocky1   [infra] rocky2
# baseline.yml — apply to every Rocky server
- hosts: all
  become: true
  tasks:
    - name: Local repo file
      ansible.builtin.copy: { src: local-rocky.repo, dest: /etc/yum.repos.d/ }
    - name: Security updates
      ansible.builtin.dnf: { name: '*', state: latest, security: true }
    - name: Reboot if needed
      ansible.builtin.reboot:
      when: ansible_facts['distribution'] == 'Rocky'
    - name: SELinux enforcing
      ansible.posix.selinux: { policy: targeted, state: enforcing }
[student@rocky1 ~]$ ansible-playbook -i inventory baseline.yml --limit web
```

Monitoring and Logs

Need	Free tool on Rocky
One server, quick look	Cockpit (Lesson 2); top, vmstat, sar (sysstat)
Performance history	PCP (Performance Co-Pilot) + Cockpit metrics
Fleet metrics and alerts	Prometheus node_exporter + Grafana + Alertmanager
Central logs	rsyslog forwarding or systemd-journal-remote; Loki/OpenSearch
Uptime and services	Uptime Kuma, Zabbix, Checkmk (community editions)
Security events	auditd + central logs; Wazuh (open source)

Operations Checklist for a Rocky Fleet

Area	Practice
Build	One Kickstart or image builder blueprint; servers are cattle, not pets
Configure	Ansible baseline for every host; changes go through Git
Patch	Local mirror + snapshots; dev → test → prod; monthly and emergency windows
Watch	Metrics, logs and alerts for every host
Protect	SELinux, firewalld, SSH keys, OpenSCAP reports
Recover	Backups tested quarterly; documented rebuild
Plan	Track EOL dates: Rocky 8 (2029), 9 (2032), 10 (2035)

Summary and Homework

- Local mirror: dnf reposync + Apache + SELinux label + timer
- Clients: local .repo files with gpgcheck=1
- Snapshots give dev → test → prod update stages
- Foreman + Katello: free lifecycle management (Satellite upstream)
- Ansible baseline, monitoring, central logs, tested backups
- Homework: build the Rocky 10 mirror on rocky2 and point rocky1 at it with Ansible

Thank You! 🙏

Free videos & PDFs: www.MyWebUniversity.com

Slides for this lesson: MyWebUniversity.com/presentations

YouTube: @MyWebUniversity · @MyWebUniversity-Dari

Wahidullah Lutfy — Founder and Director of IT of MyWebUniversity, and CS teacher

Book: The Direct Path to Linux Ubuntu (Amazon · Barnes & Noble)

Learn it, then pass it on.