**Extracted Code and Scripts from Chapter 1**

**Checking the Linux Kernel Version**

uname -r

**Explanation:** Displays the current Linux kernel version.

**Example Output:**

5.14.0-427.37.1.el9.x86\_64

**Displaying System Information**

uname -a

**Explanation:** Provides detailed system information including kernel version, architecture, and OS.

**Example Output:**

Linux RockyLinux 5.14.0-427.37.1.el9.x86\_64 #1 SMP PREEMPT\_DYNAMIC Wed Sep 25 UTC 2024 x86\_64 GNU/Linux

**Using the man Command to Access Documentation**

man uname

**Explanation:** Opens the manual entry for the uname command.

**Navigation:**

* Press q to exit the manual page.

**Checking System Uptime**

uptime

**Example Output:**

12:10:42 up 5 days, 3:45, 3 users, load average: 0.02, 0.03, 0.00

**Verifying the Integrity of a Downloaded Rocky Linux ISO**

sha256sum <filename>.iso

**Explanation:** Compares the checksum of the ISO file to ensure data integrity.

**Managing System Services with systemctl**

**Checking the Status of a Service**

systemctl status firewalld

**Starting a Service**

sudo systemctl start firewalld

**Stopping a Service**

sudo systemctl stop firewalld

**Enabling a Service to Start on Boot**

sudo systemctl enable firewalld

**Disabling a Service from Starting on Boot**

sudo systemctl disable firewalld

**Managing Firewall Rules with firewalld**

**Listing Active Zones**

firewall-cmd --get-active-zones

**Adding a Service to the Firewall**

sudo firewall-cmd --permanent --add-service=http

sudo firewall-cmd --reload

**Removing a Service from the Firewall**

sudo firewall-cmd --permanent --remove-service=http

sudo firewall-cmd --reload

**Checking Available Repositories**

dnf repolist

**Explanation:** Lists available package repositories configured in Rocky Linux.

**Installing a Package**

sudo dnf install <package-name>

**Example:** Installing vim text editor

sudo dnf install vim

**Checking Available Disk Space**

df -h

**Explanation:** Displays the disk space usage in a human-readable format.

**Displaying Logical Volume Information**

lvdisplay

**Explanation:** Shows detailed information about logical volumes.

**Creating a New User**

sudo useradd -m <username>

**Example:** Creating a user named john

sudo useradd -m john

**Setting a Password for a User**

sudo passwd <username>

**Example:** Setting a password for john

sudo passwd john

**Adding a User to a Group**

sudo usermod -aG <groupname> <username>

**Example:** Adding john to the wheel group

sudo usermod -aG wheel john

**Checking Running Processes**

top

**Explanation:** Displays real-time information about system processes and resource usage.

**Finding a Specific Process**

ps aux | grep <process-name>

**Example:** Finding all running httpd processes

ps aux | grep httpd

**Killing a Process by PID**

sudo kill <PID>

**Example:** Killing process with PID 1234

sudo kill 1234

This document contains all essential code and scripts from Chapter 1, structured for easy reference and use in Rocky Linux environments.