**Lab Exercise: Kernel and Module Management in Red Hat Linux**

Task 1: View Kernel Information

Check Kernel Version:

Open a terminal and check the currently running kernel version.

uname -r

View Full Kernel Information:

View detailed information about the running kernel.

uname -a

Task 2: Install a New Kernel (Optional)

Install a New Kernel:

Install a new kernel using the package manager (yum/dnf). This step is optional and should be performed in a controlled environment.

sudo yum install kernel

Reboot System:

After installing the new kernel, reboot the system to apply changes.

sudo reboot

Ensure that you select the new kernel during the boot process.

Task 3: Check Loaded Kernel Modules

List Loaded Modules:

View the list of currently loaded kernel modules.

lsmod

View Module Information:

View detailed information about a specific kernel module (replace module\_name with the actual module name).

modinfo module\_name

Task 4: Load and Unload Kernel Modules

Load a Kernel Module:

Load a kernel module into the kernel.

sudo modprobe module\_name

Unload a Kernel Module:

Unload a currently loaded kernel module.

sudo modprobe -r module\_name

Task 5: Configure Module Loading at Boot

Edit Module Configuration File:

Open the module configuration file for editing.

sudo nano /etc/modules-load.d/my\_modules.conf

Task 6: Check Kernel Messages

View Kernel Messages:

View kernel messages to check for any errors or information related to the kernel and modules.

dmesg

Filter Kernel Messages:

Use grep to filter kernel messages for specific information.

dmesg | grep module\_name

Replace module\_name with the actual module name.