**## Week 4 Homework Submission File: Linux Systems Administration**

Please edit this file by adding the solution commands on the line below the prompt.

Save and submit the completed file for your homework submission.

**### Step 1: Ensure/Double Check Permissions on Sensitive Files**

**1.** Permissions on `/etc/shadow` should allow only `root` read and write access.

**-** Command to inspect permissions: ls -l /etc/shadow

**-** Command to set permissions (if needed): sudo chmod 0600 shadow

**2.** Permissions on `/etc/gshadow` should allow only `root` read and write access.

**-** Command to inspect permissions:ls -l gshadow

**-** Command to set permissions (if needed):sudo chmod 0600 gshadow

**3.** Permissions on `/etc/group` should allow `root` read and write access, and allow everyone else read access only.

**-** Command to inspect permissions:ls -l group

**-** Command to set permissions (if needed):none

**4.** Permissions on `/etc/passwd` should allow `root` read and write access, and allow everyone else read access only.

**-** Command to inspect permissions:ls -l passwd

**-** Command to set permissions (if needed):none

**### Step 2: Create User Accounts**

**1.** Add user accounts for `sam`, `joe`, `amy`, `sara`, and `admin`.

**-** Command to add each user account (include all five users):sudo adduser sara

sudo adduser joe

sudo adduser amy

sudo adduser sam

sudo adduser admin

**2.** Ensure that only the `admin` has general sudo access.

**-** Command to add `admin` to the `sudo` group: sudo usermod -aG sudo admin

**### Step 3: Create User Group and Collaborative Folder**

**1.** Add an `engineers` group to the system.

**-** Command to add group:sudo addgroup engineers

**2.** Add users `sam`, `joe`, `amy`, and `sara` to the managed group.

**-** Command to add users to `engineers` group (include all four users):sudo usermod -aG engineers amy

sudo usermod -aG engineers joe

sudo usermod -aG engineers sara

sudo usermod -aG engineers sam

**3.** Create a shared folder for this group at `/home/engineers`.

**-** Command to create the shared folder:sudo mkdir /home/engineers

**4.** Change ownership on the new engineers' shared folder to the `engineers` group.

**-** Command to change ownership of engineer's shared folder to engineer group:sudo chgrp -R engineers /home/engineers

**### Step 4: Lynis Auditing**

**1.** Command to install Lynis:sudo apt install lynis

**2.** Command to see documentation and instructions:man lynis

**3.** Command to run an audit:sudo lynis audit system

**4.** Provide a report from the Lynis output on what can be done to harden the system.

**-** Screenshot of report output: