## Week 4 Homework Submission File: Linux Systems Administration

### 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 from inside /etc/ directory**

- Command to set permissions (if needed): **chmod 700 shadow**

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

- Command to inspect permissions: **ls -l from inside /etc/ directory**

- Command to set permissions (if needed): **chmod 600 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 from inside /etc/ directory**

- Command to set permissions (if needed): **chmod 644 group**

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 from inside**o**etc/ directory**

- Command to set permissions (if needed): **chmod 644 passwd**

### 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 sam**

**sudo adduser joe**

**sudo adduser amy**

**sudo adduser sara**

**sudo adduser admin**

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

- Command to add `admin` to the `sudo` group: **sudo addduser admin sudo**

### 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 adduser sam engineers**

**sudo adduser joe engineers**

**sudo adduser amy engineers**

**sudo adduser sara engineers**

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 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:

A screenshot of a cell phone

Description automatically generated

### Bonus

1. Command to install chkrootkit:

2. Command to see documentation and instructions:

3. Command to run expert mode:

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

- Screenshot of end of sample output:

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