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 /etc/shadow**
* Command to set permissions (if needed): **sudo chmod 600 /etc/shadow**

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

* Command to inspect permissions: **ls -l /etc/gshadow**
* Command to set permissions (if needed): **sudo chmod 600 /etc/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 /etc/group**
* Command to set permissions (if needed): **sudo chmod 644 /etc/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 /etc/passwd**
* Command to set permissions (if needed): **sudo chmod 644 /etc/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 useradd sam**

**sudo useradd joe**

**sudo useradd amy**

**sudo useradd sara**

**sudo useradd 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 groupadd 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 sam**

**sudo usermod -aG engineers joe**

**sudo usermod -aG engineers amy**

**sudo usermod -aG engineers sara**

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

* Command to create the shared folder:

**sudo mkdir -p /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**

1. Command to see documentation and instructions:

**man lynis**

1. 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:

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Bonus

1. Command to install chkrootkit:

**sudo apt install chkrootkit**

2. Command to see documentation and instructions:

**man chkrootkit**

3. Command to run expert mode:

**chkrootkit -x**

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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