**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: sudo ls -lat /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: sudo ls -lat /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: sudo ls -lat /etc/group
   * Command to set permissions (if needed): sudo chmod 604 /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: sudo ls -lat /etc/passwd
   * Command to set permissions (if needed): sudo chmod 604 /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

1. 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

1. 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

1. Create a shared folder for this group at **/home/engineers**.
   * Command to create the shared folder:

mkdir /home/engineers

1. 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 chown :engineers /home/engineers

**Step 4: Lynis Auditing**

1. Command to install Lynis: apt install lynis
2. Command to see documentation and instructions: man lynis
3. Command to run an audit:
4. Provide a report from the Lynis output on what can be done to harden the system.
   * Graphical user interface, text

     Description automatically generatedScreenshot of report output:

**Bonus**

1. Command to install chkrootkit: apt install chkrootkit
2. Command to see documentation and instructions: man chkrootkit
3. Command to run expert mode: sudo 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:

Text

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