



Cyber Security Tools – Bash Scripting

Model-Answer Approach

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Auto-graded task

change_permssions.sh

In the first task, the provided script is a Bash script designed to change the permissions of all files within the current directory and its subdirectories. It starts by using the `find` command to locate all files recursively within the directory. The resulting list of files is stored in the `FILES` variable.

Next, the script iterates over each file in the list obtained from `find`. For each file, it uses the `chmod` command to modify the file permissions to `644`, which corresponds to `-rw-r--r--`, meaning read and write permissions for the owner of the file and read-only permissions for others.

By executing this script, all files within the directory and its subdirectories will have their permissions set to allow read-and-write access for the file owner, while others will have read-only access. This approach ensures that files are accessible for reading and writing by their owners, while restricting access for others to only reading.

manage_apt.sh

In the second task, the shell script is designed to automate system maintenance tasks on a Linux system. It begins by checking if it is executed with root privileges, essential for system-level operations. If not, it outputs an error message indicating the need for superuser privileges and exits.

Assuming root access, the script proceeds with system maintenance tasks. It starts by removing unused packages (`apt autoremove`), ensuring a clean system. Then, it updates the package lists (`apt update`) to fetch the latest versions of available packages. Finally, it performs a full system upgrade (`apt full-upgrade -y`) to apply the updates.

After executing the maintenance tasks, the script exits. This approach streamlines the process of keeping the system updated and secure, automating routine maintenance operations that would otherwise require manual intervention. By encapsulating these tasks in a script, system administrators can ensure consistency and efficiency across multiple systems.